



AONEI NEWSLETTER

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Editor's Note



It's my pleasure to greet you all through the 6th issue of this newsletter. The Northeast Region of India has seen several changes over the years. We have more new centres catering to the needs of cancer

patients and we have seen our association grow too. But a lot more can be done and that is the role which AONEI is expected to play.

The purpose of this newsletter is not only to inform all our members of the activities of the association, but also to update ourselves on the changing management protocols for the cancers common to this region.

There were several events conducted this year, as a result of which our section on event reports has swelled! Congratulations to all the event organizers who have toiled for this. We have a few case reports which have been contributed, by and large, by those who have not contributed articles previously.

It is our endeavour to encourage more youngsters from this region to publish their work and thereby generate data from this region and we feel this newsletter is a step in that direction. I thank all the contributors for their efforts. Special thanks to Christopher Zorammuana (MBBS student, NEIGRIHMS) for designing this newsletter.

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Cytoreductive Surgery (CRS) & Hyperthermic Intraperitoneal Chemotherapy (HIPEC)-a new hope for advanced cancers.

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Peritoneal metastases (PM) portend a poor prognosis compared to other metastatic sites and are relatively less responsive to systemic therapies. Patients are more often symptomatic from PM than other metastatic sites, and these symptoms severely impair the quality of life. Between 1930s-1960s, few small groups of clinicians tried cytoreductive surgery (CRS), intraperitoneal chemotherapy (IP) and hyperthermia. They reported a modest improvement in survival but with high morbidity and mortality (20-60%). Many studies are being done on treatment of macroscopic peritoneal disease clearance by CRS and HIPEC for the treatment of microscopic peritoneal disease. Surgical removal of peritoneal deposits was first performed for ovarian cancer and subsequently other primary sites with peritoneal metastasis.¹

The possibility of combining hyperthermia and chemotherapy and delivering them together directly into the peritoneal cavity was recognized by Spratt and colleagues in 1979, who pioneered a system to deliver hyperthermic chemotherapy to the peritoneal cavity².

In the 1980s, P H Sugarbaker investigated the efficacy of technique of HIPEC and in the 1990s, he described the technique of peritonectomy³.

In the 1990s, Peritoneal carcinomatosis index (PCI) was developed for quantifying the peritoneal tumour burden by P H Sugarbaker. In 1994, O Glehen and F N Gilly described the completeness of cytoreduction (CC)score.

There is a pharmacologic advantage for IP versus intravenous (IV) delivery of chemotherapy, with improved tumor cell access, longer half-life in the peritoneal compartment, increased dose intensity, and slow peritoneal clearance, while still reaching sufficient levels of systemic exposure for longer periods of time⁴. Although IP treatment is associated with improved survival, it has not been widely adopted as standard of care due to concerns of excessive toxicity, difficult logistics, and cost⁵.

HIPEC differs distinctly from postoperative IP delivery in that it is a single treatment of

intraoperative chemotherapy at the time of cytoreductive surgery. Three techniques of delivering HIPEC have been described which involve the use of heat-exchange pumps that circulate the heated chemotherapy solutions through the peritoneal cavity by means of separate inflow and outflow tubing. There are many individual variations on the technique of HIPEC delivery, but overall, including 30–45 minutes for setup and temperature stabilization, 30–90 minutes for perfusion, and 15 minutes for takedown, the HIPEC procedure adds 90–150 minutes to the surgical procedure.

In the **“closed” method**, the inflow and outflow tubing can be brought out either through the incision or through separate stab incisions away from the wound. Temperature probes are placed at the end of the inflow and outflow tubes, and often a probe is placed behind the small bowel mesentery and attached to the peritoneum over the inferior vena cava. The patient is placed in Trendelenberg while the abdomen is filled with perfusate solution without chemotherapy to allow free air to escape. The perfusate is circulated until the required temperature is reached and remains stable. The chemotherapy is then placed in the perfusate and allowed to circulate around the peritoneal cavity with the help of gentle shaking of the abdomen. The duration of perfusion varies between 30 and 120 minutes.

The **open or “coliseum” technique** involves suspending the abdominal wound skin edges to a surrounding Thompson retractor using monofilament sutures. A plastic sheet is incorporated in the sutures so that it finally covers the whole of the open wound. The inflow and outflow tubing is placed in the abdomen through stab incisions while a slit is made in the plastic sheet so that the surgeon's hand can help to distribute the chemotherapy around the abdominal cavity.

The third method incorporates a **“cavity expander”** made of acrylic that is secured over the wound. The cylinder fills with the perfusate as it is instilled into the peritoneal cavity, allowing the small bowel to float freely. Whatever method is used, at the

completion of perfusion the perfusate is usually drained from the abdomen and the tubing and equipment are removed prior to irrigation with saline and wound closure⁶.

It has the following proposed advantages: i) by giving the chemotherapy intraoperatively, drug exposure is optimal secondary to direct contact with the remaining microscopic cancer cells without the barriers of postoperative adhesions; ii) intraoperatively, the chemotherapy can be delivered under highly standardized procedures, and the surgeon can guarantee optimal distribution of the chemotherapy and control dwell times; and iii) hyperthermia has been shown to increase the cytotoxic effect of many chemotherapeutic agents by increasing DNA-crosslinking and increasing tumor penetration⁷. The precise cytotoxic mechanisms associated with supranormal temperatures in the range of 42–45°C for 10–60 minutes were shown to cause lethal damage. The toxic effects include alterations in the cell membrane and nucleus, protein denaturation, and changes in calcium permeability. Although hyperthermia may affect normal tissues, the heat effect disproportionately affects hypoxic tumor cells due to the relative poor perfusion and acidotic, malnourished setting. Hyperthermia also appears to increase sensitivity to chemotherapeutic agents, particularly cisplatin, in both platinum-sensitive and platinum-resistant cell lines. The increased cytotoxicity appears to be related to enhanced intracellular drug accumulation and adduct processing.⁶

This approach is used in the treatment of patients with various malignancies, including pseudomyxoma peritonei, mesothelioma⁸, appendiceal⁹ and colorectal malignancies¹⁰, ovarian malignancies¹¹, gastric carcinomas¹². The common aspect in the biology of these cancers is most of the cases are confined to abdominal cavity till very late stages, thereby making HIPEC a form of locoregional therapy an ideal modality to target this disease.

Some of the common disease amenable to treatment with CRS and HIPEC with some recent evidence is discussed below.

Pseudomyxoma peritonei (PMP)

also called jelly belly, is characterized by presence of a gelatinous material sometimes amounting to a few liters within the abdominal cavity with mucinous implants on the visceral and peritoneal surfaces. The usual site of primary is the appendix .

PMP is not considered biologically aggressive as it does not usually invade or metastasise, in most cases the disease is eventually fatal as the space required within the abdomen for nutritional function is

eventually replaced by mucinous tumor. Due to pioneering work of Sugarbaker et al and continued progress the current standard of care for PMP is aggressive locoregional therapy comprising complete cytoreductive surgery and HIPEC.¹³ Recent evidence suggest that if complete cytoreduction can be achieved and is supplemented with intraperitoneal chemotherapy, then many patients will have disease free survival 10 years and beyond.¹⁴

Colorectal cancer

Peritoneal metastases are the second most common cause of death in colorectal cancer patients after liver metastases. Around 10% of CRC have PM at presentation, while another 25% will develop PM after treatment of the primary. Apart from having poor prognosis, the quality of life of those patients with PM is significantly impaired due to ascites and small bowel obstruction. A randomized trial comparing use of CRS and HIPEC versus palliative chemotherapy with 5FU/leucovorin in colorectal PM, and updates of the trial showed that some of these treated patients could survive up to 8 years¹⁵. Although a recent randomised trial did not show benefit for HIPEC with oxaliplatin, experts attribute this to the trial design and ineffectiveness of oxaliplatin compared to mitomycin.¹⁶

Mesothelioma

It is a malignancy of serosal membrane , the most common site being visceral pleura followed by peritoneum. It presents with vague abdominal symptoms making its diagnosis difficult. Most common presentation is abdominal distention.

Due to rarity of disease there is no randomised trial on best treatment strategies. Based on available evidence CRS + HIPEC has become the consensus standard treatment for it. A recent metaanalysis including 20 studies and 1047 patients highlights this further. Patients undergoing CRS – HIPEC have a 5-year survival of 42 % with a median survival of atleast 38 months to 92 months. This is significantly much higher in comparison to patients undergoing only systemic chemotherapy with premetrexed with/without cisplatin where the median survival reported is 8.7 and 13.1 month respectively¹⁷.

Ovarian cancer

CRS is an integral part of treatment for ovarian cancer. Various studies over the past decade have shown that a good cytoreductive surgery with least residual tumor improves outcomes, as reflected in the definition of optimal cytoreduction which has evolved over several decades. While previously up to 2 cm of residual disease was considered optimal cytoreduction, it has changed to 1 cm or less residual disease. In present era of

HIPEC, surgeons aspire to leave behind no residual macroscopic disease.

In early 21st century it was shown that intraperitoneal chemotherapy gives better oncological outcomes than intravenous chemotherapy. This observation coupled with evolution of HIPEC paved the way for application of CRS HIPEC in ovarian cancers both in recurrent settings as well as advanced stage 3 and some stage 4 cancers. A recently published randomised trial further substantiated its use in stage III cancers, as it was seen that HIPEC along with CRS resulted in longer recurrence free survival and overall survival¹⁶.

Gastric Cancer

The most common cause of treatment failure following surgery for gastric cancer is peritoneal dissemination, mainly caused by seeding of free cancer cells from primary gastric cancer. Patients with peritoneal carcinomatosis have very poor prognosis with median overall survival of 3-6 months which is worse than for patients with visceral metastases.

Several studies have evaluated the role of CRS and HIPEC in stomach cancer both as a prophylactic (in patients with no PM but are at high risk for developing PM) or therapeutic (with PM) measure. All studies have shown consistent results of improvement in survival with HIPEC.

Meta analysis of 11 RCTs and 21 non randomised trials comprising 2520 patients was recently published which showed better overall 5 year survival rates in the HIPEC arm. The benefit was mostly in patients where HIPEC was used in prophylactic setting or those who had limited peritoneal disease or only positive cytology¹⁸.

Conclusion

CRS and HIPEC is a novel treatment modality. In properly selected patients with Pseudomyxoma peritonei, Peritoneal Mesothelioma and in patients having peritoneal metastases from Ovary, stomach and colon it can provide meaningful improvement in terms of disease free survival and overall survival. With advances in technology and better training, the morbidity and mortality associated has decreased significantly in good centres.

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Reparative Giant Cell Lesion Mimicking Malignancy in the Hard Palate

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Abstract

Giant cell reparative granuloma (GCRG) is an uncommon, benign reactive lesion that occurs almost exclusively within the mandible and maxilla. It most commonly tends to occur in the first 3 decades with female predilection. It has an uncertain etiology. Despite their benign nature, they can be locally aggressive. Only a few cases have been reported with the involvement of paranasal sinuses, we present a new case of GCRG originating from hard palate with nasal cavity and maxillary sinus involvement.

Introduction

Giant cell reparative granuloma (GCRG) is an uncommon, benign reactive lesion that occurs almost exclusively within the mandible and maxilla. The next most common location is in the small bones of the hands and feet. The etiology of GCRG is uncertain but may be related to an intraosseous haemorrhage following trauma.¹ Though GCRGs can be observed at all ages, they tend to appear more in the first 3 decades with high female predilection. Despite their benign nature, they may be locally aggressive.²

Only a small number of cases have been reported with the involvement of the paranasal sinuses, we hereby report a case of GCRG originating from hard palate with nasal cavity and maxillary sinus invasion.

Case Report

A 34-year-old lady presented with swelling over hard palate of 6 months duration. On clinical examination there was a non-tender lesion with ill-defined margins in left hard palate. The mucosa over swelling was intact and normal. There were no palpable neck nodes.

Contrast Enhanced CT showed a large lobulated strongly enhancing mass in the nasal cavity with extension into the left maxillary sinus. Lesion was abutting part of the nasal septum, hard palate, medial wall of left maxillary antrum and alveolar process of left maxilla with some foci of bone erosion & destruction with scalloping. No necrosis was evident. (Fig 1 & 2)

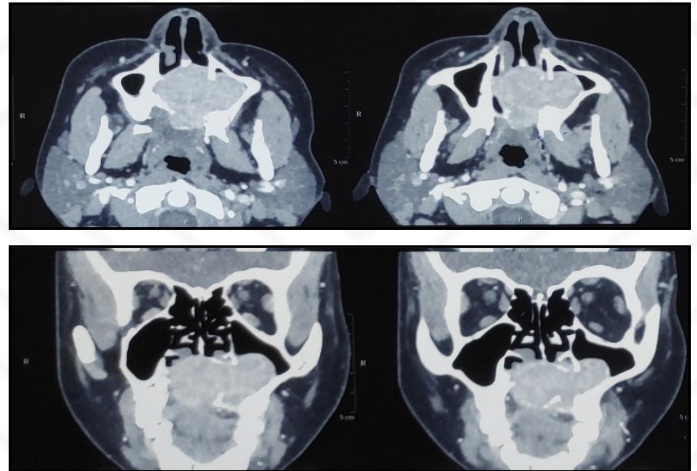


Fig 1: CECT PNS axial scan

Fig 2: CECT PNS Coronal scan

FNAC showed multiple giant cells in a haemorrhagic background containing spindle cells suggestive of a giant cell containing lesion. (Fig 3)

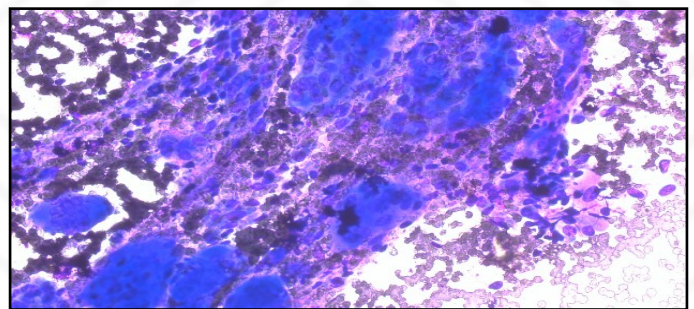


Fig 3. FNAC showing multiple giant cells in a haemorrhagic background

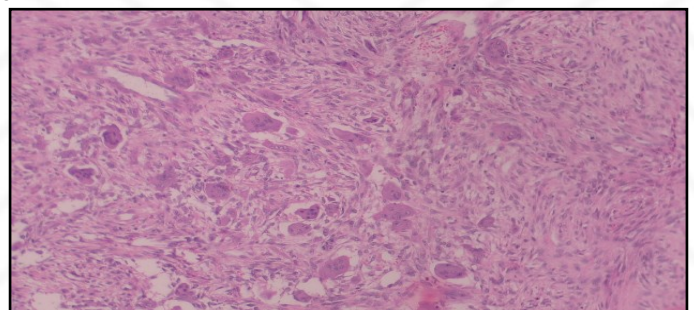


Fig 4. Histopathological section of the lesion showing giant cells.

In view of few foci of bone erosion a conservative surgical approach was planned versus a radical resection. Palatal mucoperiosteal flaps were elevated anteriorly and mass was sectioned and curetted under general anesthesia. Flap was closed in layers and a Palatal plate applied. Post-operative period was uneventful. Patient was discharged with a scheduled follow up.

Histopathological examination of the excised lesion showed a large number of multinucleated giant cells in a cellular vascular stroma. (Fig 4)

Discussion

Giant cell reparative granuloma (GCRG) is an uncommon, benign lesion of the oral cavity. World Health Organization defines it as an intraosseous lesion consisting of cellular fibrous tissue that contains multiple foci of hemorrhage, aggregations of multinucleated giant cells and occasional trabeculae of woven bone.^{1,3} RGCGs are classified, according to location, as central or peripheral, occurring, respectively, in bone or gingival soft tissues.³

In most patients, the tumors are slow to develop, but may recur locally in as many as 50% of cases, predominantly in children or young adults (75%), with a female to male ratio of 2:1.⁴ Clinical behaviour of CGCG may be aggressive or non-aggressive. The following criteria is referred for aggressive lesions; 1) pain, 2) rapid rate of growth, 3) visible swelling, 4) tooth root resorption, 5) cortical perforation, and 6) recurrence.^{4,5}

Imaging plays a vital role in the detection, characterization, presurgical evaluation, and in postoperative follow-up of these lesions. It allows an optimal view of the bone and soft tissue for planning correct surgical procedures.

Central giant cell lesion may arise sporadically or in association with Cherubism,

Noonan Syndrome, Jaffe-Campanacci Syndrome, Neurofibromatosis type 1. The differential diagnosis should also include the brown tumor of hyperparathyroidism, peripheral giant cell granuloma and giant cell tumor of bone. Clinical correlation is always required to distinguish these lesions because their histologic appearance overlaps.^{3,5}

Chuong et al recommended the use of block resection in aggressive lesion that show painful, cortical bone perforation.³ Approaches include lateral rhinotomy, transfacial, Le Fort I osteotomy, external frontoethmoidectomy incision, facial translocation, and midfacial split. But in our case since as there was only minimal cortical perforation and invasion of the maxillary sinus, curettage of the lesion from the palatal surface through a mucoperiosteal flap was done. Review of literature has supported use of curettage in large lesions which do not demonstrate aggressive features.^{5,6}

Nonsurgical approaches have also been described in literature, including daily systemic doses of calcitonin and intralesional injection with corticosteroids which reported successful results.⁷ Nonsurgical treatment is suitable for small, slow-growing lesions; however, surgery is the mainstay of treatment for large lesions.

Conclusion

RGCG is an uncommon benign tumor of the oral cavity but it can take an aggressive and locally destructive course in some cases. It is one of those lesions which have obscure etiopathogenesis with differing clinical presentations and treatment modalities. It is important to diagnose this condition early as it may facilitate a conservative treatment or at the most a small surgery. As local recurrences are common in the course of this disease patient should be on a regular surveillance schedule.

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Post APR Perineal Hernia Repair – Trouble shooting a rare complication.

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Introduction

Perineal hernia is defined as a defect in the pelvic floor resulting in a bulging of intra-abdominal content through the perineum [1].

Postoperative perineal hernia is a rare complication after abdominoperineal resection (APR), proctectomy, or pelvic exenteration. Symptomatic perineal hernias are notoriously recurrent as the local anatomy prevents proper fixation of the mesh. The incidence of perineal hernias after conventional APR is reported to be <1% [2,3,4]; however, two larger studies by West et al. [5] and Sayers et al. [6] reviewed the frequency of perineal hernias after extralevator abdominoperineal excision (ELAPE) and reported frequencies of 2.8% and 26%, respectively.

Most of the perineal hernias may remain asymptomatic. But once patient develops symptoms surgical repair becomes a necessity due to the distressing nature. Symptoms may range from perineal bulge resulting in discomfort from the dragging down of the abdominal viscera to various urinary complaints as well as skin excoriation and fistula formation. In certain rare cases bowel obstruction and perforation may also happen [7].

Surgical repair both open and laparoscopic have been attempted. Trans-abdominal, trans-perineal and combined approaches are all acceptable. But these hernias are notoriously recurrent due to the peculiar anatomy and paucity of firm structures to fix the mesh upon. Several patients would have received radiation, which results in poor healing capacity of the tissue. Hence, there is no standard approach of perineal hernia repair to date [8,9].

In this case we present a method of repair via the trans perineal approach. We have used polypropylene mesh combined with Gluteal Myocutaneous Rotation Flap.

Case Report

We present the case of a 66 year old gentleman who was diagnosed with carcinoma rectum (T3N0M0). He was treated with Chemoradiation followed by Abdomino-Perineal Resection (Aug 2017) and adjuvant chemotherapy between 2017 to 2018. He complained of pain in the perineum with noticeable bulge 8 months after the surgery. He underwent the

first mesh(polypropylene) repair in June 2019. His symptoms recurred 4 months into the surgery. The perineal skin over the mesh had thinned out and there was sinus formation with discharge (Mesh Infection). Apart from this complication patient was disease free. We proceeded with redo surgery explained in the following steps;



Image 1: Jack knife Position(prone)



Image 2: Resection of the unhealthy skin with underlying fibrous infected mesh.

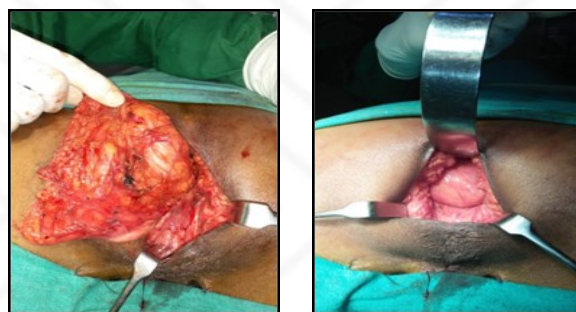


Image 3: Omentum brought out through the perineal defect. This was mobilized in the previous abdominal surgery. Omentum was sutured to the perineal scar tissue all around like a diaphragm. This formed the inner most cover for the bowels.



Image 4: Polypropylene mesh placement including through the sacral bone. It is attached to the sacro-tuberous ligament laterally and pelvic periosteum anteriorly.



Image 5: Mobilization of the Left Gluteus Maximus Myocutaneous Rotation Flap . Wound closed in layers with suction drain.

Symptomatic perineal hernias almost always require surgical correction. Transabdominal, transperineal as well as combined approaches have all been attempted with various degrees of success. Both laparoscopic and open methods have been described. Biological mesh repairs to close the perineal defects have met with failure, resulting in recurrences as reported in large case series [8]. Skin defects have been closed with myocutaneous flaps including gluteus maximus, TRAM flap, Gracilis flap to name a few [9]. There is no standard procedure till date as evidenced by the variety of surgeries performed. This may be due to the local anatomy which prevents secure fixation of the mesh. Also, in several cases, the tissues may have received prior radiation which delays wound healing and results in unstable scars.

In our case report we have utilized the omentum as the innermost layer of perineal closure. This acts as a barrier to prevent direct contact of the bowels with the mesh. We have sutured the mesh directly onto the sacrum posteriorly, sacro-coccygeal ligaments postero-laterally, Sacro-tuberous ligaments laterally and pubic periosteum anteriorly. The defect was then closed with left gluteus maximus myocutaneous rotation flap.

Our approach was completely trans perineal. This can also be done primarily after the APR procedure for closure of perineal defects.

Conclusion

Perineal hernia is one of the rare complications after APR. Symptoms are very distressing and almost always require surgical management. It is hence most imperative to anticipate and prevent the complication by planned closure of the perineal defect during the primary surgery. The method described in our paper could be utilized for a successful closure.

Discussion

Perineal hernia incidence ranges from less than 1% after regular APRs to 26% following extended APR (ELAP). Due to resection of pelvic floor muscles the perineum becomes a potential space for bowel herniation.

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Fertility sparing surgery in Carcinoma Ovary: A report of two cases

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Introduction

The median age for diagnosis of epithelial ovarian cancer 60 and 65 years¹. Less than 1% of epithelial ovarian cancers are found in women less than 30 years of age, and most ovarian malignancies in these younger patients are germ cell tumors¹⁻³. Several studies have found young age to be an independent prognostic factors for ovarian cancer⁵⁻¹⁸. Here we present two cases of sporadic epithelial ovarian cancer occurring in very young patients. Both the patients had early disease and underwent fertility preserving surgery without any adjuvant treatment.

Case 1

A 23-year-old unmarried girl presented with complaint of fullness in lower abdomen for 6 months. On examination, there was 30X20X10 cm lump arising from pelvis. Rest of clinical examination was within normal limits. MRI revealed large well encapsulated solid-cystic mass arising from right ovary. CA 125 was slightly elevated (54.6 IU/ml). Other tumor markers (HCG, AFP, LDH) were within normal limits. Genetic testing revealed no mutation in BRCA 1 and 2 genes. Patient underwent fertility preserving staging laparotomy. Intra-operatively we found 20x21cm size right ovarian tumor arising from left ovary. Right ovary was normal. Right salphingo-oophorectomy with lymph node sampling (b/l pelvic and retro-peritoneal) and omentectomy were done. Final biopsy revealed mucinous carcinoma grade 1 right ovary confined to ovarian capsule. Nodes, Omentum, appendix and tissue from left ovary were free of disease. Patient was kept under close observation. Currently patient is disease free after 12 months follow-up. She got married and is currently 5 months pregnant.

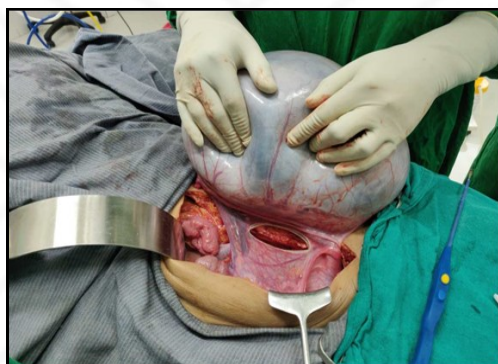


Figure 1: Large solid cystic ovarian tumour arising from right ovary in 23 year old girl.

Case 2

A 13 year old girl underwent left oophorectomy for a suspected benign ovarian tumour at another institute. Histopathology was mucinous cystadenocarcinoma not breaching the capsule. CECT abdomen showed soft tissue lesion with peri-lesional adhesions seen in left adnexal region likely residual disease. CA-125 was normal. Genetic testing was showed no mutation in BRCA 1 and 2 gene. Patient underwent fertility preserving staging laparotomy. Intra-operatively, no residual disease was found. Right ovary was normal. Post-operative biopsy report showed no residual disease. Patient was kept under close observation. Currently, patient is disease free at a follow-up of 15 months.



Figure 2: Excised right ovarian tumor.

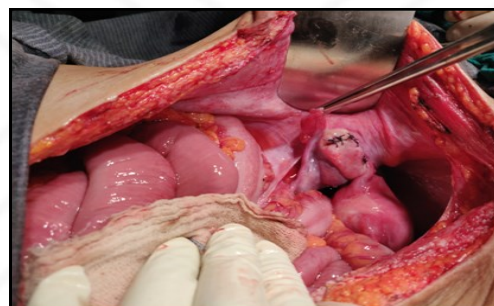


Figure 3: Left ovarian tissue normal on frozen.

Discussion

Invasive epithelial ovarian cancer is largely a disease of postmenopausal women with reproductive-age women comprising only 20% of all patients. Disease is rare in very young patients < 30 years²¹⁻²². Good prognosis in younger patients may be attributed to early-stage, lower grade disease, and tumors of low malignant potential²³. Treatment is done by Cytoreductive surgery followed by adjuvant chemotherapy. Fertility preservation in younger patients should be done whenever feasible. Case 1 was a giant mucinous cystadenocarcinoma of ovary which a rare diagnosis. Case 2 was a 13-year-old girl with papillary cystadenocarcinoma. Both patients had early disease (FIGO stage 1a), Grade 1 and did not receive any adjuvant treatment. They are disease free on follow-up and Case 1 is 5 months pregnant at present. Both the patients were BRCA negative.

Conclusion

Epithelial ovarian cancer at very young age (<30 years) is a rare diagnosis. However, these cases are detected at an early stage with a good prognosis.

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Grisotti Flap : Breast oncoplasty technique for central retroareolar tumour

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Grisotti flap is a method of breast conserving surgery for central retroareolar breast cancer in a ptotic breast and reconstruction using volume displacement method.

Traditionally, conservative breast surgery was contraindicated for centrally located tumours, with total mastectomy as the treatment of choice. However, restorations of the central defect by the oncoplastic volume displacement or replacement techniques have been shown to be effective.

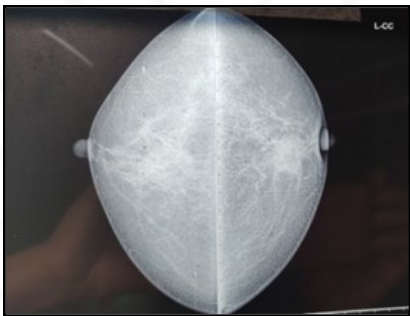


Fig. 1. Mammogram (CC view)



Fig. 2. Mammogram (MLO view)



Fig. 3. Skin Marking



Fig. 4. De-epithelialization of the flap, except the new areola



Fig.5. Central quadrantectomy



Fig.6. After complete procedure

Oncoplastic breast surgery, which combines the concepts of oncologic and plastic surgery is being practised more and more frequently, not only in western countries but also in developing countries. At present, there are several oncoplastic surgical techniques such as careful planning of skin and parenchymal excisions, reshaping of the gland following parenchymal excisions, and repositioning of the nipple areola complex to the center of the breast with or without correction in the contralateral breast to achieve better symmetry. The oncoplastic breast surgery has become popular since it has been found to be oncologically safe.

Case Report

A 44 year old lady presented with complaint of retracted nipple of 3 month duration. On examination, 3x3cm mobile lump was palpable in retro-areolar region. There was no axillary nodal involvement. Bilateral mammogram (Fig.1 and 2) revealed a mass without any microcalcifications outside the lesion. Trucut biopsy revealed a grade 2 Infiltrating Ductal Carcinoma with Hormone receptor positive and Her2 Neu negative disease. After multidisciplinary discussion, patient was planned for upfront surgery with sentinel node biopsy. The technique is as follows:

- Marking of the NAC outline with another smaller circle just below the NAC. The medial and lateral borders of the flap were drawn extending from the medial and lateral margins of the areola down to the inframammary fold and converging distally to give a comma-shaped appearance (Fig.3)
- Complete de-epithelialization of the flap, except the new areola. (Fig.4)
- Central quadrantectomy including NAC and tumor. (Fig. 5)
- Four titanium clips were placed along the margins of the tumour bed to facilitate subsequent adjuvant radiotherapy planning
- The medial and inferior margins of the flap

were then incised down to the pectoral fascia with wide mobilization of the flap from the pectoral fascia, then the flap was advanced and rotated to fill the defect with complete suture of the wounds.(Fig.6)

- Another separate incision in the axillary fold was done for sentinel LN dissection.

Discussion

Conservative surgery for retroareolar central tumours of the breast results in good local control of the disease including resection of the nipple areola complex and pectoralis major muscle fascia. Traditionally, total mastectomy was the treatment of choice for central tumours. Many surgical techniques have been described alternatives to mastectomy for central tumours in the last few years. Various techniques are Latissimus dorsi mini flap, Free dermal fat graft (FDFG), Keyhole-shaped skin glandular flap, Ba twing mastopexy, Hall Findlay breast reduction technique and Grisotti flap.

Grisotti flap was reported by Dr Andrea Grisotti more than 10 years ago. Grisotti flap is one type of glandular-cutaneous advancement rotation flap which fill the defect in the central portion of the breast. Grisotti flap, a random flap, is ideal for centrally located retro-areolar tumours in ptotic breasts. This can avoid mastectomy in a selected group of patients and can produce excellent cosmetic results. When feasible, the Grisotti flap will avoid skin-sparing mastectomy for central breast tumours that will require the use of an expander, prosthesis or myocutaneous flap, with all the complications of a more complex operation. Sentinel Node biopsy can be performed without added morbidity.

Conclusion

Considering the challenges in breast conservation in centrally located tumors, oncoplastic procedures such as the Grisotti flap, can be utilised, especially for ptotic breasts.

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Breast Cancer Risk Factors

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Background

Most of the facts and the figures of our textbook and interpretation of the etiopathology are from western cohorts, such as risk factors of breast cancer. GLOBOCON report 2018 shows that the pattern of incidence of cancers of western countries are different from eastern countries like India in Lung, breast, oral/lip , oesophagus, gallbladder cancers etc . The scientific literature also indicates that etiology and risk factors are linked to ethnicity, race, geography, cultural and lifestyle, human development index. The average age of breast cancer of western women varies as compared to Indian women. National Cancer Registry of Indian Council of Medical Research showed variation of incidence and types of cancer across different registries^{1,2} [Figure 1A&1B]

Cancer of the female breast was the most common cancer in women being leading site in Mumbai, Thiruvananthapuram and Dibrugarh. It was the second most common cancer in the remaining registries. The relative proportion of breast cancer in females varied from 14.4% in Guwahati to 30.3% in Mumbai (Figure 1C] The five year age distribution (Table 10.2 and Fig. 1) shows a peak relative proportion between 45-49 years in all registries except in Dibrugarh where the peak is seen in the ten year younger age group – 35-39 years^{1,2}. [Figure 1D]

The incidence of breast cancer is persistently on the rise in India and is the leading cancer in females and the mortality is higher in India³. All women are at risk for breast cancer, with the risk increasing with age. Breast cancer cannot be fully prevented, but it

can be effectively treated and even cured if detected early. Anything that increases the chance of developing a disease is called a risk factor⁶ There is a significant difference between women of eastern part of Globe than western population. Although various risk factors have been suggested for estimating the risk of developing breast cancer, most of these have been studied in the Western population⁷. We planned a descriptive cross-sectional study to analyse risk factors in breast cancer subjects in a tertiary care hospital of upper Assam.

Aim and objective

The primary objective of the study was to examine whether established Western Cohort derived risk factors for carcinoma breast were frequently seen in Eastern India, with special regard to North East region. This will help us understand how frequently or significantly those factors are associated or not . Additionally it could be useful to plan study to search for any other risk factors specific to Indian North East women in future which correlates to development of breast cancer of younger women

Methods and materials

This cross sectional study was carried out from April 2014 to April 2018 in the department of Pathology and Department of Surgery of AMCH. A total of 432 cases of Indian women of North East Indian origin were included, and this was a part of a larger clinicopathological study. The cases were enrolled with consent at the time of first diagnosis of histologically confirmed invasive carcinoma of breast.

The protocol was approved by the Institutional

Review Board and the Institutional Ethics Committee. The questionnaire was filled after interviewing of cases by study team.

Inclusion: All histopathologically confirmed cases of breast cancer at the time of diagnosis.

Exclusion: Cases of cancer other than breast, or not willing to participate and if not born and brought up in Assam or North East.

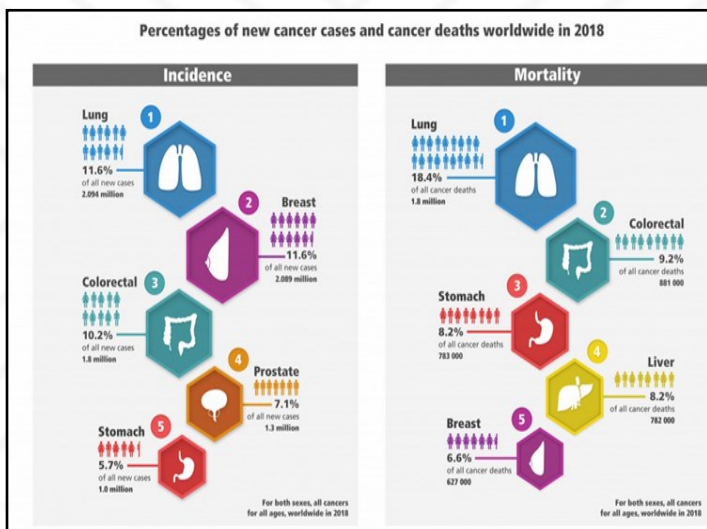
Risk factors questionnaire were filled up after interviewing of cases by study team after obtaining informed written consent. The questionnaire included the following:

- Demographic details such as name, age, residence [urban/rural, and education status
- Personal details like diet, smoking, alcohol consumption, daily physical activities personal medical history such as breast biopsy etc
- Menstrual history such as age of menarche and menopause detail
- Pregnancy and lactation details such as age of first pregnancy, no of live birth, abortions, and history with duration of lactation
- Family history of any carcinomas in relatives
- Morphological assessment such as height, weight, body mass index (BMI)

The data was entered into a database and statistical analysis was done using SPSS. All relevant variables were analyzed as mean, Median, minimum, maximum, standard deviation where appropriate. The data were analyzed using *t*-test, Chi-square test, and ANOVA. The variables found to be independently significant were analyzed in detail. *P* < 0.05 was considered to be statistically significant wherever applicable.

Tables / Figures

Figure 1 A: Reference- GLOBOCON 2018



Results and Interpretation

Cases in the study population were found to belong to mostly upper Assam Districts, smaller portion from middle Assam with few cases from neighbouring Arunachal and Nagaland. The majority of women were premenopausal with median age of breast cancer diagnosis 44 years [Table 1]. The peak age group of breast cancer was 36 years to 45 years [Figure 2]. The cases enrolled in the study were from very low to lower middle socio economic background [monthly total family income Rs 500-5000] with very limited resource to spend for treatment. In this group 44% monthly family income less than Rs1000, 53% earning <Rs5000 [Table 4]. Ninety percent of the women could read write in mother tongue and 10% were completely illiterate [Table 4.] Majority of them had attended either primary or middle school. The seventy five percent of cases were from rural areas and rest are urban including sub urban areas [Table 2]. Out of 432 women, 17 women were either unmarried or have no children. The vast majority 96% of cases are married. [Table 1]. The mean age of first childbirth was 20 years with a median 22 years. The average history of Breast feeding was 14 months, present in almost all cases with live child birth [Table 1]. The body mass index (BMI) was calculated using height and weight formulae. Our result showed that obesity was not frequently seen in the study group and average BMI was 25.22% which was within normal limit overall. [Table 1] The mean age of child birth was 20 years, median age found to be 22 years in women. [Table 1]. The history and reports or relevant authentic information were inconsistent on previous breast biopsy and mammography. Only Mammography reports of present diagnosis were submitted.

Figure 1 B :Reference GLOBOCAN 2018 /

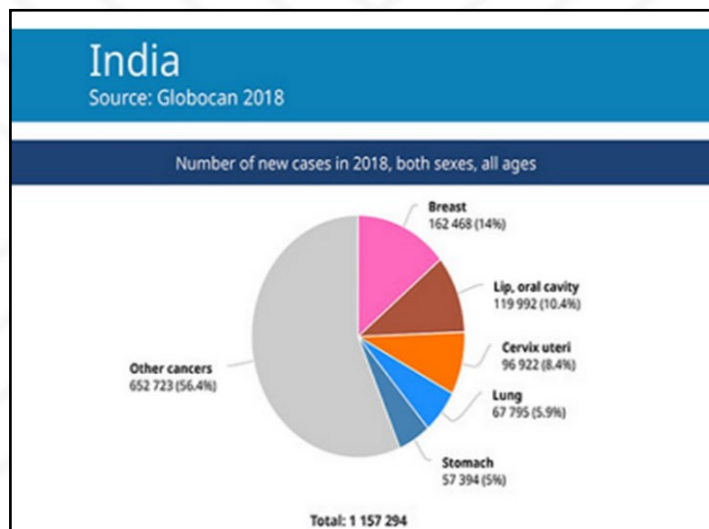


Figure 1.C: Reference - GLOBOCAN 2018 /National Cancer Registry

Table 1 : The Five Year Age Distribution				
Registry	Total	#	%	R
Mumbai	18528	5620	30.3	1
Bengalore	13125	2052	15.6	2
Chennai	17499	3921	22.4	2
Thi'Puram	18809	5354	28.5	1
Dibrugarh	2276	336	14.8	1
Guwahati	4679	674	14.4	2
Chandigarh	2092	341	16.3	2

Figure 1.D: Reference -GLOBOCAN 2018 /National Cancer Registry

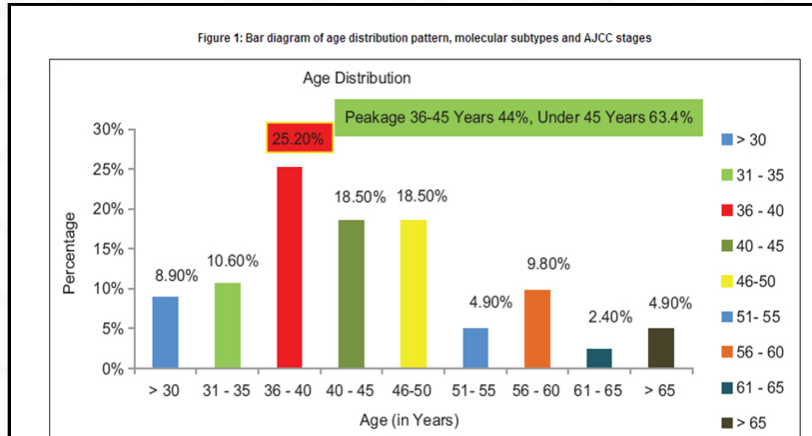


Fig 2: Distribution of age (in percentage) of study subjects 432

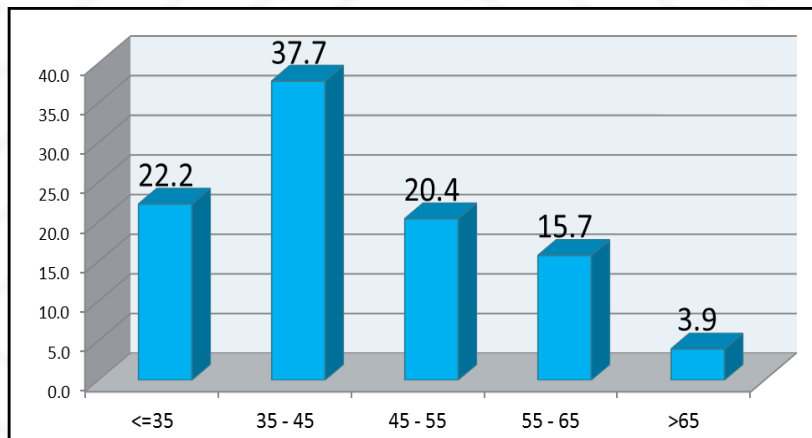


Fig 3: Distribution of age (in percentage) of study subjects 432

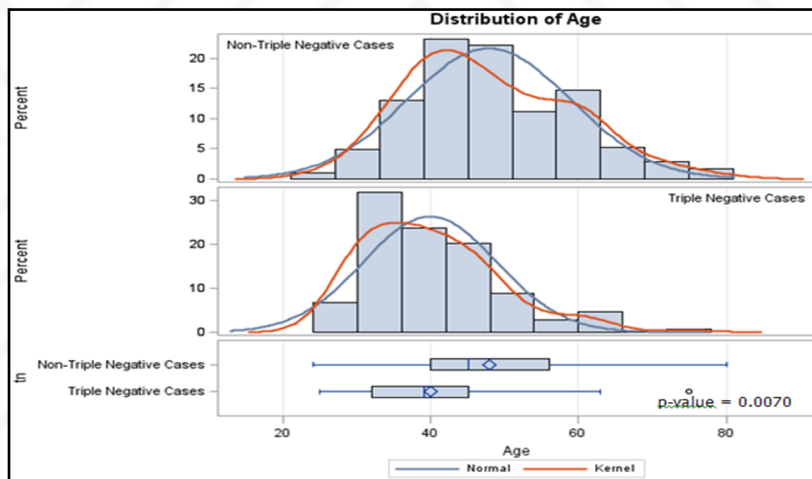


Table 1: Results

Total cases	Parameters	Mean	Median	Minimum	Maximum
432	Age in years	45.13	44	24	80
429	BMI [kg/m ²]	25.22	22.21	20.16	45.4
415	Age at first birth	20.0	22.0	15.0	41.0
415	Breast feeding[months]	16	14	1	40

Table 2: Personal and Family History

Total No.s	Variables	Present	Absent
432	Family history of cancer	15	417
432	Menopause	177 [40.9]	255 [59.1]
415	Breast feed	413	2
432	Education	392	40
432	Rural	325 [75.25}	107 [24.75]

Table 3:Modifiable risk factors

Total Cases	Variables	Absent	Present	Occasional	Regular
432	Smoking	398	34	21	13
432	Alcohol	290	142	115	27
432	History of Radiation	412	30	-	-

Table 4: Personal History profiles

Total Cases	Variables	Low	Average	High
432	Physical activities	45	238	149
432	Education	131	154	47
432	Economic	192	229	11

Table 5: Distribution of Various Characteristics

Character-istic	Category	Mean±SD	N(%)	Range
Age (in years)	Overall	45.1±11.1	432	24 – 80
	≤ 35	31.9±2.9	96	
	36 – 45	41.2±2.8	163	
	46 – 55	50.1±2.7	88	
	56 – 65	60.3±2.5	68	
Menopause Status	Pre-Menopause		255 [59.1]	
	Menopause		177 [40.9]	
Site	Right		162(38.0)	
	Left		264(62.0)	

Table 6: Logistic regression analysis triple negative as dependent variable : -

Factor	Univariate		Multivariate	
	OR (95% CI)	P Value	OR (95% CI)	P Value
Age	1.08(1.06-1.11)	<.0001	0.91(0.88-0.94)	<.0001
Urban Vs. Rural	2.49(1.64-3.78)	<.0001	2.25(1.39-3.64)	0.0010
BMI	1.29(1.17-1.44)	<.0001		
Children	1.11(0.97-1.34)	0.1932		
Age at child birth	0.99(0.96-1.03)	0.9271		

Discussion

The Breast Cancer Risk Assessment Tool is based on a statistical model known as the “Gail model,” which is named after Dr. Mitchell Gail, Senior Investigator in the Biostatistics Branch of NCI’s Division of Cancer Epidemiology and Genetics. The model uses woman’s own personal medical history. The Gail model has been tested in large populations of Caucasian women and has been shown to provide accurate estimates of breast cancer risk. The model still needs to be validated for Hispanic women, Asian women, and other subgroups. In addition, the results need to be interpreted by a healthcare provider for women with special risk factors, such as women who are carriers of gene mutations⁴. Other risk factors such as age at menopause, dense breast tissue on a mammogram, use of birth control pills hormone replacement therapy, high fat diet, alcohol drinking, low physical activity, obesity, or environmental exposures, are not included in risk estimates with the Breast Cancer Risk Assessment Tool. They are excluded because the evidence is not conclusive or researchers cannot accurately determine how much these factors contribute to the calculation of risk for an individual woman, or adding these factors decreases the accuracy of the tool appreciably. The inclusion of newer factors such as breast density and other modifiable risk factors is powering the ongoing evolution of breast cancer prediction tools.

The ‘established’ risk factors for breast cancer include female gender, age, previous breast disease, family history/genetic risk factors, early age of menarche, late age of menopause, late age of first full term pregnancy, postmenopausal obesity, lack of physical activity, and exposure to high dose radiation⁸⁻¹¹. Some are inherited predispositions while others are aspects of a woman’s lifestyle or reproductive history are also known risk factors⁷.

The significant difference in our study was only 3.9% of women in our study was over 65 years which is the average age of breast cancer in American women in contrast to our average age of 44 years, with a peak 37% in 36 to 45 years range [Table 1, Figure 2]. Menopause has a profound effect on obesity and high BMI⁹. The study

Institute is public funded tertiary care institution where cost of diagnosis and treatment is minimal. Most of the probable modifiable factors studied in the Western women and proposed as risk factors of breast cancers were not statistically significant in our study such as urban, high BMI, Low physical activities etc.[Table 1 and Table 2]. Most women in our study group were non smoker and not regular alcohol users[Table 3]. The study showed the normal limit of Body Mass Index, mean 22 which is likely due to younger age at presentation. BMI was statistically significant with P value <.0001[Table 6] when Logistic Regression Analysis was done with Triple negative Breast Cancer as dependent variable. Again Triple negative breast cancer was more commonly associated with more pre menopausal women, with a statistically significant P value <.0001 both in multivariate and univariate analysis [Figure 3]. Our study mostly constituted cases belonging to very low to lower income group, with only basic education and largely rural based [Table 2].

The lower socio economic status is directly related to higher level physical labour, farm and agricultural activities of women for livelihood and less purchase cum consumption power of ready-made high calories diet or fast food. BMI is largely dependant on physical activities and high calorie food intake⁵. Younger women at reproductive age of rural based, lower socioeconomic status, higher physical labour, less purchase power and normal BMI, all are intimately linked. Limitation of the study was the composition of poorer subjects due to nature of study institution which prevent normalization and it was not a case control study.

Conclusion

Substantial advances have been made in the treatment of breast cancer, but the introduction of effective methods to predict women at elevated risk and prevent the disease have been less successful. This study failed to demonstrate a statistically significant association between the established risk factors to those which we observed in our population, which is predominantly premenopausal younger women. There is strong need to study these factors in detail.

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A Pilot Study to Identify Barriers to Early Detection of Cancers

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Introduction

Early diagnosis is one of the preconditions for better prognosis of several diseases. This is very relevant in the context of oncology also. But not all cancers can be diagnosed early. Screening is the condition where otherwise asymptomatic persons are examined for presence of a particular disease. In Oncology, screening for breast cancer and uterine cervical cancer in female are promising. Screening procedure may involve a test or course of action or introduction of a set of pertinent questionnaires or may be both etc. Screening calls for diagnostic algorithm for confirmation or negating the possibility of the disease. Some cancers have few conspicuous clinical features which strongly direct about the possibility of certain malignant conditions.

Screening may be of two types- Population-based, where the entire population is screened or opportunistic-screening, wherein individuals or groups who present to the healthcare provider for other complaints are screening. Some individuals may undergo screening on their own accord, which indicates the health-seeking behavior of such. Health seeking behavior of a society or population may be dependent on the Health Communication and thereby influences the screening and early diagnosis. Easy access to the confirmatory tests and availability of facilities for treatment may influence the health seeking behavior.

We thought it essential to study the barriers to early diagnosis of cancer in a symptomatic person, who is eventually diagnosed with cancer.

Methods

This pilot study was done with the objective to identify the barriers to early diagnosis of cancer among diagnosed cancer patients with stage III or IV,

who had presented with symptoms suggestive of cancer. This was performed in the Oncology OPD of the Regional Cancer Centre at Tripura, Northeast India. We planned to recruit 30 consecutive patients who fulfill the stage and diagnosis criteria who would be interviewed for 5-15 minutes by the Oncologist to find out the time period between the earliest onset of symptoms and diagnosis of the disease and factors that delayed the diagnosis.

Results

Of the 30 consecutive patients who were recruited, only 23 were evaluable due to communication barrier, physical condition, etc. Lung cancer patients were 4, Breast cancer 4, Cancer Cervix 6, Cancer Base of tongue 2, Cancer Pyriform sinus 6 and Cancer Buccal mucosa 2. Others were Liver, Renal and Ovarian cancers.

The average time between first onset of a symptom and seeking medical advice varied hugely. In case of Cervical Cancers this was 16 months, 9 months for Lung Cancer and 4 months for Breast Cancer. For Cancer Pyriform sinus it was 4 months. For Cancer Base of Tongue it was 5 months and for Buccal Mucosa 3 months.

While interviewing the patients following factors were described as the cause of delay:

- Not aware that the symptom could be due to cancer.
- Denial of the fact that it could be cancer.
- Symptoms were mild.
- Financial constraint to meet the expenditure associated with seeking medical advice.

Two other factors also reported by the patients:

- Delay in obtaining appointments to meet the healthcare providers, etc.
- Delay in providing reports of investigations

like biopsy

Discussion

Subjecting one's self for screening tests or early diagnosis needs a strong health seeking behavior and needs good awareness of the disease among individuals and the society. Availability of resources is also important. Denial is an important factor and is related to the amount of knowledge about the probable diagnosis. Many of the patients were not aware about the fact that the predominant symptom might be due to cancer, especially when the symptom was not much distressing. Financial hurdle was also expressed as a barrier for early diagnosis.

It is sad to note that 'iatrogenic factors' such as waiting lists, delay in procedures along with possible need for repeated visits to the hospital were also barriers.

The limitations of this study of the small sample size. Further study will be performed with bigger sample and a structured questionnaire.

Conclusion

Increased awareness and easily accessible Health care system with less out of pocket expenditure from the patient might serve to achieve early diagnosis of cancer patients.

Ban on e-Cigarettes (ENDS)

E-cigarettes are electronic devices that heat a substance, with or without nicotine and flavours to create an aerosol for inhalation which a user can inhale like the action of smoking. These include all forms of Electronic Nicotine Delivery Systems, Heat Not Burn products, e-Hookahs and the like devices. The global community is concerned about the potential impact of these new products on individual and public health. Due to their sleek and attractive design, use of flavours that mask the smell and ease of concealment, they have grown tremendously in popularity especially among the younger generation. It is not yet established that e-cigarettes are safer than traditional cigarettes and the harmful effects of e-cigarette use are now emerging across the world. Available scientific evidence indicates that use of e-cigarettes is hazardous for an active as well as a passive user. E-cigarette solutions and emissions are

known to contain harmful chemicals which are hazardous and some of whom considered to be toxicants.

The Government constituted three sub-groups of experts to recommend measures to control the sale, supply, import, export, manufacturing and trade of e-cigarettes under the prevailing legislative framework but they have recommended to prohibit Electronic Nicotine Delivery Systems. The World Health Organisation - Framework Convention on Tobacco Control, 2003 to which India is a Party, provides update on the evidence of the health impact of Electronic Nicotine Delivery Systems, impact on tobacco control efforts, and health risks to non-users from exposure to their emissions. It also urges the Parties to restrict or prohibit, as appropriate, the manufacture, importation, exportation, distribution,

presentation, sale and use of the Electronic Nicotine Delivery Systems as appropriate to their context.

The Indian Council of Medical Research has issued a White paper on Electronic Nicotine Delivery Systems and has also recommended a complete ban on e-cigarettes and other Electronic Nicotine Delivery Systems based on currently available scientific evidence. The International Association for the Study of Lung Cancer also does not recommend the use of e-cigarettes for treating nicotine dependence even in cancer patients, due to the absence of sufficient evidence on their efficacy and safety.

In view of the above recommendations and in the overall interest of public health as envisaged under article 47 of the Constitution, it was expedient that the e-cigarettes and the like devices should be prohibited. The following Bill was introduced in Lok Sabha on 22nd November, 2019:—

A Bill to prohibit the production, manufacture, import, export, transport, sale, distribution, storage and advertisement of electronic cigarettes in the interest of public health to protect the people from harm and for matters connected therewith or incidental thereto.

This Act was called the Prohibition of Electronic Cigarettes (Production, Manufacture, Import, Export, Transport, Sale, Distribution, Storage and Advertisement) Act, 2019. This came into force on the 18th day of September, 2019.

It was declared that it would be expedient in the public interest that the Union should take under its control the electronic cigarettes industry.

In the Act, "electronic cigarette" means an electronic device that heats a substance, with or without nicotine and flavours, to create an aerosol for inhalation and includes all forms of Electronic Nicotine Delivery Systems, Heat Not Burn Products, e-Hookah and the like devices, by whatever name called and whatever shape, size or form it may have, but does not include any product licensed under the Drugs and Cosmetics Act, 1940.

And the expression "substance" includes any natural or artificial substance or other matter, whether it is in a solid state or in liquid form or in the form of gas or vapour;

Also, "advertisement" means any audio or visual publicity, representation or pronouncement made by means of any light, sound, smoke, gas, print, electronic media, internet or website or social media and includes through any notice, circular, label, wrapper, invoice or other document or device;

Under this Act, no person, being the owner or occupier or having the control or use of any place shall, knowingly permit it to be used for storage of any stock of electronic cigarettes.

Whoever contravenes the provisions of this act shall be punishable with imprisonment for a term which may extend up to one year or with fine which may extend up to one lakh rupees, or with both, and, for the second or subsequent offence, with imprisonment for a term which may extend to three years and with fine which may extend to five lakh rupees.

*The above is an excerpt from Gazette of India.

A Well-Deserved Award for a Worthy Recipient

In July of 2009, when I was visiting a charitable hospital at Assam, a paediatric surgeon spoke about one of his classmates at the Kilpauk Medical College in Chennai, who had resigned as the head of the Department of Surgical Oncology, Adyar Cancer Institute (CI), Chennai, to set up a cancer centre at Silchar. He even showed me the Cachar Cancer Hospital, as we passed through the area, and I was looking forward to meeting him sometime, even more since I was contemplating a career in Surgical Oncology.

While I heard Dr. Ravi Kannan speak at a few conferences, I really got to meet him only in 2016, after I moved to Northeast India. He came across as a genuine person, who would speak with me in an endearing, accented Tamil! During one of the National Cancer Grid(NCG) meetings in Mumbai, he proposed traveling to various parts of the Northeast to train pathologists and surgeons of the region in Surgical Pathology. I vividly remember the passion with which he spoke, thereby convincing the NCG convener to adopt the idea. Unlike several senior people who suggest ideas and expect others to implement, he walked the mile and achieved the difficult task of traveling to all the states of Northeast India, along with a team of pathologists and conducted the 'NCG Traveling School of Pathology'. The first AONEI conference I attended was held at the Cachar Cancer Hospital in January 2017, where I got to interact more with him. There was a horde of oncologists from various parts of the country, with significant achievements, who were there, and the one thing common with all of them was that they had all worked with Dr. Ravi at the 'Institute' (CI) and held him in high esteem. The conference was conducted in the simplest manner possible, in the campus of the hospital, which was teeming with patients. But the academic content was of high quality, thanks to the faculty who came from far and near. He clearly didn't approve of the medical conferences conducted with fanfare, but he was gracious enough to allow others to do so. That is

probably the only 'dry' conference I have attended in a long time, but there were enough people dancing along with him in the banquet!

It was really encouraging to meet his family, which shared his vision. His parents were as active as he is and it is heartening to mention that he shifted to Silchar in 2007, despite their health concerns. His wife is a very lovely, kind lady with an affable personality. I was told that she resigned from a comfortable job in Chennai, to pursue the goal of providing cancer care to Barak Valley. Now that is something which all husbands need to note!

He built an excellent team at Cachar, who worked their heart out. Some of these were surgical oncologists who, after being trained by him at the Institute, tagged along, lured by the passion they saw in him to serve the people. They endured long working hours and not so perfect working environments, because they saw in Dr. Ravi, a 'servant leader', one who would work longer than all others in the team. And those who know him would agree that its difficult to match his energy levels!

Though being credited with excellent surgical skills, not confining to surgical oncology, he spent a lot of his time in improving access to healthcare, affordability of cancer care and in preventing cancer by curbing tobacco use. He established home visits by health professionals and 'Satellite Clinics' so that cancer care could reach the unreached. He has been working very closely with the district administration to achieve some of these goals. Some of the districts have declared the schools and colleges as 'Tobacco - free Educational Institutions' as a result of his untiring efforts. He has even extended these efforts to certain districts in Mizoram.

Dr. Ravi has been able to garner support from various sections of the society-including bikers! He was instrumental in organising a multi-state bike rally which halted at several cities to conduct a mini-marathon, followed by tobacco awareness programmes. This was aptly titled 'Run and Ride', and he was with the biker club, not in the support

vehicle, but riding pillion with them!

During one of his visits to Shillong, he came home and I offered to prepare some dosa for him. He gladly agreed and while I was at it, I found him sitting down on the kitchen (not so clean) floor. Such is the simplicity of the man. While he was conferred the 'Lifetime Achievement Award' at the Max Cancer Congress in Delhi, February 2019, one could see a visibly embarrassed person. I'm sure even now he would credit this achievement to his entire team and refuse to claim anything for himself. As news of his being conferred the Padma Shri started circulating on social media, the congratulatory messages poured, and one thing in common was that this was a 'well-deserved' award to a worthy person.

AONEI is proud of its Ex-President and wishes him many more accolades as he continues to serve the people of Northeast India.

Caleb Harris
Associate Prof and Head,
Department of Surgical Oncology, NEIGRIHMS, Shillong
26th January 2020





SECRETARY'S REPORT

*Dr. Vikas Jagtap,
Associate Professor & Head,
Radiation Oncology,
NEIGRIHMS, Shillong*

Dear all,
Greetings from AONEI!

AONEI has always been instrumental in bringing together the oncology community under one roof in the north east. AONEI has maintained high academic standard in all its activities and conducts various social initiatives for the benefit of people in this region. Last year we had the Annual Conference at Kohima (Nagaland), CME at Imphal and Breast Cancer CME at Guwahati. Community awareness programmes were conducted by esteemed AONEI members at various places in the north east.

This year we are meeting for the annual conference at Shillong (Meghalaya). We hope that this annual conference of AONEI will be a great platform for the Oncologists to share their knowledge, ideas and also to provide opportunities for youngsters to showcase their work. We have received more than 20 abstracts for scientific presentation and about 5 videos for the academic battle of awards, highest so far in AONEI history!

The AONEI newsletter has entered its 5th year now and thanks to all the members for their contribution towards keeping it alive.

On behalf of the Executive Committee of AONEI, I sincerely thank everyone who has contributed towards making AONEI a great association in Northeast India.

So let us come together and take this further up. As secretary and on behalf of organising committee I welcome you all to Shillong on 1st -2nd Feb 2020 for the Annual Conference.

Looking forward to seeing you all at Shillong.

Dr. Vikas Jagtap

(Associate Professor & Head, Radiation Oncology, NEIGRIHMS – Shillong)

Secretary – AONEI

Report on XIV Annual Conference of AONEI

The XIV Annual Conference of Association of Oncologists of North East India (AONEI) organised by Naga Hospital Authority, Kohima was held at Hotel Japfü, Kohima from 2nd to 3rd February, 2019.

A total of 161 participants from North East attended the two day conference with 14 (Fourteen) speakers as resource persons in the conference.

The **main highlights** of the conference were Scientific Sessions on Cancer Management and Panel Discussions. The conference also highlighted access to Cancer Care. In addition, AONEI General Body Meeting was conducted where new office bearers were elected, following which a cultural programme was also held.

The **inaugural function** was graced by Shri I. Himato Zhimomi, Principal Secretary, Health & Family Welfare, Government of Nagaland. Dr. Thorhusie Katiry, Managing Director, NHAK welcomed all present, followed by a special message on behalf of

Cancer Survivors by the former Chief Secretary, Nagaland, Smt. Z. Banuo Jamir, IAS (Rtd). Keynote address was delivered by Dr. A.K.Kalita, President, AONEI, followed by the release of Souvenir and Speech by Shri I. Himato Zhimomi. The programme ended with vote of thanks delivered by Dr. V. Khamo, Organising Secretary, AONEI 2019.

A competition on **Poster presentation** was also conducted where 12 (twelve) participants competed. The top three posters were selected for oral presentation and Ms. Chenole Keppen, Senior Research Fellow from Healthcare Laboratory & Research Centre, NHAK was adjudged the best presenter for presenting a topic on “*Association of Interleukin-10 with Nasopharyngeal Carcinoma in Naga population of North East India.*”

We acknowledge the National Health Mission, Directorate of Health & Family Welfare, Nagaland for sponsoring an amount of Rs.1 Lakh towards organising the conference.



Shri. I. Himato Zhimomi, Principal Secretary, H&FW, Govt. of Nagaland speaking during the Inaugural function.



Dr. A. K. Kalita, President, AONEI delivering the keynote address during the Inaugural function.



Section of panelists during Scientific Sessions



Scientific Session in progress



Press and Media Briefings



Oral Presentation in progress



Release of XIV AONEI Souvenir

CME on Breast Cancer, Guwahati

A day long CME on Breast cancer was organized by Association of Oncologist of North East India (AONEI) in association with Association of Surgeons of Assam (ASA) at Taj Vivanta, Guwahati on 12th of October 2019. The program started with the welcome address by Dr C Bhuyan, President AONEI cum Organizing Chairman. CME was vibrant with video sessions, talks, Debate and Panel discussion covering various aspect of Breast Cancer, from the basics to the latest advances. In the video session Dr Abhijit Talukdar from Guwahati presented a chemoport insertion, Sentinel node biopsy by Dr Senthil Kumar from Chennai, Brachytherapy in breast cancer by Dr Vikash Jagtap from Shillong, Breast Conservative surgery by Dr Polume Mukharjee from Silchar, Mastectomy by Dr Purvi Thakkar from Mumbai and Oncoplastic surgery by Dr C B Kopikker from Pune.

Other Speakers in the CME were Dr Kunjahari Medhi and Dr Sumit Goyal from Delhi, Dr Ritesh Tapkire from Silchar, Dr Caleb Harris from Shillong and Dr. Umesh Das, Dr Dinesh Goswami, Dr Anupam Mahanta, Dr Gaurav Das and Dr B C Goswami, all from Guwahati. General Surgery postgraduate students and faculty from Guwahati Medical College and many members of ASA participated in the CME. More than 150 delegates from all over North East India attended in the CME. Assam council of Medical registration issued 02 credits hours for participants and 03 credits hours for faculty.

Dr J N Buragohain
Organising Secretary



CME on Hepato–Pancreatic Biliary Cancer

A CME was organised by Manipur Oncology Society under the aegis of AONEI at Imphal on 11th May 2019. Prominent speakers from North eastern states as well as from other parts of the country discussed on ‘The recent advances in the management of *Hepato-pancreatic and biliary cancers*’. The CME was attended by around 100 doctors from the state.



Mid-Term CME, Dibrugarh

A Regional Midterm Continuing Medical Education [CME] of North Eastern Regional Chapter of Indian Association of Pathologists and Microbiologist [NERC-IAPM] on Breast Pathology & Haematology was organized by Department of Pathology, Assam Medical College, Dibrugarh, in association with Association of Oncology of North East India [AONEI] at OIL Lecture Hall, Assam Medical College, Dibrugarh on 28TH April, 2019. This was attended by over 130 Pathologists, Oncologists, Surgeons, Radiologist, Radiation oncologists, physicians which was enriched by National-International Level speakers.

Dr Gayatri Gogoi, the Organizing Secretary, welcomed the gathering quoting Sir William Osler, 'As is our pathology so is our practice, what the pathologists think today, the physician does it tomorrow'. The Principal cum Chief Superintendent of Assam Medical College and Hospital, Prof H K Goswami welcomed the guests, recalling the contributions of stalwarts in pathology, like Late Prof B D Baruah and inaugurated the CME. Dr. Jagannath Dev Sharma, President of NERC-IAPM expressed his happiness over the glorious journey of the regional organization in scientific contribution and followed with his talk on 'Burden of Breast cancer with special reference to Northeast India'. Dr Chidananda Bhuyan, the Founder-President of AONEI, emphasized on importance of awareness about the current trends and practices of Cancer management among different branches of medicine.

The Organizing Chairperson of the CME, Prof. Mondita Borgohain highlighted the poster competition among post graduate students, which would encourage research spirit among them. She spoke on 'Understanding of breast cancer' in a

comprehensive manner targeting mostly young pathologists. Superintendent of AMCH Dr Indra Nath Sutia, sensitized the practitioners with his speech on Medical Negligence in Laboratory Practices.

Prof of Pathology from Tata Memorial Hospital, Mumbai, Dr. Tanuja Shet, delivered two lectures on breast cancer from basics to recent genomic update which was very much appreciated by delegates. Dr. Maitreyee Bhattacharyya, Professor & Director, Institute of Haematology & Transfusion Medicine, Kolkata discussed in length about the automation in hematology.

Dr Sumit Goyal, a senior consultant from Rajeev Gandhi Cancer Institute and Research Centre, updated the gathering with New Guidelines of breast cancer management, Neo-adjuvant Therapy followed by case based discussion in a panel. The Invited Panelists were Dr Gautam Sarma, Dr Gaurav Das from Dr B Barooah Cancer Institute, Dr Anuradha Talukadar from Cachar Cancer Hospital, Dr Deb Baruah from Tezpur Medical College. The chairpersons in various sessions were Prof Prognan Saikia, Dr Mrinal Kr Baruah, Dr Aditya Sarma, Dr Ena Duwarah, Dr Usha Sarma, Dr Ramesh Saharia, Dr Chidananda Bhuyan, from different hospitals and medical colleges of Northeast.

Dr. Sunil Jaiman Grant for Excellence in Pathology awards for Best Posters, sponsored by an Alumnus of AMCH-a pathologist presently working in USA, in fond memory of his late father KD Jaiman, were bagged by Dr Jyotimala Gogoi, Dr Swastika Padmapati, Dr Anuradha Sarma, and Award of Appreciation was offered to Dr Zachariah Choudhury and Dr Lopamudra Kakati.



Surgical Oncology Workshop cum CME On Gastric Cancer

Christian Institute of Health Sciences and Research (CIHSR), Dimapur(Nagaland), supported by the Association of Oncologists of Northeast India (AONEI) conducted a Surgical Oncology Workshop cum Continuing Medical Education(CME) on Gastric Cancer on May 10th, 2019 at CIHSR. The General Surgery Department, headed by Dr. Temsula Alinger, has been handling patients with malignancies. This program was one among a series of efforts to assist the General Surgery Department to offer Surgical services to the cancer patients.

An elderly gentleman with gastric carcinoma was taken up for a radical D2 Gastrectomy, which was performed by the surgeon there, assisted by the faculty, Dr. Caleb Harris, Associate Professor of Surgical Oncology, NEIGRIHMS, Shillong. The D.N.B. General Surgery residents benefited a lot, assisting and observing the surgery, as the faculty was explaining the steps all through the procedure. There was a brief demonstration on how to gross the specimen for lymph nodes after the surgery.

A young lady with an adnexal mass was explored, and was found to have a large para-uterine mass, which was resected completely. Histopathology revealed a leiomyoma. Another lady with breast cancer was taken up for Modified Radical

Mastectomy, which was again performed by the General Surgeon and assisted by the faculty. This was followed by ward rounds, wherein practical aspects of patient care were discussed.

The surgeries were followed by case discussions, wherein the residents preparing for the final D.N.B. exams presented cases which were discussed. These discussions covered the management of Breast and Thyroid cancers.

Dr. Harris delivered a lecture on 'Lymphadenectomy in Gastric cancer', which answered Why, What type and How to perform lymphadenectomy in gastric cancer. Following the lecture, there was a discussion on other cancers, for the benefit of the residents.

Most of the participants were residents and young general surgeons aspiring to embark on a career in surgical oncology. The highlight of this workshop was the fact that the delegates could get hands-on training in a supervised environment. This is really relevant in the Northeast Region, with very few surgical oncologists and we hope that this would improve the cancer care delivery in the region.

Dr. Caleb Harris
Faculty/Falicitator

Dr. Temsula Alinger
Organising Secretary



ABSTRACTS – ANNUAL CONFERENCE 2020

1

EARLY EXPERIENCE WITH USE OF ONCOPLASTIC TECHNIQUES IN OUR CENTRE

Ashutosh Sahewalla, Gaurav Das, Joydeep Purkayastha, Abhijit Talukdar – BCCI – Guwahati

Introduction: Oncoplastic surgery merges the principles of oncology and plastic surgery.

Methods: A retrospective single centre study of prospectively managed database was conducted on patients with carcinoma breast between January 2019 and December 2019. The case records were studied and the results were analyzed using simple statistical methods.

Results: Of 248 patients who underwent surgery for carcinoma breast, 64 patients had BCS (25.80%). The oncoplastic techniques performed were breast tissue advancement flap (Type 1 Oncoplasty) in 49 (76.56%), Grisotti flap 2(3%), Benelli technique 3 (4.68%), LD flap 10(15.62%). The median age of patient was 46.5years. The average size of tumor was 3.4cm and was done for both N0 and N+ disease. There were no major complications. Most common pathologic diagnosis was invasive ductal carcinoma. At median follow up for 4.4months (range 1-12months) patient satisfaction results were excellent based on subjective assessment. Based on objective assessment according to Harvard Scale, results were excellent in 37(58%), good 17(26.3%), fair 7(10.5%) and poor 3(5.2%). The choice of technique was dependent on achievement of safety margins, breast volume and its ptotic degree.

Conclusion: Use of oncoplastic techniques provides excellent cosmetic results.

2

MINIMALLY INVASIVE ONCOLOGIC SURGERY AT A REGIONAL CANCER CENTRE IN NE INDIA

Ashutosh Sahewalla, Gaurav Das, Joydeep Purkayastha, Abhijit Talukdar, BCCI-Guwahati

Introduction: The use of minimally invasive surgery (MIS) in oncology in certain cancers has been proven to be non-inferior to open procedures with superior short term outcomes in several randomized controlled trials.

Materials and methods: A retrospective study of

MIS done for cancers of esophagus, lung, colorectal cancers and gastric cancers was done for the study period 1st Jan 2018 to 31st Dec 2019.

Results: A total of 46(54.7%) procedures were done with the use of MIS out of a total of 84 cases. Trans-thoracic esophagectomy (TTE) was done using VATS in 25 cases (62.5%) and the remaining were done using open right lateral thoracotomy 4 cases (10%) and trans-hiatal approach (THE) 11 cases (27.5%). Conversion to a thoracotomy was noted in 3 cases (12.5%). Anastomotic leak was noted in 3 cases (12.5%). A similar incidence of hoarseness of voice due to RLN palsy was noted and it was transient in all instances. The mean duration of ICU stay was 1.5days and mean duration of hospital stay was 12.1days. The mean post-operative pain score was 2.5.

The number of surgeries done by MIS for colorectal cancers was 17(44.7%) out of a total of 38 cases. This included 3 lap right hemicolectomies, 9 lap APR, 5 lap LAR/ULAR. The conversion rate was 11.4%. The mean ICU stay was 1.25days and the mean hospital stay was 11.75days. These numbers compared favourably against the open cases, where mean values were 1.9days and 14.2days respectively. The incidences of SSIs were higher in the open cases. The mean pain score was 3.2 in MIS cases and 6.2 in open cases. Also performed was one case of VATS left lung upper lobectomy, one case of VATS right lung metastasectomy, 2 cases of lap-assisted distal gastrectomy with D2 lymphadenectomy.

Conclusion: The acceptance of MIS in our institute has produced favourable short term results which appear encouraging.

3

CA ENDOMETRIUM: CLINICAL CHARACTERISTICS AT PRESENTATION AND TREATMENT OUTCOME- A RETROSPECTIVE ANALYSIS FROM A TERTIARY CARE HOSPITAL.

Dr. Biswajit Sarma, Dr. M. Bhattacharyya, Dr.A.K. Kalita, Dr. Debabrata Barmon, Dr.Partha P.Medhi, Dr.Gautam Sarma, Dr. Shashank Bansal, Dr.Jyotiman Nath, Dr. Faridha J Momin, Dr. Ghritashee Bora, Dr.Luri Borah, Dr. Moumita Paul, Dr. Hima Bora, Dr. Megha Nandwani

Department of Radiation Oncology, Dr. B Borooah Cancer Institute, Guwahati

Department of Gynecological Oncology,
Dr. B Borooah Cancer Institute, Guwahati
Presenting Author: Dr. Biswajit Sarma (2nd year
PGT, Department of Radiation Oncology)
Dr. B Borooah Cancer Institute, A.K.Azad Road,
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Introduction: CA Endometrium is the fourth most common malignancy in females worldwide. Early menarche, late Menopause, Nulliparity and Obesity are the most common risk factor associated with the development of endometrial cancer in women. The large majority of patients are diagnosed at early stage (International Federation of Gynecology and Obstetrics[FIGO] stage I). Surgery, consisting of Total Abdominal Hysterectomy and Bilateral Salpingo-oophorectomy (TAH-BSO) + PLND (Pelvic Lymph node dissection) ± Para-aortic lymphnode dissection (PALND) is the primary treatment. Adjuvant treatment in the form of vaginal brachytherapy (VBRT), External Beam radiotherapy (EBRT) ± VBRT ± systemic chemotherapy is reserved for only selected indications. In this study we retrospectively analyzed the, clinical parameters at presentation and treatment outcome of patients diagnosed with CA endometrium treated with surgery (TAH+BSO + PLND± PALND) followed by observation or adjuvant radiotherapy/ chemo-radiotherapy as per indication, at Dr. B Borooah Cancer Institute, Guwahati from January 2013 to May 2019.

Material and Methods: Medical, Surgical and Radiation treatment records of the patient suffering from Ca Endometrium registered in our hospital between January 2013 to May 2019 was collected from hospital database system, patient's medical records.

Results: Total 29 patients were available for evaluation from medical records. Median age at presentation was 51 year, 79 % were married and 21% were unmarried, 76% had attained menopause and 24% was pre-menopausal or perimenopausal. Median duration of symptoms at presentation was 6 months, with post-menopausal bleeding being the most common symptom at presentation. most common histology at presentation is Endometrioid adenocarcinoma, and almost 46% had histology grade I disease. All patients underwent TAH+BSO and PLND was done in 86% patients. Most common p Stage after surgery was FIGO stage IA (42%), followed by FIGO stage IB (31%). majority of the patients were high risk (45%) and intermediate risk (27%) and only 28% were of low risk category. Adjuvant treatment was received by 72% patients and 28% were kept on observation. Median progression free survival is 8 months.

Conclusion: It's difficult to arrive at any conclusion at this point, because of heterogeneous data. More follow-up with larger number of patients is required to finally arrive at conclusion.

4 EXPERIENCE WITH INTERNAL HEMIPLECTOMY AS LIMB SALVAGE SURGERY FOR PELVIC BONE TUMORS

Chandra Sekhar Vihari, Gaurav Das, Revanth Kumar

Introduction: Resection of pelvic bone tumors poses a complex challenge to surgeons. Limb salvage with internal hemipelvectomy is standard when feasible.

Materials and methods: A retrospective review was conducted between June 1, 2018 and December 31, 2019 in Dr. B Borooah Cancer Institute, Guwahati. All patients who underwent internal hemipelvectomy for pelvic tumors were included. Medical records and files of the patients were reviewed. All the patients were examined clinically and limb functions were assessed. They were investigated with core needle biopsy, CEMRI pelvis to assess the resectability of the tumor and blood investigations. Metastatic workup included CECT thorax and abdomen. All patients were found to have resectable disease and offered internal hemipelvectomy.

Results: Total 56 patients underwent hemipelvectomy. 4 were female and one male. Mean age of the patients was 35.2 years. Two patients had Giant cell tumor of bone, one each myxoid liposarcoma, myxoid fibrosarcoma and pleomorphic sarcoma. 4 patients underwent type 1 hemipelvectomy and 1 patient type 2+3 hemipelvectomy. 3 patients required reconstruction two with mesh and other with mesh+flap reconstruction. Complications: One patient expired during in hospital stay due to DIC on POD 16 and one patient re-explored due to reactionary hemorrhage on POD 1. Rest 3 patients intra-op and post-op period was uneventful. Wounds and flaps were healthy. No major late complications noted in the limited follow up period. Oncological outcomes: Post op histopathology suggestive of margin negative resection (R0) in all patients. No local disease recurrence and distant failure noted so far. Good Functional outcome with mean MSTS score of 25.5. Major limitation of this study was limited follow-up period of less than a year; long term results are awaited.

Conclusion: Internal hemipelvectomy although complex is the standard surgical treatment for pelvic bone tumors. Type of internal hemipelvectomy

depends mainly on extent of disease. Good functional outcome can be achieved.

5

ISOLATED PLASMABLASTIC LYMPHOMA OF LEFT SCAPULA MASQUERADING AS ANGIOSARCOMA IN IMMUNOCOMPETENT PATIENT: A CASE REPORT

Chandra Sekhar Vihari, Gaurav Das – BBCI - Guwahati

Introduction: Plasmablastic lymphoma is a rare aggressive lymphoid neoplasm of large B-cell lymphoma type. It often arises in vicinity of oral cavity, GIT particularly in immunocompromised patient. Bone is an unusual solitary primary site and poses major diagnostic difficulties because of overlapping myeloma and lymphoma features.

Case summary: A 45 year old male patient presented with history of left shoulder swelling for 9 months. Histopathology was suggestive of poorly differentiated tumor. Tumor markers beta-hcg, AFP and LDH were normal. Tumor was positive for CD31, CK and synaptophysin. A diagnosis of angiosarcoma with CK and synaptophysin expression was made. MRI left shoulder suggestive of destructive lesion of left scapula with involvement of subglenoid region. Patient undergone type 4 left scapulectomy. Post op final HPE suggestive of plasma cell neoplasm with plasmablastic features (CD 138, MUM-1, CD45 POSITIVE). Myeloma workup including serum electrophoresis and immunoglobulin fixation were negative. Bone marrow biopsy showed 25% plasmablastic cells. Final diagnosis of plasmablastic lymphoma made. Patient started on CHOP+BORTEZOMIB regimen. No metastatic or local recurrence as of now.

Conclusion: Diagnosis of plasmablastic lymphoma could be overlooked in immunocompetent patients due to rarity. This case emphasizes the need for obtaining adequate tissue sample to facilitate accurate diagnosis on the first instance. Coexpression of myeloma and lymphoma markers should raise suspicion of plasmablastic lymphoma in any patient.

6

TITLE-ADJUVANT TREATMENT IN POST OPERATIVE BIPHASIC SYNOVIAL SARCOMA IN HEART-A RARE CASE REPORT

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Introduction: Cardiac tumours are very rare, with an overall incidence of 0.021%. Nearly three fourths of cardiac tumours are benign while sarcomas consist of the most common malignant histology. We here report a very rare case of Biphasic synovial sarcoma of the heart.

Case summary: 63 year old male, school teacher by profession, presented to GMCH CTVS Department with history of acute episode of pain abdomen, vomiting and difficulty in breathing for 1 week. CECT Thorax showed Moderate pericardial and B/L pleural effusion along with hepatomegaly and mild ascitis. 2D Echocardiography was suggestive of Good LV systolic function with a Biatrial mass- most likely myxoma along with pericardial effusion. He underwent Thoracotomy and exploration with enucleation of the cardiac mass and closure of interatrial defect with pericardial patch under GA. Postoperative histopathology was suggestive of Malignant Mesothelioma with differential diagnosis of Synovial Sarcoma. Slide review at BBCI was suggestive of Biphasic malignant tumour with epithelial and sarcomatoid features. Immunohistochemistry showed CK 7, MIC 2, CK 19, BCL 2, S-100, HBME positive and CK 20, Calretinin, CEA, Vimentin, WT-1, TTF1, CK 5/6 negative. The Final Histopathological diagnosis was made as Biphasic spindle cell carcinoma consistent with Biphasic synovial sarcoma. Advanced cytogenetics study was done which confirmed SYT-SSK, t(X,18) translocation. Post operative Cardiac MRI and metastatic workup was done. Imaging was suggestive of a residual tumour in the interatrial region with no evidence of distant metastasis. Patient was planned for Adjuvant Radiotherapy followed by Chemotherapy as per the Tumour Board of our Institute. Patient completed 60Gy/30fractions External Radiotherapy with IMRT (VMAT) technique using 6MV photons with daily image guidance using CBCT. After that he received 3 cycles of Doxorubicin based Chemotherapy. Presently the patient is on follow up and subjecting better.

Discussion and Conclusion: Synovial sarcoma of the heart is the rarest form of malignant cardiac tumour and due to the lack of evidence, the information regarding appropriate therapy for the tumour is limited. However adequate surgical excision seems to be the preferred treatment of choice, which is often not possible always due to proximity of tumour to critical structures. In these situations, conservative surgery and adjuvant radiotherapy is favored. Post operative radiotherapy for synovial sarcoma has not been found to improve survival rate although it is found to improve local control rates, more so when margins are not free of

tumour. It is also a chemosensitive tumour with improved survival benefit from addition of adjuvant Chemotherapy. In our case we have tried to tailor our patients adjuvant treatment within the narrow window of optimal therapeutic ratio available for this highly malignant and complex tumour.

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METASTATIC LYMPH NODE RATIO(MLR) A BETTER PROGNOSTIC FACTOR AFTER D2 GASTRECTOMY

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Background: In gastric cancer, stage migration is caused by insufficient number of lymph nodes examined. To reduce stage migration, some Investigators have proposed metastatic lymph node ratio (MLR), the ratio between positive lymph nodes and total number of lymph nodes examined, as a new prognostic indicator.

Methods: Total 116 patients who underwent upfront D2 gastrectomy between 2012 to 2017 were included. MLR was classified into 4 groups: MLR0; 0, MLR1; >0-0.13; MLR2; 0.14-0.40 and MLR3; 0.41- 1. We used Kaplan-Meier method for survival rates and log rank test to compare survival curves.

Results: Males (58.6%) were more common than females (41.4%). Mean age at presentation was 56.12 years. Most common presentation was pain abdomen (53.8%). Most common location of tumor was distal part (81%). Most common procedure was distal gastrectomy (56.9%). Median number of lymph nodes isolated was 14. At a median followup of 14 months (range, 2–78 months), overall 5-year survival was 23.75%. (Median survival: 24 months). The 5-year survival for Stages I–III was 100%, 26.25%, and 11.25%, respectively (P < 0.001). In the univariate analysis; sex (p<0.05), tumor grade (p < 0.001), T stage (p < 0.001), N stage (p < 0.001), TNM stage (p < 0.001), and LNR (p < 0.001) were statistically significant. The multivariate analysis showed that tumor grade, T stage, N stage, TNM stage and LNR still had statistical significance.

Conclusions: MLR can estimate prognosis of patients undergoing D2 gastrectomy, regardless of number of lymph nodes. Thus MLR may become a new prognostic indicator after D2 gastrectomy.

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SOCIAL PROBLEMS IN CANCER PATIENTS: A STUDY IN A PALLIATIVE CARE SET UP IN TERTIARY CANCER CENTRE

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Introduction and Objectives: Following the diagnosis of Cancer and its treatments, the patients and their families not only experience physical and emotional difficulties but are also impacted in varied social aspects. The social problems faced in relation to cancer thus need to be elucidated in a deeper manner. The objective of the study is to identify the social problems in cancer patients and how each issue impacts their lives.

Methods and Materials: The study was carried out by using the method of interview and face to face group discussion. A total of 40 patients were interviewed which includes OPD patients and the IPD patients in the palliative department. Ten group discussions were organized within the ward set up, in which 80 patients and care givers participated in total.

Results: The different types of social problem identified in the study are assembled into 4 categories arranged in sequence of higher occurrences and levels of distress. The first: Financial constraints which includes the treatment expenditures, resource management, children's education and marriage expenditures. The second: community issues which includes stigma of cancer disease, social isolation, adapting with the health care environment, legal issues, and experiences of insufficient collaboration between health care and social services. The third: Responsibilities which include household chores, roleplay, official duties. The fourth: Relationships -with spouse, children, grandparents and other relatives.

CONCLUSION: Health care providers which include the entire palliative care team should be vigilant as much as possible to identify these social problems experienced by the cancer patients and their families. Addressing these issues in time will enable them to get a clearer picture of their state and acquire adequate health care services to ease their social stress.

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MULTIPLE RETROPERITONEAL FUNCTIONAL PARAGANGLIOMAS : A REPORT OF A COMPLEX ONCOLOGICAL CAS.

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Introduction: Paragangliomas are rare neuroendocrine tumors with incidence of 1/3,00,00.

Case report: A 42 year old lady presented with

facial puffiness, exertional dyspnea, lower abdominal pain, recently diagnosed hypertension and polycythemia with history of three phlebotomies (Hb - 21g/dl), serum erythropoietin level was 72 IU/ml and serum metanephrine was 2248 pg/ml. CT scan showed a 4x2.9 cm lobulated mass near the aortic bifurcation with multiple other smaller swellings in the aortocaval and para aortic locations. 18F FDG PET and 68Ga DOTATATE scans were done as a part of imaging evaluation. Guided biopsy revealed paraganglioma. Hypertension was managed with alpha with addition of beta blocker subsequently. Appropriate precautions were taken by anaesthetic team and a surgical resection of all the tumors was done.

Discussion: The management of functional paraganglioma is complex because of associated problems like hypertension and polycythemia (as in our case, a paraneoplastic syndrome). Appropriate medical measures to prevent hypertensive crisis and hyperviscosity syndrome is essential for a favourable outcome along with completeness of surgical resection. Paragangliomas may occur in association with syndromes such as VHL, MEN 2, NF1, SDHB. Presence of polycythemia has an association with VHL mutation.

Conclusion: Paraganglioma is a differential diagnosis of a retroperitoneal tumor and awareness of the complex problems associated with it is of paramount importance.

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RADIATION THERAPY FOR ELDERLY PATIENT WITH SQUAMOUS CELL CARCINOMA OF THE UTERINE CERVIX - TREATMENT OUTCOMES AND TOXICITIES

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Introduction: Worldwide cervical cancer remains the most common gynaecological cancer and the fourth most common malignancy in women with over 526,000 women developing this tumor as reported in 2015 and 239,000 dying every year. According to GLOBOCAN 2018 data, it accounts for 8.4% of total cancers in India, and second most common cancer in females (16.5%). The standard of treatment for locally advanced cancer cervix is radical radiotherapy and chemotherapy. It is usually considered that cervical cancer is uncommon in elderly women. The options for treatment in elderly are very limited due to advanced disease and are less likely to receive aggressive treatment. Elderly patients are more likely to have co-morbidities and

poor general health due to which they may not tolerate chemoradiation. Therefore in elderly patients with carcinoma cervix are treated with radical radiotherapy. In the present study, we retrospectively analyzed the efficacy and tolerance of elderly cervical cancer patients treated with radical radiotherapy only and the treatment related acute and late toxicities.

Aims & objectives: The aim of this study is to retrospectively analyze the treatment outcomes of carcinoma cervix in elderly (>70 Yrs) patients treated with radical radiotherapy and also to study treatment outcomes, toxicities and complications.

Materials and Methods: Cervical cancer patients treated with radical radiotherapy in Dr. B Borooah Cancer Institute, Guwahati between Jan 2006 and December 2015 were retrospectively reviewed.

Results: During the period of 2006 to 2015, 20 patients were eligible for study. Median age was 72 ranging from 70 to 80 years old. All of the patients had squamous cell histology. FIGO stage ranged from IB to IVA, one was staged IB, 12 had stage IIB, 6 patients had stage IIIB, 1 patient had stage IVA. All the patients received radical radiation (50Gy/25#) with ICBT dose 7Gy/ 3Fr for 75% patients. None of the patients received concurrent chemotherapy. Overall median treatment time was 50 days. 85% of patients had Grade I gastrointestinal toxicities. Median duration of follow-up was 1yr. 13 patients had complete response, 4 patients had residual disease, 3 patients lost to follow-up.

Conclusions: In our study, elderly cervical cancer patients could tolerate radical RT very well and get a good response. Compared with CCRT, RT could improve the survival of elderly cervical cancer patients with similar nonhematological toxicity. This indicated that RT should be considered for elderly cervical cancer patients. Hence a prospective study is needed to determine the role of RT in this population.

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PATTERNS OF FAILURE AND TOXICITIES AFTER DEFINITIVE TREATMENT WITH IMRT IN PATIENTS WITH HEAD AND NECK SQUAMOUS CELL CARCINOMA : A HOSPITAL BASED RETROSPECTIVE ANALYSIS

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Background: Head-and-neck squamous cell carcinoma (HNSCC) is the sixth most common malignancy worldwide, responsible for approximately half a million new cases every year. Intensity-modulated radiation therapy (IMRT) is one

of the most important innovations in modern radiation therapy and represents a paradigm shift in the treatment of head and neck cancers (HNCs). Treatment with Intensity Modulated Radiotherapy (IMRT) in the North-East region of India was first started in our institute.

Aims: Assessment of local control, overall survival and disease specific survival in patients of head and neck squamous cell carcinoma treated with IMRT from 2012 to 2016.

Treatment related acute and late toxicity assessment.

Materials and Methods: This is a retrospective study. Patients of carcinoma nasopharynx, oropharynx, hypopharynx and larynx attending out-patient and in-patient department of Radiation Oncology, BCCI treated with radiotherapy with or without concurrent chemotherapy with Cisplatin 40 mg/m² or Carboplatin 2AUC weekly from 2012-2016 are included. Data regarding local control, disease free survival and overall survival alongwith acute and late toxicities have been recorded.

Results: Out of a total of 65 patients studied, the males outnumbered females (4:1). The mean age of the patients is 55.7 years. The tumour site was nasopharynx in 30 (46.15%), hypopharynx in 13 (20%), larynx in 22 (33.84%) and oropharynx in 11 (16.92%) cases. Eight patients (12.3%) had Stages I-II and 57 (87.7) had Stages III-IV tumours. Tumour response was confirmed by endoscopy including biopsies from any suspicious tissue and by imaging (MRI/CT) performed at 2-3 months after the end of chemoRT. 38 patients (58.46%) showed complete response while 20 patients (30.77%) showed partial response and 7 patients (10.77%) were lost to follow up. 11 out of the 65 patients (16.92%) had shown locoregional recurrence. The median overall survival was found to 48.8 months while median disease specific survival was 40 months. Toxicities were assessed according to CTCAE grading system. None of the patients had grade 4 toxicities. When acute toxicities were assessed, most of the patients had grade 2 mucositis and grade 1 dysphagia. Grade 1 and grade 2 dermatitis were seen in equal number of patients. Few patients had grade 1 and grade 2 vomiting and neutropenia. Among the late toxicities grade 1 xerostomia was predominant.

Conclusion: In randomized trials on chemoradiotherapy for head and neck cancer, the locoregional control figures have been higher when RT is combined with an appropriate chemotherapy regimen. In our study, the concomitant weekly cisplatin/carboplatin was well tolerated and no unexpected toxicities or treatment-related deaths occurred. The late toxicity of the treatment was also acceptable. After the introduction of IMRT in the treatment of HNSCC the local control figures have

been generally better than those in historical series.

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TENSOR FASCIA LATA FLAP TO COVER ONCOLOGIC DEFECTS IN THE GROIN AFTER RADICAL ILIO-INGUINAL LYMPH NODE DISSECTION: SINGLE CENTRE EXPERIENCE FROM NORTHEAST INDIA

Pritesh Rajeev Singh, Abhijit Talukdar, Joydeep Purkayastha, Deepjyoti Kalita, Gaurav Das, Jitin Yadav, Srinivas Bannoth

Introduction: High tumour burden in the groin both as a primary tumour itself or a manifestation of secondary deposits in the inguinal lymph nodes require radical surgery with en bloc ilioinguinal lymphadenectomy as the primary modality of treatment. Groin reconstruction is required not only to prevent femoral blowouts but also for early administration of adjuvant radiation. Ilio-inguinal lymph node dissection is a morbid procedure with several complications viz. infection, flap necrosis, lower limb lymphedema, which are distressing for the patient as well as the treating physician and can delay adjuvant treatment and can have a negative impact on the overall outcomes. Myocutaneous flaps have been the most popular form of primary or delayed groin reconstruction. The versatility of Tensor Fascia Lata (TFL) flap is useful to cover the defect, provide radiation, eradicate pain and achieve good palliation. The aim of the current study is to report our experience and clinical observations with tensor fascia flap in the groin reconstruction.

Materials & Methodology: This is a retrospective study of 23 patients who underwent radical ilioinguinal lymph node dissection followed by reconstruction with the TFL flap which was performed at our institute from January 2014 to December 2019.

Results: Among the 23 patients, aged between 22 and 71 (mean age: 50.8 ± 2.3 years), five were females and eighteen were male patients. The most common site of involvement by tumor was melanoma of foot (47.82%) followed by penis (34.78%), primary SCC of groin (8.69%), SCC of the tibia shin (4.35%) and primary fungating melanoma of groin (4.35%). As far as the complications were concerned, wound infection occurred in 4.35% of all the patients. Flap Necrosis occurred in 8.69% of the patients. Nodal recurrence was seen in 4.35% of the patients.

Conclusion: Tensor fascia lata flap is a reliable and safe flap, easy to harvest, with a low complication rate and should be preferred for reducing postoperative morbidity and to hasten complete wound healing thereby shortening patients' hospital stay and benefitting the patients. It is also an

easy to learn flap and can be done in resource constraint scenarios. TFL flap reconstruction following ilioinguinal dissection is definitely advisable wherever necessary.

13 SURGICAL OUTCOMES OF MULTIVISCERAL RESECTION IN LOCALLY ADVANCED COLORECTAL CANCER

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Introduction: Locally advanced colorectal cancer may require an intraoperative decision for en bloc resection of surrounding organs or structures to achieve complete tumor removal. This decision must weigh the risk of complications of multivisceral resection against the potential survival benefit.

Objective: The aim of this study is to review a single centre experience with en bloc multivisceral resections for locally advanced colorectal carcinoma and to examine the effect of surgical experience on immediate outcome.

Materials & Methodology: This is a retrospective study of 27 patients who underwent multivisceral resection for colorectal carcinoma which was performed at our institute from January 2016 to December 2019. Multivisceral resection was defined as the excision or resection of at least one further organ in addition to the carcinoma-affected colon or rectum. Among the 27 patients, aged between 21 and 76 years (mean age: 48.67 ± 7.3 years), 13 were males and 14 were female patients. Overall 18 patients had primary colon carcinoma and 9 had primary rectal carcinoma.

Results: Out of these 27 patients, 9 patients with rectal cancer received neoadjuvant chemoradiotherapy prior to the surgery. All 27 patients underwent surgery with curative intent. Four patients had distant metastases at the time of diagnosis. One patient had distant metastasis after preoperative treatment. All patients underwent open surgery of which 66.67% underwent colectomy, 14.81% underwent Anterior resection, 11.11% underwent Abdominoperineal resection and 7.40% patients underwent pelvic exenteration. The mean operative time was 268.14 ± 72.2 min and the median amount of blood units transfused was 2.07units. The mean hospital stay was 13.67 ± 3.4 days. Histologically, 44.44% patients had well differentiated adenocarcinoma and 55.56% patients had moderately differentiated adenocarcinoma. Final histopathological examination revealed malignant

infiltration of the adjacent organs in 21 patients (77.78%). Pathological complete response was seen in 2 patients. R0 resection rate achieved was 96.29%. 66.67% patients with colon carcinoma had lymph node metastasis and 11.11% patients with rectal carcinoma showed lymphnode metastasis with overall mean number of harvested lymph nodes being 12.44 ± 3.01 . Postoperative complications were identified in five patients (18.51%) of which the mortality was seen in 2 patients (7.40%).

Conclusion: Multivisceral resection for locally advanced colorectal cancer invading into the adjacent organ may be performed with acceptable morbidity and minimal mortality.

14 PROGNOSTIC SIGNIFICANCE OF STROMAL TUMOUR INFILTRATING LYMPHOCYTES IN NON METASTATIC TRIPLE NEGATIVE BREAST CANCER

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Background & Objectives: Triple negative breast cancers (TNBC) have been reported to be more aggressive and generally carry a poorer prognosis than other subtypes of breast cancer. Stromal tumour-infiltrating lymphocytes (TILs) are regarded as significant prognostic markers in patients with breast cancer. However, the prognostic utility of TIL expression based on the intrinsic subtypes has just been identified. We analyzed prognostic significance of stromal TILs in patients with non metastatic TNBC and association of TILs with clinicopathological parameters.

Material and Methods: This retrospective study was conducted on the primary data collected through patient's record of histologically proven cases of breast cancer that tested negative for estrogen receptor, progesterone receptor and HER2/neu by immunohistochemistry from 2013 to 2015 at Dr B Borooah Cancer Institute. Patients with metastatic disease were excluded from study. All patients underwent surgery. Chemotherapy and radiotherapy were given when indicated. Histopathological slides were re-examined for evaluation of stromal TILs. They were divided into 3 groups: low grade TIL1 (0-10%), intermediate grade TIL2 (11-59%) and high grade TIL 3 ($\geq 60\%$).

Results: Total 50 cases were analyzed for the study. The mean age at presentation was 54.8 years (range 30 to 75 yrs). Most common histology was infiltrating duct carcinoma (n=49), followed by

metaplastic carcinoma (n=1). Median numbers of chemotherapy were six. Low grade TILs (n=41) were most common presentation followed by intermediate (n=5) and high grade TILs (n=4). High histopathological grade (Bloom Richardson Grading) tumors were significantly associated with low TILs (P=0.002). No significant correlations were found between age, tumor size, LVSI, PNE, ENE and TILs. Patients with high grade TILs had better median disease free survival compared to intermediate and low grade TIL (33.8, 27.3, 25.1 months respectively). Four year overall survival was also significantly better in high grade TILs compared to intermediate and low grade TILs (100%, 50%, and 40.4% respectively). We did not found any association of stromal TILs with local and distant relapses.

Conclusion: Stromal high grade TIL expression is a good prognostic marker in non-metastatic TNBC patients associated with improved survival. Clinical relevance of stromal TILs merits further investigation in a larger patient population.

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SENTINEL LYMPH NODE BIOSPY USING A SINGLE DYE TECHNIQUE IN A CANCER CENTRE OF NORTH-EAST INDIA

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Background: Sentinel lymph node (SLN) is the first node to receive the drainage directly from a tumor. SLN biopsy can be done in lieu of a formal lymphadenectomy in selected clinically node-negative cancers and minimizes morbidity compared to the latter.

Methods: This prospective study was done in patients with operable clinically node negative breast cancer, penile cancer and malignant melanoma of extremities, in a cancer centre of North-east India. All the patients underwent formal lymph nodal dissection after the sentinel lymph node biopsy. Besides intraoperative frozen section study of the sentinel node(s), all the specimens, including the sentinel node(s) were subjected to paraffin section histopathology.

Results: SLN was identified successfully in 96% patients. Mean number of sentinel node(s) dissected was 2.3. Study of SLN biopsy with methylene blue dye for staging was done with 100% sensitivity and 95.3% specificity. SLN procedure was able to negatively predict the drainage nodal basin in 100 %

with an overall accuracy of staging of 96.5%. True positive rate noted was 88.8%, and false positive rate was 4.6%.

Conclusions: SLN using a single dye technique reliably identifies a sentinel node. This procedure can be safely adopted in patients with node negative cancers as mentioned above to pathologically study the drainage basin.

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RENAL CELL CARCINOMA METASTASIZING TO HEAD AND NECK REGION : A RARE CASE REPORT

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Introduction: Renal cell carcinoma accounts for 3 % of all the adult malignancies. 90 – 95 % neoplasm arises from the kidney. There is lack of early warning symptoms with varied clinical presentation and resistance to chemo radiation. Approximately one third of the patients with renal cell carcinoma has metastatic disease at initial presentation. Fifteen percent of the patients with renal cell carcinoma are said to metastasize to head and neck region , mostly to the thyroid gland . Other unusual sites like nasal cavity , paranasal sinuses, skin, skeletal muscles has also been reported in the literature though rarely.

Methods: We would like to report a case of a 44 year old male who underwent Lt. partial nephrectomy in 2015 for clear cell renal carcinoma. The patient presented with Lt. sided nasal obstruction for 3 years and swelling below the Left ear, (Left parotid region) for 1 year. A thorough history was taken regarding the earlier surgeries done outside and the histopathological reports were studied in details and correlated.

Results: The patient underwent surgery for the nasal mass in August 2019 outside , histopathological reports along with IHC markers pointed towards clear cell carcinoma of renal origin . The parotid swelling was operated in our hospital , following a discussion in the joint tumour board. Histopathological report of the left parotid mass revealed metastatic clear cell carcinoma. The patient was put on targetted therapy currently after decision in the joint tumour board.

Conclusion: Our study revealed a late metastasis of renal cell carcinoma. Since most of the renal cell carcinoma have a clear cell morphology it is usually difficult to differentiate a primary clear cell tumour of the salivary gland or thyroid gland and metastatic renal cell carcinoma , which may lead to a diagnostic dilemma.

AN INITIAL EXPERIENCE OF SHOULDER RESECTIONS AND RECONSTRUCTION FOR BONE TUMOURS FROM A CANCER CENTRE IN NORTH EAST INDIA

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Introduction: Advances in surgery and multidisciplinary approach has made limb salvage surgery feasible in most patients with tumours around the shoulder joint and amputations are uncommon. Although resection and reconstruction options are complex, good outcomes can be **achieved when performed at a specialised centre.**

Methods: This is a prospective observational study of patients with bone tumours around the shoulder joint, namely, proximal humerus and scapula, who have undergone limb salvage surgery done at a single cancer centre in North East India. Study was conducted by department of surgical oncology at Dr.B.Borooah cancer institute, Guwahati. Kaplan-Meier method was used to observe over-all recurrence free survival. Musculoskeletal tumour society[MSTS] score was used to assess functional outcomes.

Results: A total of eight patients were taken into study, of which six were male patients and two patients were females. The mean age of patients was 22.4 years. Mean follow up of patients was 10.6 months. Kaplan-Meier survival curve of these eight patients showed median over-all recurrence free survival of 26.479 months. The mean MSTS score was 25.8.

Conclusion: Limb salvage surgery is feasible in most patients with tumours around shoulder joint. Although resections and reconstruction options are complex, the procedures can be done at specialised unit with adequate training, even in a peripheral cancer centre, with good outcomes.

CANCER CERVIX WITH LUNG AND BRAIN METASTASES: A CASE REPORT AND REVIEW OF LITERATURE

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Introduction: Cervical cancer is the most common

malignancy in women in developing countries. Hematogenous dissemination is rare in cervical cancer. Metastatic cervical cancer patients have overall poor prognosis.

Case report: 49yr, Parity3, was diagnosed as Cervical cancer stage IIB(FIGO 2009) at Dr B Boorah Cancer Hospital in April, 2015. Histopathological report of cervical biopsy was Mucinous adenocarcinoma of cervix. After metastatic work-up, Concurrent chemotherapy and radiotherapy was completed in June, 2015. Patient was disease free in her first 1 year of follow-up, she lost to follow-up and presented with cough and headache for 2months after 43months. On evaluation, metastatic disease was seen in bilateral lungs and brain. Patient was given whole brain radiotherapy followed by Systemic chemotherapy. Patient is under follow-up.

Discussion: Cervical cancer rarely metastasise by hematogenous route. It most commonly involves the lungs (36.3%), bone (16.3%), liver, brain, and other sites can also be involved. Adenocarcinomas have higher tendency to disseminate hematogenously. The treatment of metastatic cervical cancer is multimodal, with options of surgical resection, Chemotherapy and radiation.

Conclusion: Distant metastases in Cancer cervix is of rare occurrence thus the treatment is not standardized. Present study reports a rare case of Metastatic Cancer cervix with recurrence after 43 months of treatment.

HAND-SEWN VERSUS STAPLED CERVICAL ESOPHAGOGASTRIC ANASTOMOSIS FOR ESOPHAGEAL CARCINOMA: A STUDY OF POSTOPERATIVE CLINICAL OUTCOMES FROM A HIGH-INCIDENCE CENTER OF NORTHEAST INDIA

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Introduction: Esophageal carcinoma (EC) is a multifaceted and complex disease of rapidly rising incidence that exerts an increasing social and financial burden on global health-care systems. staplers. We hereby present our experience of 60 cases of EGA at neck for esophageal cancer comparing our recent experience of stapler anastomosis with retrospective handsewn(HS) anastomosis.

Materials and methods: All patients undergoing total esophagectomy with neck anastomosis between January 2013 and March 2019, were included in this study.

Results: There were eight cases of anastomotic leak in HS group (six were minor that were managed conservatively and two were major). Both patients

with major leak had serobilliary discharge from ITCD and developed mediastinitis for which they were treated but patients succumbed on post operative day (POD)7 and POD9, respectively. No cases of leak in LS group were observed. P value was 0.042, which was statistically significant.

Conclusion: LS anastomotic technique for esophagogastric anastomoses in esophagectomy for cancer indicates that the new technique lowers anastomotic leakage and stricture rates compared to traditionally used HS techniques. Use of staplers decreased the mean anastomotic time.

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FACTORS PREDICTING SURVIVAL FOLLOWING RECURRENCE IN ADVANCED OVARIAN CANCER- A RETROSPECTIVE STUDY

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Background: In accordance with the predominantly late stage at first presentation, ovarian cancer is the most lethal of all pelvic malignancies. High recurrence rates between 60 and 85% within five years are typical for this disease. Clearly, the prognosis for women with recurrent ovarian cancer is poor with a median survival time of less than 2 years. Aim: To identify clinico pathological factors in predicting survival following advanced ovarian cancer recurrence.

Method: Consecutive women with recurrence following advanced ovarian cancer treated with neoadjuvant chemotherapy and interval debulking surgery were included . The patients who achieved longer survival after recurrence and those who succumbed to the disease earlier were identified and critically analysed.

Results: There were no significant differences in age, performance status, stage distribution or histology between the two groups. Additionally, no significant difference was observed in progression-free survival after primary therapy. Multivariate analyses revealed that the predictive factors for long-term survival were site of recurrence , duration of disease free interval , favourable response rate to second-line chemotherapy and number of chemotherapy regimens after first recurrence.

Conclusion: This study revealed that prolonged post-progression survival was associated with post-recurrence treatment. Therefore, appropriate selection of post recurrent treatment with better

chemotherapeutic response may lead to prolonged post-progression survival in recurrent ovarian cancer patient

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A DOSIMETRIC COMPARISON BETWEEN TWO CRANIOSPINAL IRRADIATION TECHNIQUE FOR TREATMENT DELIVERY AND EASE OF SETUP

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Introduction: Craniospinal Irradiation (CSI) is a complex planning technique that requires treatment of the whole brain and the entire length of the spinal cord and its meninges. Different practitioners have proposed their own techniques of CSI which varies in patient position (Supine or Prone), radiation delivery machines (Conventional Linacs or Tomotherapy), beam geometry (Half beam, full beam, SSD or SAD techniques) and corrections for gap junctions. A careful approach for simulation and treatment procedure is recommended by various authors. In this study we have compared the setup, dosimetry and delivery of two commonly practice CSI techniques at our institute.

Materials and Methods: Six patients were taken for this study who were treated between 2016-2019 in our department, three were treated in Head First Supine (HFS) position and other three were treated in Head First Prone (HFP) position. All the patients were simulated in vacuum cushion immobilization device and computed tomography (CT) images of 3mm slice thickness were taken in Philips Brilliance Big-Bore CT machine. Contouring of target volumes and OARs were done as per Indian Society of NeuroOncology Guidelines. Thereafter planning was done in Eclipse (15.5V) Treatment Planning System (TPS) with AAA (Analytical Anisotropic Algorithm) dose calculation algorithm for 6MV photon beam. Patient setup were done reproducing the setup during simulation procedure. No couch rotation was used in any of the plans. Dosimetric evaluation were done for two sets of SAD planning techniques, with two isocenter half-beam and no collimator rotation (HB_WO_Colli) and with three isocentres half-beam with collimator rotation (HB_W_Colli) for all the six patients. Dosimetric evaluations were done using Dose Volume Histogram (DVHs) parameters.

Results and conclusion: Average length of the PTV (Whole brain plus spinal canal) was 60.2 cm for six patients. For the two techniques and patient

positions mentioned above, there is no significant difference for PTV coverage and OAR doses, which implies that both the treatment techniques irrespective of patient positions are dosimetrically similar. However, considering the practical aspect of patient setup and treatment, it was found that HB_WO_Colli technique is comparatively easier to execute, requires less time for setup, treatment and hence reduces errors.

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CLINICOEPIDEMIOLOGICAL PRESENTATION AND TREATMENT OUTCOME IN PERIPHERAL T-CELL LYMPHOMA (PTCL-NOS): A SINGLE INSTITUTIONAL EXPERIENCE

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Introduction: Peripheral T- Cell Lymphomas (PTCL) are aggressive malignant lymphoproliferative disorders that originate from post-thymic (peripheral) T cells or mature natural killer (NK) cells and represent 10%– 15% of all non-Hodgkin's lymphomas (NHL). PTCL-not otherwise specified (NOS), comprising approximately 6% of all NHLs, is a heterogenous group of predominantly nodal T- cell lymphoma that do not meet the criteria for other mature peripheral T-Cell Lymphoma as defined in WHO classification. Due to limited published data of PTCL from Indian patients, the exact magnitude and disease trend is not well understood. The aim of the study is to evaluate the clinico-epidemiological characteristics and treatment outcome in PTCL (NOS) in a cancer care centre of North-East India.

Methods: A retrospective observational analysis was performed on medical records of patients of PTCL (NOS) who were diagnosed and treated at Department of Medical Oncology, Dr. B. Borooah Cancer Institute (BBCI) during the period from 2015 to 2018. Data were collected retrospectively from individual medical case records, electronic patient records and pathology reports. Data regarding age, sex, site of involvement, stage, treatment modality and treatment outcome were recorded.

Results: In this retrospective study, PTCL (NOS) comprised of total 8.7% of all NHLs from 2015 to 2018. Out of total 41 patients, 82.9% were male and 17.1% were female. The median age of presentation was 52 years (range 12-68 years). Most of the patients presented in advanced stage with 75.6% of

patients having stage III/IV disease. Bone marrow was involved in 17.1% of the patients. Fifteen (36.2%) patients had only nodal involvement, 6 (16%) patients had extranodal involvement alone and 20(47.8%) patients had involvement of both nodal and extranodal disease. Twelve (29.3%) patients received prephase chemotherapy with CVP based regimen (Cyclophosphamide, Vincristine and Prednisolone). Out of total 41 patients, 39 (95.1%) patients received subsequent chemotherapy. In first line setting most commonly used chemotherapy regimen was CHOP (cyclophosphamide, doxorubicin, vincristine and prednisolone) and GDP (gemcitabine, cisplatin and dexamethasone). Thirty (73.1%) patients received CHOP and 5 (12.2%) patients received GDP chemotherapy. Dose modification of chemotherapy was required by 10 (24.4%) patients. Radiation (IFRT=Involved field radiotherapy) was received by 11(26.8%) patients and average dose of radiation was 36Gy-46Gy. Median progression free survival (PFS) was 12.1 ± 1.8 months and median overall survival (OS) was 16±3.2 months. Overall survival (OS) rate at 1 year was 63.1% and at 2 year was 31.2%. Out of 41 patients, 27 (65.85%) patient relapsed after 1st line chemotherapy. In second line most commonly used chemotherapy was GDP based regimen followed by DHAP (dexamethasone, cytarabine and cisplatin) and ICE (ifosfamide, etoposide and carboplatin).

Conclusion: The epidemiological characteristics of our patients are quite near to the worldwide data, apart from the survival. The study needs further long term follow up for better analysis of outcome.

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A STUDY OF LINKAGE OF NEW PATHWAYS IN PATHOGENESIS OF CARCINOMA OESOPHAGUS

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Background: Oesophageal cancer both squamous cell and adenocarcinoma have poor outcomes with high morbidity and mortality. Our hospital-based registry for year 2017-2018 showed that oesophageal cancer constituted 22.7% of annual caseload. Aim of this study was to probe linkage of new pathways in pathogenesis of carcinoma oesophagus.

Materials and methods: This is a single institution, prospective, observational study in patients with oesophageal carcinoma. Presence of hormonal receptors[ER, PR] and HER-2 receptors was done in 133 patients with oesophageal carcinoma. Chi-Square test was used for correlation of categorical variables. The p value of less than 0.05 was considered as

statistically significant.

Results: Carcinoma oesophagus was predominantly seen in males. Estrogen receptor was positive in 12 [9.02%] patients. Progesterone receptors were positive in six [4.51%] of study population and her-2 receptor positivity was seen in 6.01 % of patients. Patients with receptor positivity presented in advanced stage with poor functional status and poor grades of differentiation.

Conclusion: Despite recent advances in various fields of oncology, outcomes of oesophageal carcinoma have not improved significantly. Hence, a study of new pathways of pathogenesis in carcinogenesis of oesophageal carcinoma is essential.

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LIMB SALVAGE SURGERY FOR BONE TUMORS: OUR EXPERIENCE IN A CANCER INSTITUTE OF NORTH EAST INDIA

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Introduction: Limb salvage surgery (LSS) is the standard of care in extremity bone tumors. This study evaluates the clinical and functional results of patients who underwent a limb salvage surgery at Dr. B.Borooah Cancer Institute.

Materials and methods: Patients with bone tumors who were treated with limb salvage procedure from January 2018 to December 2019 were included. All Patients were assessed for surgery by clinical examination, scanograms, MRI, bone scan, CT thorax. Additionally PET CT was done in Ewing's sarcoma patients. Endoprosthesis, Vascularized free fibula graft, Curettage with grafting, ECRT, Cryotherapy, Excision were the methods employed for LSS. Systemic therapy was given as per institution protocol. Monthly evaluation was done by clinical examination and MSTS scoring. Results were evaluated using basic statistical tools.

Results: Fifty two patients were treated with LSS. Mean age was 13.5 yrs. (range of 6-59 yrs.). Most common histology were Giant cell tumor (32.6%) and Osteosarcoma (30.7%). Most common sites were proximal tibia (36.6%) and distal femur (34.6%). Median duration of follow up was 12 months (range 1-24 months). Average MSTS score at one month was 27 and at 3 months was 29. Among 22 endoprosthesis patients, 3 developed prosthesis infection leading eventually to amputation. 4 patients of Osteosarcoma and 1 Ewing's sarcoma patients developed systemic metastasis on a median follow up of 12 months. 3 patients developed common peroneal nerve palsy. 2 patients expired in post-operative period. There was no local recurrence

Conclusion: With adequate training limb salvage

surgery is a feasible option in any cancer center and should be the standard of care. Appropriate patient selection gives good and consistent results.

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STUDY ON PROGNOSTIC FACTORS AND SHORT TERM OUTCOMES OF TREATMENT OF MULTIPLE MYELOMA PATIENTS AT A TERTIARY CARE HOSPITAL

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Introduction: Multiple myeloma (MM) is characterized by the neoplastic proliferation of plasma cells producing a monoclonal immunoglobulin. The clinical outcome for patients with MM depends on a complex interaction between biologic features of the plasma cell clone and patient-specific factors such as age, performance status, and comorbidities.

Aims and Objectives

1. To assess the prognostic factors of multiple myeloma patients at the time of diagnosis.

To study the short term outcome of treatment at the end of a follow up period of 4 months.

Materials and Methods: Patients diagnosed with multiple myeloma at the Dept of Clinical Hematology, GMCH during the past one year were categorised into 3 stages based on R-ISS staging system and treatment was initiated based on standard protocols. Best response to different therapies was assessed at the end of 4 months based on the following parameters- stringent complete response (sCR), complete response (CR), very good partial response (VGPR), partial response (PR) and stable disease (SD).

Results: A total of 52 MM patients were evaluated. Serum albumin < 3.5 gm/dl was noted in 55.75% of patients whereas serum albumin \geq 3.5 gm/dl was observed in 44.23% of patients. Majority (61.53%) of the patients presented with serum β_2 - Microglobulin of \geq 5.5mg/L. The majority (44.23%) of patients with MM presented with stage III disease (R-ISS STAGING) whereas patients with stage I and stage II constitute 19.23% and 36.53% of the patients. Among patients receiving VD, 10% patients achieved CR, 30% patients achieved VGPR and 50% patients achieved PR. In the three drug regime, in patients receiving VTD, sCR/CR, VGPR and PR was achieved in 30.77%, 46.15% and 15.38% of the patients. In patients receiving VCD sCR/CR, VGPR and PR was achieved in 18.75%, 31.25% and 31.25% of the patients.

Discussion and Conclusion: Stage 3 disease was

associated with a worse prognosis. Treatment response was better with three drug regimens and VTD regimen was associated with a better outcome.

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AXILLARY APOCRINE ADENOCARCINOMA: A CASE REPORT AND REVIEW OF LITERATURE

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Introduction: Apocrine adenocarcinoma of the skin is a rare primary malignant neoplasm that most commonly occurs in the axilla. Our case report describes a 58 yrs old male who presented with ulcerated mass in left axilla.

Methods: As this patient presented with ulcerated mass in axilla with biopsy showing poorly differentiated adenocarcinoma, a thorough metastatic workup was done followed by ALND.

Results: Following ALND final histopathological report came to be apocrine adenocarcinoma which on IHC have focal positivity for GCDFP-15.

Conclusions: The rarity of this carcinoma and lack of clinical trials precludes set guidelines for management of such cancers. However wide local excision with or without regional lymph node dissection is established treatment of choice.

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A CASE OF SPINDLE CELL CA SHOULDER

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Introduction: Soft tissue sarcomas (STS) are a rare type of tumors that account only for 1% of all tumors.

Case: 60 years male, presented with left shoulder swelling, hepatitis B positive, MRI showed lesion in the left shoulder, neurovascular bundle free, core cut biopsy showed spindle cell sarcoma.

Wide local excision with LD flap was done.

Discussion: STS are rare tumor, most common location are the extremities (50-60%), second most common is the trunk (19%). It is painless. Identified risk factors are previous exposure to radiation, previous lymphedema, immunodeficiency accompanied by viral infection. There are at least 50 subtypes. After the appropriate workup and staging of the STS, treatment should be initiated. The mainstay therapy of STS of the extremities is surgery and extensive margins.

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STUDY TITLE: ROLE OF RADIOTHERAPY IN THE TREATMENT OF EWING'S SARCOMA- EXPERIENCE FROM BCCI

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Introduction: Ewing's Sarcoma Family tumours (ESFT) consist of Ewing's Sarcoma, Peripheral Primitive Neuroectodermal Tumours (PNET) and Askin's tumour of the chest wall. They are highly radiosensitive tumour and hence radiotherapy is an important modality for their local treatment. This study aims to evaluate the role of radiotherapy in the multimodality management of ESFT.

Materials and Methods: From the period of 2011-2018, hospital records at Dr. B.Boroah Cancer Institute, Guwahati were searched for patients with diagnosis of ESFT. 56 patients who received Radiotherapy - either Curative or Palliative, as part of their treatment were included in this study.

Results: The median age of the group was 14 years (Range-- 2-60 years) and majority were males (M:F= 2:1). Treatment was delivered as per EFT-2001 protocol. Radiotherapy was the Definitive local therapy in 64.2% (36/56) of our patients. It was used along with surgery in 12 patients (21.4%) - 5 cases as Neoadjuvant and 7 cases as Adjuvant therapy. 8 patients (14.4%) received Palliative radiotherapy. The overall Local Control rate was 65.4%, median PFS 13 months (Range: 1-81 months) and median OS 17 months (Range: 3-81 months). On subgroup analysis, patients undergoing Surgical resection along with radiotherapy had significantly better local control and overall survival (p value <0.05). Furthermore, tumour size (<8 cm vs >8cm), response to neoadjuvant chemotherapy and radiotherapy dose (<54 Gy vs >54 Gy) also seem to have an impact on local control and survival, although not statistically significant.

Conclusion: Surgical resection with radiotherapy appears to give the best results of local control and survival in Ewing's sarcoma, although this approach may not be feasible for large tumours or for those located in the axial skeleton, vertebrae and pelvis. Radiotherapy alone also offers significant local control benefits in such cases.

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