AONEI NEWSLETTER

DARPAN – A reflection of AONEI activities

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Editor's note

Its my pleasure to greet you all through the 4th issue of this newsletter. Improved cancer care is the need of the hour for Northeast India, which reports 3.1% of the total cancer cases in the country, despite accounting for only 1.4% of the population. Since ours is probably the only association of professionals dealing with cancer in this region, this responsibility lies with us.

In 2017, we had our annual meeting at Silchar in January and a CME on Esophageal and Laryngeal cancers in June at Shillong. The reports and pictures of these two events are published in this issue. All of us are busy and find it difficult to keep ourselves updated with the changes pertaining to the management of cancers common to this region. I have tried to include articles on relevant topics which have been written by people who understand the needs and limitations of Northeast India. Since GATS - 2 has been released, I have also tried to include relevant data from it.

It is said, '*Wisdom is the reward of experience and should be shared*', so we have some of our members sharing their experiences and I hope it would not only enlighten us, but also make interesting reading.

I wish to thank all the members who have contributed for the enthusiasm shown. Special thanks to Marina H L Laskor (MBBS student) for the creativity displayed in designing this newsletter, and to Dr.Vikas Jagtap for his support.

Caleb Harris
Editor and website in-charge

Inside this issue :

GATS 2 HIGHLIGHTS for ASSAM

- 62.9% among men and 32.9% of women and 48.2% of all adults either smoke tobacco and/ or use smokeless tobacco.
- From GATS 1 to GATS 2, the prevalence of smoking has decreased by 1.1 percentage points, however the decrease is not significant. The prevalence of smokeless tobacco use has increased significantly from GATS 1 to GATS 2 by 9.0 percentage points. The prevalence of any tobacco use has significantly increased from 39.3% in GATS 1 to 48.2% in GATS 2.
- Khaini and Betel quid with tobacco are the most commonly used tobacco products. 23.1% of the adults use khaini and 19.0% use betel quid with tobacco.
- The prevalence of tobacco use among persons aged 15- 17 has decreased from19.6% in GATS 1 to 9.1% in GATS 2.
- 26.1% of smokers were advised by a health care provider to quit smoking and 30.2% of smokeless tobacco users were advised by a health care provider to quit use of smokeless tobacco.
- 68.9% of cigarette smokers and 58.6% of bidi smokers thought of quitting smoking because of warning label. 48.1% of smokeless tobacco users thought of quitting smokeless tobacco use because of warning label.

Lymphadenectomy in Ovarian Cancers

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Dr. Neha Kumar is one of the earliest recipients of the M.Ch.(Gynae Oncology) degree in India, completing her training from Tata Memorial Centre, Mumbai. She is erudite and has an exceptional understanding of this branch of Oncology. She is an affable person and has a flair for writing.

Ovarian cancer disseminates into the peritoneal cavity by exfoliation and implantation of tumor cells. It is also known to spread through the retroperitoneal lymphatics that drain the ovary. These lymphatics follow the infundibulopelvic ligament into the retroperitoneal lymph nodes lying along the aorta and inferior vena cava up to the level of the renal vessels. In fact, the principal lymphatic drainage is via the paraaortic lymph nodes, and the high left infrarenal group may often harbor isolated lymph node metastasis. The right infundibulopelvic vein and its accompanying lymphatics reach the inferior vena cava about 1 cm below the right renal vein. From these group of nodes, the lymphatics ascend into the celiac trunk from where the tumor cells may travel up to the mediastinal and supraclavicular lymph nodes. Lymph channels from the ovary also pass laterally through the broad ligament and parametrium into the pelvic lymph nodes including the external iliac, obturator and hypogastric groups. Some lymphatics pass along the round ligament to the inguinal lymph nodes which may be involved in a few cases.

Patients with apparent stage-I epithelial ovarian cancer have a 10–24% risk of retroperitoneal nodal metastasis compared with 20–30% for patients with stage-II disease[1]. Those with advanced disease (stage III and IV) may have involved nodes in 50–80% cases[2]. Systematic pelvic and retroperitoneal lymphadenectomy up to the renal vessels is advocated in early stage epithelial ovarian cancers. This is because it upstages the disease in 22–25% cases, making them appropriate candidates for adjuvant chemotherapy after surgery, while completely staged patients with low -risk disease may be spared chemotherapy.

Systematic lymphadenectomy is further recommended because the involved lymph nodes may not be enlarged either on preoperative imaging or on intraoperative palpation in up to one -third of the cases. If cytoreductive surgery is restricted to debulking of only the enlarged lymph nodes, metastatic disease may be missed in a large fraction of patients. It has also been suggested that nodes may be less sensitive to systemic chemotherapy because of decreased blood supply (pharmacological sanctuary), and thus lymphadenectomy may be therapeutic by removing the relatively chemoresistant disease[3].

Lymphadenectomy is associated with complications like vascular injury and hemorrhage, thrombosis, ileus and injury to the nerves, ureters and small and large bowel. Lymphocele or lymphedema can occur in 7% to 22% of patients[1]. The current literature suggests that systematic pelvic and retroperitoneal lymphadenectomy must be done as part of staging in early (Stage I and II) epithelial ovarian cancers. In advanced epithelial ovarian cancers, enlarged/suspicious lymph nodes should be removed to achieve optimal cytoreduction. The therapeutic value of systematic lymphadenectomy in patients with advanced optimally debulked epithelial cancers with non-enlarged nodes is controversial.

In germ cell tumors of the ovary, dysgerminomas are known to have more predilection for lymph node spread than other histological subtypes, but all these tumors are extremely chemosensitive. During staging laparotomy, the paraaortic and bilateral pelvic lymph node-bearing areas should be carefully palpated and any suspicious nodes should be removed. If no suspicious nodes are detected, these areas should be sampled. There is no evidence that a complete paraaortic and/or pelvic lymphadenectomy is advantageous in germ

cell tumors. For malignant sex cord stromal tumors, including granulosa cell tumors, grossly suspicious pelvic or paraaortic lymph nodes should be removed. But there is little benefit in performing routine lymphadenectomy in the absence of grossly suspicious lymph nodes. In three series including 180 patients with granulosa cell and sertoli-leydig cell tumors, no lymph node metastases were found among those who underwent pelvic and/or paraaortic lymphadenectomy[4].

EARLY EPITHELIAL OVARIAN CANCERS

Systematic lymphadenectomy can upstage an apparent early stage ovarian cancer to stage III in up to one-fourth of the cases, which helps in directing adjuvant chemotherapy as well as the prognostication of the disease. The rate of lymph node metastasis is very low in mucinous ovarian cancers and lymph node dissection can be omitted in these cancers.

Level 1 evidence for systematic lymphadenectomy was reported by Maggioni and colleagues in a prospective trial of 310 early (FIGO stage I and II) ovarian cancer patients[5]. Cases of early stage ovarian cancer who had undergone optimal surgical debulking, were randomized to either a systematic lymph node dissection or lymph node sampling. Positive lymph nodes (which upstaged a patient to stage IIIC) were found in 9% of patients in the sampling group compared to 22% in the systematic lymph node dissection group ($p < 0.05$). The patients in the systematic lymph node dissection arm had a longer intraoperative time (90 minutes longer), more blood loss (300ml more), and received more blood transfusions (22% vs. 36%, $p < 0.05$). Both groups had similar rates of postoperative complications. There was no difference in progression-free survival (PFS) or overall survival (OS) between the two groups, but the study was not powered for the detection of a small survival benefi-t.

ADVANCED EPITHELIAL OVARIAN CANCERS

Optimal cytoreduction is the cornerstone of management of advanced ovarian cancers. But evidence is still unclear about the question whether systematic lymphadenectomy should be part of maximal cytoreductive surgery in advanced cancers, despite the prognostic significance of lymph node metastasis. Patients in whom intraperitoneal debulking is suboptimal (residual tumor larger than 1 cm) do not benefit from lymphadenectomy. Patients with bulky nodes and optimal intraperitoneal cytoreduction benefit from removal of enlarged metastatic nodes by reducing the size of residual tumor. Systematic lymphadenectomy in patients undergoing optimal cytoreduction but without clinically suspect lymph nodes, is controversial – it might not change the residual disease status but may reduce the tumor burden that is possibly resistant to chemotherapy.

Retrospective studies have suggested a clinically significant improvement in survival after systematic lymphadenectomy. However, in the prospective randomized clinical trial by Panici et al, systematic lymphadenectomy had improved the progression-free survival but not the overall survival[6]. In this trial, 427 patients with stage IIIB-C and IV epithelial ovarian carcinoma were randomly assigned to undergo systematic pelvic and para-aortic lymphadenectomy ($n = 216$) or resection of bulky nodes only ($n = 211$). More patients in the lymphadenectomy arm had positive nodes at histologic examination than patients in the no-lymphadenectomy arm (70% vs. 42%, $p<0.001$). After a median follow up of 68.4 months, the median progression-free survival was 29.4 months in systematic lymphadenectomy arm vs 22.4 months in the debulking arm (difference = 7 months, 95% CI = 1.0 to 14.4 months). The sites of first recurrences were similar in both arms. There was no difference in the rate of retroperitoneal recurrences - 2.3% versus 2.4%. The risk of death was similar in both arms (HR = 0.97, 95% CI = 0.74 to 1.29; $p = 0.85$), corresponding to median overall survival of 58.7 and 56.3 months, respectively (difference = 2.4 months, 95% CI = − 11.8 to 21.0 months). Although the number of intra-operative complications was similar in the two arms, systematic lymphadenectomy had greater perioperative and late morbidity (28% vs 18%), mainly due to lymphocysts and lymphedema. Though this trial did not report any benefit in overall survival, it should be noted that the study took more than 12 years to complete, 63% of the patients did not achieve no gross residual disease after cytoreduction and even the control arm underwent a lymph node debulking where the lymph nodes were enlarged (which affected the survival curves).

A retrospective analysis of SEER database of 49,783 patients of ovarian cancer suggested a beneficial effect of lymphadenectomy in epithelial ovarian tumors, regardless of the stage of disease and extent of surgery[7]. The five-year cause-specific survival rates were 37%, 62%, and 71% for the groups in which no lymph nodes were examined, in which between one and nine nodes were examined, and in which ten or more nodes were examined, respectively ($p < 0.001$). The cause-specific survival increased significantly when more nodes were resected, even if the surgical procedure consisted of debulking surgery or a pelvic exenteration. No clear survival benefit was observed in patients of sex cord stromal tumors and germ cells tumors who underwent lymphadenectomy. However, there were biases in this study due to its retrospective methodology and the possibility that thorough lymphadenectomy may have reflected the quality of cytoreductive surgery.

Du Bois et al, in an analysis of three prospective randomized trials (AGO-OVAR # 3,5,7) including 1924 patients of advanced epithelial ovarian cancers, reported that in the subgroup of patients with no residual disease on cytoreduction and no enlarged lymph nodes, systematic lymph node dissection was associated with higher survival[8]. The median survival in patients with and without lymphadenectomy, was 103 and 84 months, respectively ($p = 0.0166$). Multivariate analysis confirmed a significant impact of lymphadenectomy on overall survival (OS; hazard ratio [HR] = 0.74; 95% CI, 0.59 to 0.94; $p = 0.0123$). In patients with small residual tumors up to 1 cm, the effect of lymphadenectomy on OS barely reached significance (HR = 0.85; 95% CI, 0.72 to 1.00; $p = 0.0497$). For patients with small residual tumors and clinically suspect nodes, lymphadenectomy resulted in a 16% gain in 5-year OS (log-rank test, $p = 0.0038$). The authors concluded that lymphadenectomy in advanced ovarian cancer might offer benefit to patients with complete intraperitoneal debulking. However, since the study was retrospective and the decision to perform lymphadenectomy was at the surgeon's discretion, they premised that the findings should be confirmed in the context of a prospective randomized trial.

In order to explore the role of systematic pelvic and para-aortic lymphadenectomy (LNE) in patients with advanced ovarian cancer with macroscopic complete resection and clinically negative lymph nodes, the AGO study group initiated a prospective randomized study – the LION trial (Lymphadenectomy in Ovarian Neoplasms)[9]. Patients with newly diagnosed FIGO IIB-IV ovarian cancer with macroscopic complete resection and pre- and intra-operatively clinical negative lymph nodes were randomized intra-operatively to LNE versus no-LNE. Patients with non-epithelial ovarian malignancies, intraoperative clinically suspicious lymph nodes, recurrent ovarian cancer and prior neoadjuvant chemotherapy were excluded. The primary endpoint was overall survival (OS) and secondary endpoints were progression-free survival (PFS), quality of life indices and number of resected lymph nodes. The results of the trial were presented at the ASCO Meeting in 2017 - 647 patients were randomized to LNE (n=323) or no-LNE (n=324) arms. The median number of lymph nodes removed in patients randomized to LNE was 57 (pelvic 35 and para-aortic 22). Microscopic metastases were diagnosed in 56% of the patients in the LNE arm. Median OS in the no-LNE arm was 69 months and 66 months in the LNE arm (HR 1.06, 95% CI 0.83-1.34, p=0.65) and the median PFS was 26 months in both arms (HR 1.11, 95% CI 0.92-1.34 p=0.30). Surgery in the LNE arm was 64 minutes longer (means: 352 vs 288 min), resulted in a higher median blood loss (650 vs 500 ml), and a higher transfusion rate (67% vs 59%). The rate of serious post-operative complications was higher in the LNE arm (rate of re-laparotomies 12.1% vs 5.9% [p=0.006], hospital re-admittance rate 8.0% vs 3.1% [p=0.006] and deaths within 60 days after surgery 3.1 vs 0.9% [p=0.049]). The group concluded that systematic pelvic and para-aortic LNE neither improved overall nor progression-free survival despite detecting (and removing) sub-clinical retroperitoneal lymph node metastases in 56% of the patients. They suggest that systematic LNE of clinical negative lymph nodes in patients of advanced ovarian cancer achieving complete cytoreduction should be omitted.

The LION trial is a well conducted study with good survival outcomes (overall median OS of 67.2 months in all patients). It is the only

prospective randomized trial to address the question of systematic lymphadenectomy for clinically negative nodes in women with advanced ovarian cancer. While the trial awaits publication, the jury is still out on this controversial issue. The concerns that microscopically involved nodes may not be clinically enlarged, and that lymph nodes respond suboptimally to chemotherapy, need to be addressed[10]. Whether the results of the LION trial will change the heterogeneous clinical management of this subgroup of advanced epithelial ovarian cancers, remains to be seen.

KEY POINTS

- **Systematic pelvic and retroperitoneal lymph node dissection should be done in suspected early-stage epithelial ovarian cancer as it provides important prognostic and staging information which assists in decisions about adjuvant chemotherapy.**
- **Patients of advanced epithelial ovarian cancer with bulky pelvic / retroperitoneal nodes and optimal intraperitoneal debulking, benefit from removal of enlarged metastatic nodes by reducing the size of residual tumor.**
- **Patients of advanced epithelial ovarian cancer not achieving optimal intraperitoneal debulking, will not benefit from lymphadenectomy.**
- **For patients of advanced epithelial ovarian cancer achieving optimal cytoreduction in the peritoneal compartment and no clinically suspect pelvic / retroperitoneal lymph nodes, the role of systematic lymphadenectomy remains controversial.**
- **In patients with germ cell tumors and sex cord stromal tumors of the ovary, enlarged or grossly suspicious pelvic / retroperitoneal lymph nodes should be removed. But there is little benefit in performing routine pelvic and retroperitoneal lymphadenectomy in the absence of grossly suspicious lymph nodes.**

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Glimpses into the Cancer Scenario in Nagaland - A Pitiful State

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Introduction: The incidence and prevalence of cancer in the Northeast (NE) region of India remain amongst the highest in the country. As per the three-year (2012-2014) report of 27 population based cancer registries (PBCR) in India, seven NE state registries record the highest age adjusted rates (AAR) per 1,00,000 population of all cancer sites in males, with Nagaland in the 10th position. As for women, all-site cancer incidence in 4 NE registries is amongst the highest in the country. NE India has higher incidence in cancers of the head and neck (oral cavity, hypophayrnx and larynx), esophagus and stomach, compared to the rest of India. Despite these appalling statistics, the Northeast remains a highly neglected region in the country with lack of basic medical infrastructure. There are no facilities for cancer care in Nagaland, compelling most patients to seek treatment outside the state. The present study was carried out to collect information on the various types of cancers prevalent in Nagaland and to study the adequacy of cancer management.

Aim: The objective of this study was to analyze the adequacy of treatment in previously treated cancer patients.

Methods: This is a retrospective observational study of all cancer patients presenting to the out-patient clinic at Putuonuo Nursing Home, Kohima, Nagaland during a period of one year from 1st October 2016 to 30th September 2017. Information collected included age, gender, cancer site, stage at diagnosis, previous treatment(s) received and center(s) where treatment was taken. Data collection was based on history, clinical examination, and previous medical records made available by the patient. The American Joint Committee on Cancer (AJCC) Tumour Node Metastasis (TNM) staging system was used for all cancer sites except for gynecological cancers for which FIGO (Fédération Internationale de Gynécologie et d'Obstétrique) staging system was used. Prior treatment received was assessed for adequacy and completeness. Current evidence-based clinical practice guidelines for each cancer-site and stage was taken as the standard.

Results: 120 consecutive patients diagnosed with cancer were included in this study. 45% were male and 55 % were female. The average age of patients was 51 years: 47 years for females and 55 years for males. The five most common cancers (organ-wise) were breast (13.5%) and cervix (13.4%) followed by stomach (9.2%), esophagus (7.6%) and nasopharynx (6.7%). The most common cancers site-wise [Figure 1] were head and neck cancers (25.2%), gastrointestinal cancers (21.8%), gynecological malignancies (13.4%), breast cancer (13.4%) and thoracic cancers (12.6%). The most common cancer site amongst men was stomach and esophagus, and amongst women was cervix and breast.

The most common head and neck cancer was nasopharyngeal cancer (26%); others were oral cavity (20%), thyroid (17%), larynx (13%), oropharynx (10%), hypopharynx (7%) and parotid

(7%). Among gastrointestinal cancers, stomach was the most common (44%), followed by colon (32%), liver (8%), rectum (8%) and pancreatico-biliary cancers (8%). Cervical cancer was the most common gynaecological malignancy (80%), followed by ovarian cancer (15%) and endometrial cancer (5%).

Fifty three percent of patients were previously treated in another hospital prior to seeking medical care in our outpatient clinic. Figure 2 summarizes the various cities where patients from Nagaland seek cancer treatment. Twenty eight percent of patients were treated in Shillong, Meghalaya and 14% in Guwahati, Assam. Ten percent cases received treatment in New Delhi and another 10% in Mumbai, Maharashtra. Approximately 35% of patients sought treatment within the state of Nagaland, mainly in Kohima and Dimapur.

Figure 1: Incidence of cancers site-wise

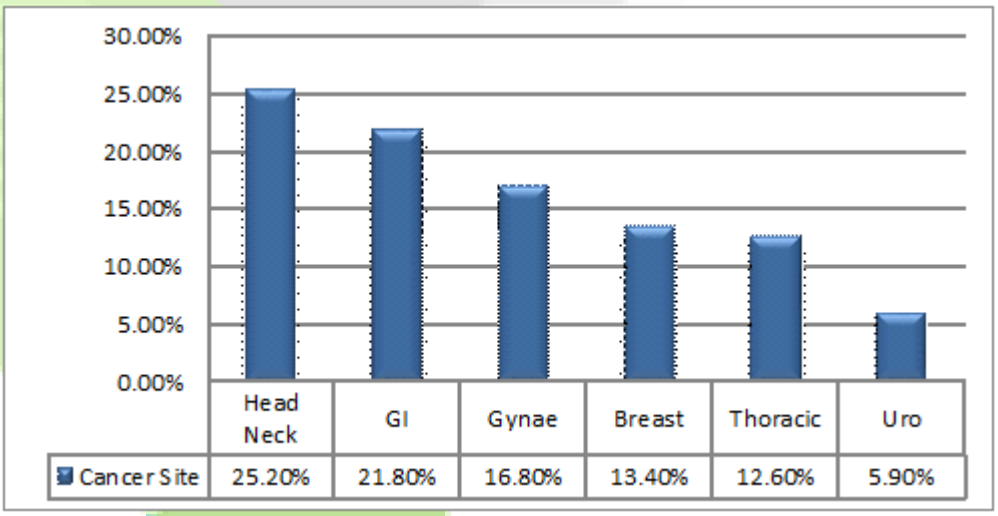
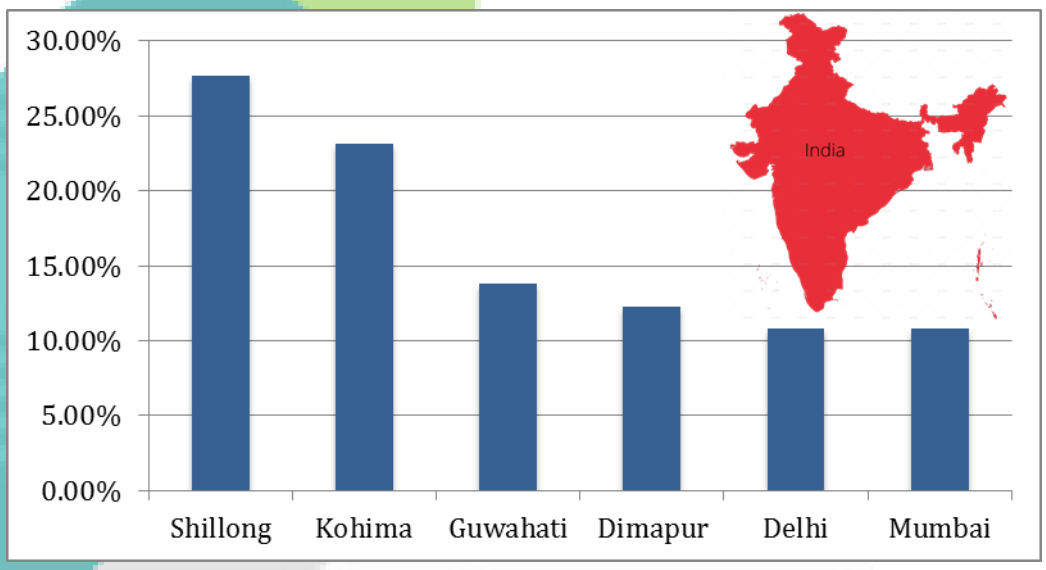


Figure 2: Where are patients from Nagaland going for cancer treatment?



Adequacy of overall treatment, considering site and stage of the cancer was analyzed as per history given by the patient and the previous medical records. Treatment adequacy was assessed in comparison to evidence based cancer management guidelines (NCCN). Out of 63 patients who were previously treated, 26 patients (41%) had inadequate treatment. Reasons for inadequate treatment are summarized in Table 1.

Table 1: Reasons for incomplete/inadequate treatment

S. No	Reason	N = 26	%
1.	Inadequate surgery	9	34.6
2.	No adjuvant treatment	5	19.2
3.	Patient defaulted	5	19.2
4.	Incorrect treatment	2	7.7
5.	Incorrect staging	2	7.7
6.	No referral for salvage surgery after radical CTRT	2	7.7
7.	No biopsy and no follow up	1	3.8

Inadequate surgery in 9 patients included less than radical surgery (Eg: Near total thyroidectomy instead of total thyroidectomy with selective neck dissection for papillary carcinoma thyroid) and incomplete lymph node dissection (Eg: a lymph node yield of 4 nodes in radical gastrectomy suggestive of less than the recommended D2 lymphadenectomy in gastric carcinoma).

Appropriate adjuvant therapy was not advised to 5 patients, and hence they did not receive the complete treatment. Three women with early breast cancer underwent breast conservation surgery and were not advised adjuvant radiotherapy; 2 out of 3 developed recurrent metastatic disease within 12-18 months, and 1 died of lung metastasis. One case of sigmoid colon cancer stage III did not receive adjuvant chemotherapy, and another case of recurrent high grade soft tissue sarcoma of chest wall was not advised adjuvant radiotherapy after re-excision.

Two patients received incorrect treatment as per the cancer site and stage documented in the previous medical records: Non-small cell lung cancer TNM stage IIIB which warrants radical concurrent chemo-radiotherapy, received only radiotherapy, and TNM stage IVA operable squamous cell carcinoma of tongue received chemotherapy (Cisplatin, 5-fluorouracil) with palliative intent. Incorrect initial staging by primary physician/surgeon was noted in 2 patients and hence, they received incorrect treatment: FIGO stage III ovarian cancer was staged as stage IV disease and treated with palliative chemotherapy (6 cycles of paclitaxel and carboplatin). Patient presented to our center 6 months later for a second opinion. She underwent cytoreductive surgery followed by adjuvant chemotherapy and is free of disease at 15 months follow up. Another patient of good performance status with stage IIIB non-small cell lung cancer was not staged appropriately and received external beam radiotherapy (30Gy/10#) with gefitinib.

Two patients with hypopharyngeal carcinoma who completed radical chemo-radiotherapy had documented residual neck nodes with no residual disease at primary site. However, they were not referred for early salvage neck dissection, and instead were treated with chemotherapy for several months. Both patients were re-evaluated in our center; one underwent radical neck dissection and is free of disease at 12 months follow up, and the other underwent total laryngectomy with partial pharyngectomy and neck dissection. Five patients defaulted treatment for various reasons, most commonly due to financial constraints and seeking alternate treatment through spiritual healers.

Discussion: In this study, 41% of previously treated cancer patients had inadequate treatments as per the stage and site of disease, of which all were treated within the Northeast. Errors in the initial evaluation, staging and treatment planning, suboptimal treatment, and patient's non-adherence are all contributing factors. The first point of contact for most individuals with a medical problem is a general

practitioner. A household survey from rural India showed that more than 90% patients first present with cancer to private practitioners, majority of whom are not trained to manage such cases. Due to lack of a better health care facility and medical experts in rural India, these errors are inevitable. However, creating awareness amongst general practitioners can minimize gross errors in cancer diagnosis and management.

Basic knowledge about cancer diagnosis and management as well as knowledge about the consequences of mismanagement must be imparted to all health care providers. A detailed clinical history and examination form the foundation of a good clinician who must not ignore the warning signs of cancer such as a lump, ulcer, bleeding from any orifice etc. All suspicious cases must have a tissue diagnosis to confirm the disease. Appropriate staging investigations like imaging is a must prior to starting any form of treatment. Accurate staging is crucial in order to plan and initiate correct treatment. Consultation with a Multidisciplinary Tumor board consisting of a surgical oncologist, medical oncologist, radiation oncologist, pathologist and a radiologist would be ideal if such expertise is available. Timely referral and seeking opinion of an expert in the field can minimize unwanted errors. All clinicians must handle only what they can manage appropriately and correctly. It is not uncommon for cancer patients to seek spiritual healing, however, it is important for the treating physician to spend adequate time in counseling both patient and relatives and emphasizing the need for timely treatment.

Our data shows that approximately 80% of cancer patients from Nagaland seek treatment within the Northeast of India and 35% within the state itself. Nagaland has the highest incidence of nasopharyngeal cancer in both males (AAR 15.2 per 1,00,000) and females (AAR 6.8 per 1,00,000). However, till date there is no functional radiotherapy facility in any government referral hospital within the state. Recent installation of a linear accelerator (LINAC) in Dimapur (private sector) has been beneficial to a great extent; however, affordability is an issue for the rural population. Promising referral centers like North Eastern Indira Gandhi Regional Institute of Health and Medical Sciences (NEIGRIHMS) in Shillong, Meghalaya, established more than a decade ago continue to lack in offering radiotherapy services. This again is reflective of the negligence of the Northeast. With only a handful of oncologists in the state, more medical doctors and paramedical personnel need to be trained in the field of oncology.

Cancer remains a huge economic burden to the patient and family. Approximately 20% of patients in our study did not follow through with their treatment protocol due to financial constraints. Growing percentage of population below poverty line in Nagaland and other northeastern states make comprehensive cancer treatment far beyond their reach. The Government of Nagaland provides medical reimbursement only to government employees and their dependents treated in empanelled hospitals outside the state. Only 4.85% of the total population (19,78,502) are government employees. What about the rest of the population? Cancer treatment is inaccessible and unaffordable to the majority. Central government schemes like Rashtriya Swasthya Bima Yojana (RSBY) and state health insurance schemes like Vajpayee Arogyashree Scheme in Karnataka, Comprehensive Health Insurance Scheme in Tamil Nadu and Rajiv Gandhi Jeevandayee Arogya Yojana (RGJAY) in Maharashtra have been able to successfully support a significant percentage of the state population benefiting several cancer patients. Such health schemes need to be implemented in Nagaland and other Northeast states with the support of the Government of India.

Conclusion: Cancer burden in Nagaland and other Northeastern states of India remain amongst the

highest in the country. With lack of infrastructure, trained oncologists and allied manpower in these regions, creating awareness amongst the medical fraternity on early diagnosis of cancer and timely referral to an appropriate center can contribute significantly in reducing incorrect and inadequate treatment. To uphold the "*primum non nocere*" oath as health care providers cannot be overemphasized. Government of India needs to help the Northeastern States in providing basic cancer care infrastructure, as this is the need of the hour.

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Role of I^{131} (Radioactive Iodine) in Differentiated Thyroid Cancer

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The use of radioactive iodine for the imaging and therapy of thyroid cancer in many ways represents the birth of nuclear medicine as a speciality. Initial experiences were published in the 1940s, and I^{131} became the first approved radiopharmaceutical by the Food and Drug Administration in 1951. **For more than 60 years, 131I (radioactive iodine) therapy has been the standard treatment for differentiated thyroid cancer.**

131I (radioactive iodine) scan/therapy is a safe procedure with very minimal short term side effects and no statistically significant risk of developing second malignancy due to radiation side effects. Patient preparation is simple, TSH of > 30 micro IU/ml is desired prior to the procedure. 2 hours of prior fasting is mandatory. Pregnancy is an absolute contraindication.

In general, the more aggressive the thyroid cancer and the more aggressive its biologic correlates, the greater the evidence for treatment efficacy in reducing recurrence and tumour-related mortality, and the greater the utility of radioiodine scanning to inform the treatment choices and process.

The utility of radioiodine WBS (whole body scan) prior to 131I remnant ablation is controversial. Strong sentiments are shown in its favour as well as against this investigation. Justification for 131I WBS—(1) to determine how much residual thyroid tissue has been left after thyroidectomy, (2) to define the presence of functioning metastases, thus accurately staging the disease, (3) to determine whether pre-ablation preparation is adequate for treatment with 131I or not, (4) to determine whether patient is surgically ablated or not, and (5) to ensure the proposed high dose of therapeutic 131I not irradiating a physiological site such as the breasts. **Practically every institute in India does a whole body radio-iodine scan**

before remnant ablation or therapy.

Treatment with 1-131 can not only ablate the remnant thyroid tissue but can also treat residual differentiated thyroid cancer. Further; some of the residual cancer being treated may be occult disease, and thus not detectable on a pre-treatment scan. In this context, radioiodine therapy is considered to be adjuvant therapy. In addition, elimination of endogenous thyroglobulin production from the thyroid remnant may aid in the diagnosis of thyroid cancer recurrence using serum thyroglobulin, as **there should be no detectable circulating thyroglobulin after effective ablation of normal thyroid gland.**

The use of radioactive iodine in thyroid cancer generally falls into 1 of 3 categories: remnant ablation, adjuvant therapy, and cancer treatment. Thyroid remnant may be defined as normal thyroid tissue or microscopic disease in thyroid bed left by the surgeon after total or near-total thyroidectomy. Virtually all patients will have some remnant thyroid tissue after thyroidectomy, and it may be desirable to ablate the remnants to simplify future monitoring. If, for example, a patient receives remnant ablation and the thyroglobulin is subsequently undetectable, it is straightforward to monitor the thyroglobulin for increases in the future. If the same patient does not

The use of radioactive iodine in thyroid cancer generally falls into 1 of 3 categories: remnant ablation, adjuvant therapy, and cancer treatment.

receive remnant ablation and the thyroglobulin rises in the future, it is more difficult to know whether the rise is due to regrowth of normal thyroid tissue or recurrent thyroid cancer. Most patients treated with radioactive iodine today fall into the **remnant ablation** category. The recent meta analysis based-on all RCT on radio-iodine remnant ablation (class 1 category of evidence) published by Cheng et al. has concluded that **30 mCi of 131I is sufficient enough for radioactive iodine remnant ablation, which can be given on OPD basis as per AERB (atomic energy regulatory board) India.**

The second category is **adjuvant therapy**, which mirrors adjuvant treatment in other solid cancers. If known disease is left behind following surgery, then further treatment is not technically adjuvant. As, the adjuvant treatment is essentially for a risk, rather than for provable disease. It is accepted that a proportion of patients who received adjuvant therapy will already have been cured by their primary surgery. That is, patients selected for adjuvant therapy have no clinical evidence of residual cancer after resection but are at increased risk for recurrence in the future. Of course, patients receiving postoperative adjuvant therapy will also have any remnant ablated with the treatment, but the primary goal of the therapy is adjuvant. Practically, dose given for remnant ablation may itself act as adjuvant therapy.

Radioactive iodine therapy is the administration of radioiodine in an attempt to destroy known or suspected active macroscopic viable malignant disease within the patient. In the therapeutic setting, however, the goal is to control the disease that, if not controlled, has a high likelihood of causing death. Thus, the focus should be more on efficacy than toxicity (providing, of course, that toxicity is acceptable). **Radio-iodine dose given will depend to the site of metastasis and patients renal function.** Route of excretion of radio-iodine is primarily genitourinary.

Guidelines of both the ATA and the National Comprehensive Cancer Network define the population of patients **who do not require radioiodine therapy**, chiefly those with small (< 1 cm for papillary thyroid cancer), intrathyroidal tumors without evidence of nodal involvement or vascular invasion and with a low postsurgical thyroglobulin level. Indeed, even patients with multifocal papillary thyroid cancer, in the absence of other risk factors likely do not benefit from remnant ablation.

There are those patients in **whom radioiodine is definitely recommended** such as those with large (> 4 cm) primary tumours or gross extra thyroidal

extension. Patients in intermediate or higher risk groups, however, may need more regular imaging, including neck ultrasound. cxr and I-131 whole body scans. Positive scans may result in the need for empirical therapy with I-131, even if serum thyroglobulin levels are low.

In between is a large group of patients in whom the appropriateness of radioactive iodine therapy is currently unclear and in **whom its use is recommended in selected cases**. For example, patients with elevated thyroglobulin without imaging findings of macroscopic disease. In many cases, we are left at equipoise with respect to strong (or even moderate or weak) clinical evidence, and thus the decision may be made on the basis of various factors including clinician experience or patient preference

Carefully examining the best existing long-term observational evidence, benefit of radio-iodine ablation in decreasing cause-specific mortality, or recurrence in low-risk DTC is not statistically significant. However, there is definite evidence of benefit of RRA in high-risk patients, particularly those with T3/T4 tumours; N1 nodal status, gross residual tumour left after surgery (R2 dissection) high-risk histological features, and advanced postsurgical staging of disease on 131IWBS ether on diagnostic or post-therapy scan.

ATA, European and NCCN guidelines are mostly followed worldwide. Extrapolating that data to Indian population may not be appropriate, especially when follow up of the patient population is erratic and irregular. Incidence of thyroid cancer in northeast is no less than rest of India.

In Northeast India no high dose therapy ward available currently and we hope to see the dawn soon. Low dose ablation, since it is an outpatient procedure, is practiced in existing facilities in Guwahati.

Neoadjuvant Chemoradiation for Cancer of Oesophagus: Reconsidering Evidence

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Cancer of the oesophagus is a highly lethal malignancy. The management of local-regional oesophageal cancer has undergone a major evolution over the past 15 years. The low cure rates after locoregional therapy alone prompted the inclusion of systemic chemotherapy in treatment of ca oesophagus. The aim of this multimodality therapy is to control distant micrometastatic disease and enhance local radiation effects. However, it remains unclear as to whether and how histology should dictate the therapeutic approach, and largely due to the lack of data on the impact of histology on treatment outcomes, the approach tends to be similar for both histologies. The poor long-term survival associated with surgery alone and the radiosensitizing effect of concurrent chemotherapy provided the impetus to evaluate preoperative chemoradiotherapy. This approach is generally preferred for potentially resectable stage T3 or 4, or node-positive localized cancer of the thoracic esophagus. Of the five completed randomized trials that compared preoperative concurrent chemoradiotherapy versus surgery alone, only two show a statistically significant survival benefit for chemoradiotherapy [1,2]; three others do not, two of which were underpowered [3,4,5]. Of these, the two most important are the Dutch CROSS trial and CALGB 9781.

The CROSS trial [6] from Dutch investigators randomised 363 patients with potentially resectable esophageal or esophagogastric junction (EGJ) cancer (86 SCC, 273 adenocarcinoma, 4 other; majority distal esophageal, 11 percent EGJ) to receive either preoperative chemoradiotherapy using weekly

paclitaxel 50 mg/m2 plus carboplatin AUC2) plus concurrent RT (41.4 Gy over five weeks) or surgery alone. Preoperative chemoradiotherapy was well tolerated, with grade 3 or worse hematologic toxicity in 7 percent, and grade 3 or higher non-hematologic toxicity in less than 13 percent; there were also no differences in postoperative morbidity or mortality between the two groups. The complete (R0) resection rate was higher with chemoradiotherapy (92 versus 69 percent), and 29 percent of those treated with chemoradiotherapy had a pathologic complete response (pCR). At a median follow-up of 32 months, median overall survival was significantly better with preoperative chemoradiotherapy (HR for death 0.657, 95% CI 0.495-0.871), three-year survival rate 58% vs 44%. The survival benefit persisted with longer (median 84-month) follow-up and five-year survival was 47 % vs 33%.

CALGB 9781 – CALGB 9781 [4] trial was closed prematurely due to poor accrual. In 56 patients enrolled (42 adenocarcinomas, 14 SCC), pCR was achieved in 10 of 25 assessable patients in the trimodality arm (40 percent), and neither perioperative morbidity nor mortality were increased compared with surgery alone. Five-year survival was 39% vs 16% in favour of trimodality therapy, although the difference was not statistically significant.

But the following points needs to be considered before applying the Neoadjuvant protocol to all patient with locally advance ca oesophagus [7].

Inclusion criteria & staging: The CROSS trial had strict inclusion criteria with regards to tumour size (within 8 cm in length and 5 cm in width), clinical stage (T1N1 or T2-3N0-1 according to the 6th AJCC TNM Classification), age of patients (18 –75 years old), performance status (WHO score of 2 or lower) and weight loss of 10% or less. Thus patients selected were of relatively good risk. Can we extend the criteria to other patient populations, such as those who are older and with worse performance status? With the aging population worldwide we often encounter elderly patients with good performance status. Significant pre-operative weight loss is not necessarily a contraindication for chemoradiotherapy. If we stick to the inclusion criteria of the CROSS trial, then patients with cervical or celiac nodes should not be included. In the current AJCC edition, the subdivision of nodal classification is based on the number of involved lymph nodes instead of the mere presence of regional lymph node involvement; the M-classification is redefined based on the presence of distant metastasis, while cervical and nodes around the celiac trifurcation are regional and no longer "distant" metastasis. There was no data available in the CROSS study on the number of clinically detected regional nodes (all were N1 according to the 6th AJCC staging). Whether the number of nodes (N1–3 in the new AJCC staging) would make a difference in results remains uncertain.

Approach of surgery and extent of lymphadenectomy: The extent of lymphadenectomy might have been suboptimal (the median number of lymph nodes removed was only 15–18). It is questionable whether neoadjuvant chemoradiotherapy would have imparted advantages if more extended lymphadenectomy had been performed in the context of the trial. In CROSS, around 75% of the cases were distal or junctional adenocarcinoma. In the protocol, a transthoracic approach with two-field lymph-node dissection was performed for tumour extending proximally to the tracheal bifurcation. Some surgeons consider superior mediastinal node dissection in Squamous cell carcinoma or tumour extending above tracheal bifurcation.

Patient compliance and availability of resources: In practice, we find that patients who are advised Neoadjuvant Chemoradiation and have good or complete response sometimes refuse surgery after completion of Neoadjuvant treatment. Also availability of good Radiotherapy or Surgical Oncology facility will also affect the selection of patients for Neoadjuvant therapy. Radical Chemoradiation is a good option in patients when surgical facilities are limited or when patients are not willing to undergo surgery.

Good Responders: The question remains whether we should continue Chemoradiation or surgery for the patients with good or complete response after neoadjuvant therapy. At least two randomized trials [8,9] directly comparing chemoradiotherapy alone, with trimodality therapy (chemoradiotherapy followed by surgery) have

failed to demonstrate better survival. A Cochrane analysis of these two trials [10] came to the following conclusions:

- There was high-quality evidence that the addition of esophagectomy had no significant impact on survival (HR 0.99, 95% CI 0.79-1.24).
- There was moderate-quality evidence that the addition of esophagectomy improved freedom from locoregional relapse (HR 0.55, 95% CI 0.39-0.76), but low-quality evidence suggested that it increases the risk of treatment-related mortality (risk ratio [RR] 5.11, 95% CI 1.74-15.02).
- All other endpoints (quality of life, treatment-related toxicity, use of salvage procedures for dysphagia) were only reported in one trial, which found only very-low-quality evidence that it reduced the use of salvage procedures for dysphagia.

It is necessary that patients are selected judiciously for neoadjuvant treatment of Ca oesophagus. The evidence needs to be looked upon in view of recent changes in staging and also in view of extent of surgery. The role of PET scans needs to be evaluated in large trials to identify good or poor responders early, to stratify patients for surgery or continuation of chemo radiotherapy. Radical chemoradiation might be an option whenever in doubt.

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GATS 2 HIGHLIGHTS FOR NAGALAND :

- 54.1% of men, 31.7% of women and 43.3% of all adults either smoke tobacco and/or use smokeless tobacco
- Pan masala with tobacco and betel quid are the most commonly used tobacco products. 21.1% adults use pan masala with tobacco and 17.5% use betel quid with tobacco.
- 33.9% of cigarette smokers and 45.8% of bidi smokers thought of quitting smoking because of warning label. 27.8% of smokeless tobacco users thought of quitting smokeless tobacco use because of warning label.

Do's and Don't s : Human Papilloma virus Testing in Head and Neck Carcinomas

[A commentary on College of American Pathologists Update]

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There are numerous publications with clear evidence of Human papiloma virus infection in tumours of head and neck .The incidence of Human Papillomavirus (HPV)-related head and neck carcinomas is rising globally , with the greatest increase among middle-aged white men. At least 25% and as much as 60% of head and neck cancers are now associated with high-risk HPV(HR -HPV). The clinical role of HPV testing in head and neck squamous cell carcinoma and the target populations has previously been established by other studies i.e., Cancer Care Ontario. But the role and clinical significance of HPV testing in cancers arising only in the oropharynx was not previously establised. HPV 16 type is the most common driver of oropharyngeal carcinoma, implicated in over 90%of these patients.• Systematic data analysis had indicated that HPV-positive oropharyngeal squamous cellcarcinomas (OPSCCs) have better prognosis, and these patients may be candidates for less aggressive therapy compared to HPV-negative carcinoma patients. It means there are clearly two categories of carcinoma, HR –HPV related and unrelated carcinoma

One of the world's top body for pathologists, College of American Pathologist formed an expert panel in 2016 consisting of 14 members to systematically review the relevant literature and to establish recommendations for methods of HR-HPV testing in both histologic and cytologic specimens of head and neck carcinomas in the clinical setting, including the performance, interpretation, and reporting of results from those tests. The expert panel conducted literature search from the period January 1995 – 2016 July 2016 where 2,207 articles were identified for abstract review, of which 906 articles were submitted for full text review and 157 articles underwent data extraction and quality assessment analysis .

The members rigorously addressed the following pertinent clinical questions relevant to HR HPV testing of head and neck cancers....

1.Should patients with newly diagnosed OPSCC, non-oropharyngeal squamous cell carcinoma (non-OPSCC), oropharyngeal non-SCC, non-oropharyngeal non-SCC, and cervical nodal metastatic carcinomas of unknown and/or known primary be routinely tested for HR-HPV?

2.Do relevant clinical outcomes of specific tests or testing algorithms for HR-HPV differ based on: Specimen size, percent neoplastic cellularity, and cellularity?

- ⇒ Type and length of tissue fixation?
- ⇒ For immunohistochemistry (IHC) p16 testing, specific antibodies, dilution, and testing conditions?
- ⇒ For IHC p16, criteria/definition for a positive test?
- ⇒ For in situ hybridization (ISH) and polymerase chain reaction (PCR), testing conditions and criteria/definition for a positive test?
- ⇒ For ISH, specific probes?
- ⇒ What HPV type specific probes should be included?

The expert panel developed 14 final guideline statements, made up of 4 recommendations and 10 expert consensus opinions after presentations. They defined recommendations strength as strong recommendations, recommendations, expert consensus and no recommendations categorically. The panel also linked the rationale along with guidelines.

The Guideline statements and Rationales

They provided strong Recommendation that Pathologists should perform HR-HPV testing on all patients with newly diagnosed OPSCC, including all histologic subtypes. This testing may be performed on the primary tumor or on a regional lymph node metastasis when the clinical findings are consistent with an oropharyngeal primary in **Guideline statement 1.** The literature overwhelmingly supports the conclusion that HPV status is an important and independent predictor of overall and disease-specific survival for patients with OPSCC. The survival benefit of HPV-positive

OPSCC is maintained across nearly all studies, despite significant heterogeneity in patient populations, sample size, methods of HPV detection, tumor stage, tumor treatment, comorbidity, and inclusion of various other prognostic factors in the analysis

Guideline statement 2 is the Recommendation for oropharyngeal tissue specimens (ie, non-cytology) testing. The pathologists should perform HR-HPV testing by surrogate marker p16 IHC. Additional HPV-specific testing may be done at the discretion of the pathologist and/or treating clinician, or in the context of a clinical trial. Based on abundant literature on p16 IHC as an independent predictor of improved patient prognosis in OPSCC, on its widespread availability, ease and reproducibility of interpretation, and excellent performance on small specimen samples such as small biopsies and tissue microarray punches, the expert panel recommends that p16 testing be performed for oropharyngeal tissue specimens. The panel has given enough flexibility on basis of context on particular clinical situation.

In **Guideline statement 3**, Expert Consensus Opinion was developed. The Pathologists should ***not*** routinely perform HR-HPV testing on patients with non-SCCs of the oropharynx. HPV status does not appear to be a reliable marker for separating aggressive and nonaggressive tumors when it comes to high grade neuroendocrine carcinomas of the oropharynx. For carcinomas of salivary gland origin, there is currently insufficient evidence to support an etiologic role of HPV in these tumors, or to validate the practice of HPV testing them for prognostic purpose.

It Recommended Pathologists *not to* routinely perform HR-HPV testing on patients with non-oropharyngeal primary tumors of the head and neck in **Guideline statement 4**. Routine HPV testing for non-oropharyngeal head and neck carcinomas is not indicated because there is no proven prognostic or therapeutic difference based on its presence or absence, either by any of the various HPV-specific tests or the surrogate marker p16. It doesn't support unnecessary testing of HR-HPV other than defined indications.

Guideline statement 5 recommends routine performance of HR-HPV testing on patients with metastatic SCC of unknown primary in a cervical upper or mid jugular chain lymph node. An explanatory note on the significance of a positive HPV result is recommended from pathologist part. HR-HPV status is important for the management of patients with unknown primary as it informs the clinical team where to search for the primary, or limits the likely area of primary if a definitive lesion is not identified.

Guideline statement 6 is a Expert Consensus Opinion for tissue specimen (ie, non-cytology, from patients presenting with metastatic SCC of unknown primary in a cervical upper or mid jugular chain lymph node-p16 IHC should be performed. Additionally, it is emphasized that HR-HPV testing on p16-positive cases should be performed for tumors located outside of level II or III (non-cytology testing) in the neck and/or for tumors with keratinizing morphology or squamous cell carcinoma morphology.

Expert Consensus Opinion was generated in **Guideline statement 7**. Pathologists should perform HR-HPV testing on head and neck fine needle aspiration (FNA) SCC samples from all patients with known OPSCC not previously tested for HR-HPV, with suspected OPSCC, or with metastatic SCC of unknown primary. However, no recommendation was made for or against any specific testing methodology for HR-HPV testing in FNA samples. If the result of HR-HPV testing on the FNA sample is negative, testing should be performed on tissue if it becomes available. If pathologists use cytology samples for p16 IHC testing, they should validate the criteria with definite cut off for a positive result. Because of the marked tendency for HPV-positive head and neck SCC to metastasize to cervical lymph nodes, FNA plays a very important diagnostic role in the initial detection of these cancers. The literature supports the use of FNA as a valid method for obtaining material for HR-HPV testing.

Guideline statement 8 from Expert Consensus Opinion. Pathologists should report p16 IHC positivity as a surrogate for HR-HPV in tissue specimens ie, nonytology when there is at least 70% nuclear and cytoplasmic expression with at least moderate to strong intensity. Definition for what percentage of positive cells are necessary has varied substantially; however, some of the largest and prospective studies, such as Ang et al, have supported a stringent cutoff of 70-75%. This has a very clear cut direction on testing and interpretations. CAP statement also mentions that in high incidence areas, such as the US, lesser staining cutoffs may function similarly which indicates there is strong need to study and publish data from rest of globe for HR HPV incidence to

further comment. Hopefully there would be modifications in the next 4 years in this particular guideline as suggested by the flexibility of the terms.

While low-risk HPV types are an established etiologic agent in benign squamous papillomas and warts of various sites, they do not play a significant role in the development of HPV-positive OPSCC. Because there is little benefit of identifying low-risk HPV types in the head and neck, the expert panel determined that there is no role for routine low-risk HPV in this context. This is why **Guideline statement 9** Expert Consensus Opinion has suggested that low-risk HPV testing should ***not*** routinely be performed on patients with head and neck carcinomas. Panel had made a clear distinction of high risk and low risk HPV testing based on clinical benefit.

Guideline statement 10 Expert Consensus Opinion to Pathologists ***not to*** repeat HPV testing on patients with locally recurrent, regionally recurrent, or persistent tumor if primary tumor HR-HPV status has already been established. If initial HR-HPV status was never assessed or results are unknown, testing is recommended. HPV testing may be performed on a case-by-case basis for diagnostic purposes if there is uncertainty regarding whether the tumor in question is a recurrence or a new primary SCC Pathologists need to discuss in detail with treating physician from case to case.

Pathologists should ***not*** routinely perform HR-HPV testing on patients with distant metastases if primary tumor HR-HPV status has been established according to **Guideline statement 11** Expert Consensus Opinion. However it may be performed on a case-by-case basis for diagnostic purposes if there is uncertainty regarding whether the tumor in question is a metastasis or a new primary SCC. Limited data review shows that distant metastases retain the same HR-HPV status, including p16 overexpression. As such, there is no documented value of repeating testing on a metastatic tumor. In circumstances HR-HPV testing on a metastasis when the status of the primary is unknown would accurately reflect the HPV status of the primary head and neck SCC and is thus recommended.

Expert Consensus Opinion generated in **Guideline statement 12** says that Pathologists should report primary OPSCCs that test positive for HR-HPV or its surrogate marker p16 as HPV-positive/p16-positive.This expert opinion is consistent with the terminology used in contemporary classifications of OPSCCs. If the term "p16-positive" is used in clinical reporting on its own, a comment should be added that describes the strong relationship between p16 immunopositivity and HPV in the respective setting. It is necessary to include important clinical implications in test result to treating colleagues.

Guideline statement 13 of Expert Consensus Opinion is suggested Pathologists *not to* provide a tumor grade or differentiation status for HPV-positive/p16-positive OPSCC. The rationale behind this is most HPV-positive OPSCCs are usually nonkeratinizing, with high nuclear to cytoplasmic ratios, hyperchromatic nuclei, and are arranged in lobules and sheets; they have often been classified as poorly differentiated or high grade carcinomas. However, these classifiers were developed in head and neck SCC in general and not specifically for HPV-positive OPSCC. In these tumors, this morphology does not predict poor outcomes and so standard report of differentiation is not necessary. However it would be a confusing situation where the histology report of carcinoma has to be provided at a time when the status of HR - HPV remain unknown, There is no published evidence that smoking changes the results of any of the HPV-specific tests or p16 IHC. Expert Consensus Opinion Guideline statement 14 suggests that Pathologists do ***not*** alter HR-HPV testing strategy based on patient smoking history.

Conclusion :

This is a very comprehensive recommendation for pathologists on the where ,when, how and what to test of high risk HPV in head and neck carcinoma. After a systematic review and consensus of the expert panel, HR-HPV testing is recommended for all new OPSCC patients on a routine basis. No consensus was reached on recommending testing of HR HPV for other head and neck carcinomas due to lack of evidence. The guideline recommendations will evolve gradually with future research and will be reviewed at least every 4 years by them. North East India is a hub of head and neck carcinoma and practice of these guidelines by clinical and laboratory oncologists would be highly beneficial to understand HR –HPV status here, role of prognosis and would open up scope for future studies.

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Reminiscing on Oncology over the past three decades in Northeast India

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In the year 1988, it was incomprehensible for my teachers and parents that I decided to join the then Dr. B. Borooah Cancer Institute(BBCI), leaving behind my job at Assam Medical College, Dibrugarh. BBCI had just been taken over by the Government of Assam but was lacking in financial resources and medical oncology was a subject I was not exposed to earlier. It was fortunate that few more young people joined alongside, all bestowed with the mandate to develop their respective departments, Dr A.C. Kataki – Gynae-Oncology, Dr. B.K. Das – Surgical Oncology, Dr. K. Ahmed – Head &Neck Oncology, (Late) Dr. Utpal Bhuyan – Nuclear Medicine and Radio diagnosis, Dr. J.D. Sharma – Oncopathology and Myself- Medical Oncology. The E.N.T. and Radiotherapy departments were already functional in the institute which was helmed by the Director, Professor G. G. Ahmed. The period can be called the *Dawn of Oncology in Assam*, probably even the whole of North East India!

Being young and passionate, all of us worked very hard and loved Oncology. Working, networking , attending conferences – presenting and publishing scientific papers in those tech naive days. We were lucky to get quick recognition from both public and the Medical fraternity from the entire region.

For me there were other challenges. Chemotherapy being repetitive and having cared for patients from the entire NE region, I was in need to write to doctors in all major towns even without knowing them personally. This brought me closer to them. This enabled me to make friends everywhere.

Caring for Children with cancer became a compulsion for me – an adult physician. Gradually this compulsion transformed into a passion and we started a small unit of Pediatric Oncology in BBCI. I worked with the PHO chapter of IAP and became a member of SIOP. Today this unit of ours has both National and International recognition.

I was surprised to receive a letter from Larry Norton, then President of American Society of Clinical Oncology(ASCO) in 2001, inviting me to become a member of ASCO – a great honour for me. I was conferred ASCO membership in 2002 even without attending a single ASCO event – a result of serving my own people.

Colleagues working in the entire region came together to form the AONEI in 2003- 04. Joining hands together has been a big boost to fighting cancer in the region. Now each of us has access to the other fellow oncologists in the region through AONEI.

It is heartening to see the various Oncology units, RCCs and State Cancer hospitals that have come up in various states, helping cancer patients of the respective states-this was unimaginable in 1988.

Along with Regional Institute of Medical Sciences(RIMS), Imphal, BBCI has been the pioneer in Oncology training in Northeast India. RIMS is offering MD in Radiotherapy since long. BBCI has already started MD in Radiotherapy, M. Ch. Surgical Oncology and D.M. Medical Oncology. It is worth mentioning that BBCI is the only Institute in the entire Eastern India beyond Delhi to offer all three courses under one roof, which emphasises the multidisciplinary approach necessary to treat cancer.

It is my vision and dream to see more cancer centres in the region offer such courses in near future. The moto is – to fight cancer. To fight cancer regardless. To fight cancer together. AONEI brings us together.

Long live AONEI.

Run for Cachar

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It all began with a quest for better health and fitness and gradually became a long lasting yet fulfilling obsession. I was introduced to running 3 years ago by a colleague, who found it rather amusing to see a surgeon lacking in fitness. As a novice, I had my shares of spills and thrills when I started running. As my stamina started to gradually improved, and my running becoming more fluid, I started to participate in marathons, progressing initially from the easy 10 km run to the rather daunting 42km full marathon. My first full marathon was the Standard chartered Mumbai marathon 2017, I which I managed to hobble to the finish line at the end.

While preparing for the subsequent Mumbai Marathon, renamed as none other than TATA Mumbai marathon 2018, I decided to run for a cause. Since I am working as a Surgical Oncologist at the Cachar Cancer Hospital and Research Centre, which is a Non Government Organization doing phenomenal service to cancer patient in the Barak valley despite severe financial crunch, after discussion with the director of the hospital Prof.Dr.Ravi Kannan , it was decided that I would use this run as a fund raiser for the hospital. As friends came to know about the run, three doctors, Dr.Rajpal Singh(Plastic Surgeon, Indore), Dr.Arunandhichelan(Surgical Oncologist, Erode) and Dr.Nitin Abhinav(Dental Surgeon,Hyderabad) who have become close buddies with me, joined in for the cause. As our practice began in earnest, donations started to flow in slow and steadily from different sources , both known and unknown. Social networking platforms like facebook and whatsapp were utilized for the purpose of spreading the information about the run.

As good wishes started pouring in, the race day started closing in. Finally, early in the morning on the 21st of January 2018, as we positioned ourselves at the start line, gently reminding each

other of the noble cause we were running for, we began taking stock of the task ahead. The run was difficult owing to the hot and humid conditions of the city of Mumbai. As dehydration took its toll on all the runners, the people of Mumbai came out of the comfort of their abodes to help the runners in whatever way they could. As all beginnings were meant to have an end, ours was a good one. All the four of us who set out on this mission, completed the run successfully though in contrasting fashions. Finally, we could say the words "Mission Accomplished". As always, planning is everything and already plans are in place for the TATA Mumbai Marathon next year. Hope to have many more runners join us for this noble cause next year.

12TH ANNUAL MEETING OF ASSOCIATION OF ONCOLOGISTS OF NORTH-EAST INDIA (AONEI)

Dr. Ritesh Tapkire
Organizing Secretary

The 12th annual meeting of Association of Oncologists of North-East India (AONEI) was hosted by Cachar Cancer Hospital and Research Centre at Silchar. The event took place on January 28th and 29th, 2017 and the theme was "Inclusive cancer care" which means that the cancer care in the form of treatment, supportive care and social support should reach every affected person in the society regardless of their resources.

The 2 day event consisted of parallel seminars and workshops in the specialities of Surgical Oncology, Radiation Oncology, Palliative care, Interventional Radiology, Oncopathology, Molecular Oncology and Capacity building in Oncology. There was also a simultaneous 2 day workshop and seminar for the nurses involved in cancer care in the region which was supported by National Cancer Grid (NCG).

The speakers consisted of renowned faculty from various institutions in the North-East as well as other parts of India. The seminar was also a platform for young surgeons to demonstrate various oncological procedures followed by robust discussion during the skill training workshop. There was a rich exchange of knowledge and priceless advice from the senior faculty and experts in various specialities. More than 100 delegates attended the conference. About 35 delegates were invited from outside North-East region.

AONEI Presidential oration was delivered by Dr.Kuddush Ahmed, President, AONEI. Theme of his oration was focused on thyroid cancer.

The newest addition to various subspecialities of AONEI was "The Capacity Building workshop" supported by The Max Foundation. This participants included psycho-oncologists, medical social workers, volunteers from community as well as cancer survivors. The workshop aimed at empowering people from community to help cancer patients cope with life after cancer treatment outside the hospital.

The 2 day event was successful in bridging the gap between various subspecialities of Oncology and allied specialities as well as the community. And therefore living upto the theme "Inclusive cancer care".

CME ON ESOPHAGEAL AND LARYNGOPHARYNGEAL CANCERS

Dr. Caleb Harris
Organizing Secretary

The Association of Oncologists of Northeast India(AONEI), supported by the Indian Association of Surgical Oncology(IASO) conducted a one day Continuing Medical Education(CME) Program for Doctors on June 10th, 2017 at the Hotel Pinewood, Shillong. Meghalaya has the highest incidence of Esophageal cancers and hence the topics discussed was on Esophageal and Laryngeal cancers. Nearly 90 doctors attended the program, said Dr. Caleb Harris, the organizing secretary and the Surgical Oncologist at NEIGRIHMS.

The program started in the afternoon, with a talk on Epidemiology of Cancers in India by Dr. Judita Syiemlieh, Civil Hospital, Shillong, which was followed by talks on Laryngeal cancers. Dr. Devendra Chaukar, head of Head and Neck Surgical Oncology at Tata Memorial Hospital, Mumbai, elaborated the various surgical options in laryngeal cancers. There was a panel discussion which covered aspects of laryngeal cancers not covered by the speakers.

Dr. D.M. Thappa, Director, NEIGRIMS said in his inaugural address that a 252 bed Regional Cancer Centre is being constructed, due to be completed in October 2019, which will have state of the art facilities for cancer care. Dr. A.C. Phukan, the Dean of NEIGRIHMS stressed on the need to improve cancer care in this region, which has a high incidence of cancers. Dr R. Toprani, Secretary of IASO said the membership has increased to over 1100 and that even general surgeons who deal with cancers may become members of the association. Dr. A. K. Kalita, President of AONEI stressed on the need for Radiotherapy equipment at NEIGRIHMS.

Dr. George K., Thoracic Surgeon from the Tata Memorial Hospital(TMH), Mumbai, said that though surgery is the mainstay of treatment for esophageal cancer, most of our patients come with advanced disease, needing Chemotherapy and Radiotherapy prior to surgery. This was reiterated by Dr Sarbani Ghosh Laskar, Professor of Radiation Oncology, TMH. Dr. Ravi Kannan, Director, Cachar Cancer Centre, Silchar elaborated on the various steps that can be taken to prevent these cancers, the most important being the cessation of use of tobacco, alcohol and betel nut. Dr. Yookarin Khonglah, Pathologist, NEIGRIHMS, stressed on the need for proper grossing and transport of Esophagectomy specimens.

A panel discussion moderated by Dr. Ritesh Tapkire, Surgical Oncologist, Silchar, solved all the contentious issues in managing esophageal cancer. Dr. Prasanth Penumadu, Surgical Oncologist, JIPMER, conducted a quiz for resident doctors, with an innovative format based on an app based voting! Cash prizes were given to four of the winners. The CME ended with dinner and entertainment.

GATS 2 HIGHLIGHTS for MEGHALAYA

- 59.8% of men, 34.2% of women and 47.0% of all adults either smoke tobacco and/ or use smokeless tobacco.
- From GATS 1 to GATS 2, there has been a significant decrease in the prevalence of smoking by 4.1 percentage points and smokeless tobacco use by 7.9 percentage points. The prevalence of any tobacco use has decreased significantly from 55.2% in GATS 1 to 47.0% in GATS 2.
- Cigarette and bidi are the most commonly used tobacco products. 23.4% of adults smoke cigarette and 17.2% smoke bidi.
- The prevalence of tobacco use among persons aged 15- 17 has decreased from 26.4% in GATS 1 to12.6% in GATS 2.
- 41.6% of smokers were advised by a health care provider to quit smoking and 53.8% of smokeless tobacco users were advised by a health care provider to quit use of smokeless tobacco.
- 52.9% of cigarette smokers and 45.4% of bidi smokers thought of quitting smoking because of warning label. 45.7% of smokeless tobacco users thought of quitting smokeless tobacco use because of warning label.

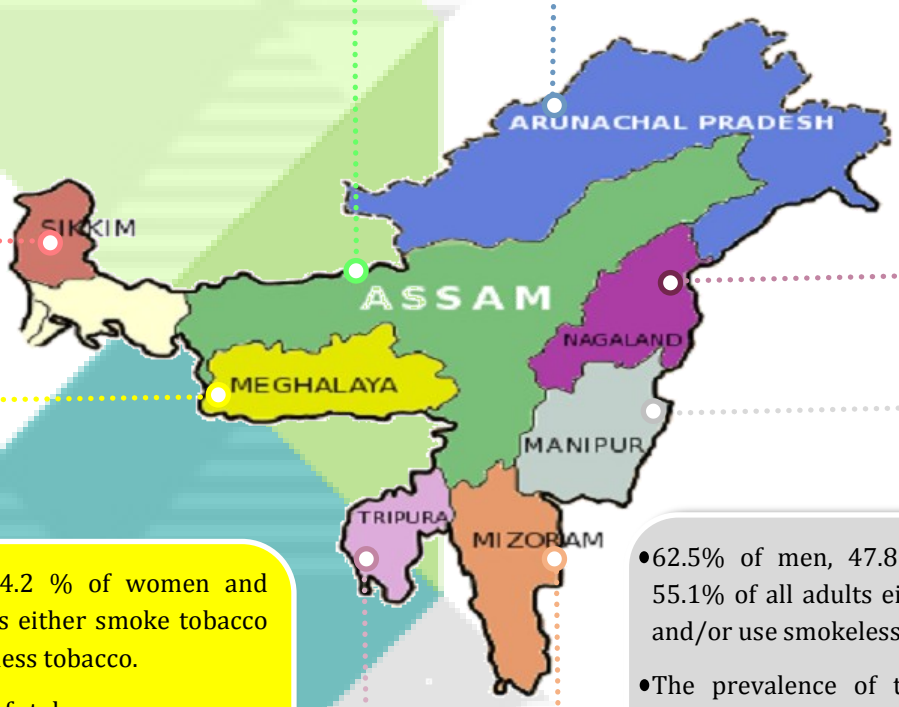
GATS 2 HIGHLIGHTS FOR NORTHEAST INDIA

- 62.9% of men, 32.9 % of women and 48.2% of all adults either smoke tobacco and/or use smokeless tobacco.
- The prevalence of tobacco use among persons aged 15-17 has increased from 19.6% in GATS 1 to 9.1 % in GATS 2.

- 61.1% of men, 28.7 % of women and 45.5% of all adults either smoke tobacco and/or use smokeless tobacco.
- The prevalence of tobacco use among persons aged 15-17 has increased from 14.3% in GATS 1 to 25.1 % in GATS 2.

- 26.4% of men, 8.4 % of women and 17.9% of all adults either smoke tobacco and/or use smokeless tobacco.
- The mean age at initiation of tobacco use has decreased from 17.5 years in GATS 1 to 15.9 years in GATS 2.

- 54.1% of men, 31.7 % of women and 43.3% of all adults either smoke tobacco and/or use smokeless tobacco.
- The mean age at initiation of tobacco use has decreased from 18.5 years in GATS 1 to 17.2 years in GATS 2.



- 59.8% of men, 34.2 % of women and 47.0% of all adults either smoke tobacco and/or use smokeless tobacco.
- The prevalence of tobacco use among persons aged 15-17 has decreased from 26.4% in GATS 1 to 12.6 % in GATS 2.

- 62.5% of men, 47.8 % of women and 55.1% of all adults either smoke tobacco and/or use smokeless tobacco.
- The prevalence of tobacco use among persons aged 15-17 has decreased from 20.7% in GATS 1 to 9.0 % in GATS 2.

- 67.5% of men, 61.4 % of women and 64.5% of all adults either smoke tobacco and/or use smokeless tobacco.
- The prevalence of tobacco use among persons aged 15-17 has decreased from 15.8% in GATS 1 to 11.6 % in GATS 2.

- 64.9% of men, 52.4 % of women and 58.7% of all adults either smoke tobacco and/or use smokeless tobacco.
- The prevalence of tobacco use among persons aged 15-17 has decreased from 35.4% in GATS 1 to 27.0 % in GATS 2.

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