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Research Article

How can Head & Neck disorders be a liability to Indian population: Hindrance & Nuisance or Hesitance & Negligence???

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Abstract

Introduction: Head & Neck disorders still remains a "global burden" in the world map till date. With the increasing trend of cancer in the present day scenario and raising parameters of aetiology with varied clinical occurrence, there has been a major plunge at the way things are perceived by a common man in day to day life.

Aims & Objectives: To find out the various causes for Head & Neck disorder at our set up. Also to put together and touch upon aspects like risk factors, symptomatology associated with nature of the disease process in this belt of Malnad region.

Methodology: 352 patients with Head & Neck disorders were considered for the study over a period of 1 year who were evaluated clinically and radiologically. After initial evaluation, most of them were referred to higher centre for further management.

Results: Nearly 75% of patients presented with malignancy with 5 times predominance in males and around 97% patients belonging to the region from oral cavity up to larynx as they have a common epithelial origin.

Conclusion: Head & Neck disorders are never to be neglected as it the "runway" to the crux of the body system. Any sort of limitation or hesitation can cost life and well-being.

Keywords: Head & Neck, Malignancy, disorders, limitation, negligence.

Introduction:

With rapid progress of technology in the field of medical sciences, various Head & Neck disorders there still remain the "global affliction" in the world map till date. With the increasing tendency of malignancy in the present day scenario, with both escalating and hovering penchant from epidemiology to aetiology to predisposing & triggerring factors moving on to varied clinical incidence to waver cure rates, there has been a major plunge at the way things are looked at from both surgeon's perspective and patient's perception. But, despite all the known specifics, still there is one common thing that lingers in every Indian mindset regarding the lack of audacity or awareness either in the form of hesitancy or negligency towards the health focus [1, 13].

Aims & objectives:

- To list out various causes of Head & Neck disorders encountered at ENT OPD.
- To find out risk factors for Head & Neck disorders.
- To look for the nature of disease in all Head & Neck disorders.
- To group all the patients based on gender & age-wise distribution.
- To categorise patients based on region involvement for disease pathology.
- T gather down different symptoms accompanied with these Head & Neck disorders.
- To know the occurrence for secondary metastasis.

Objectives: It is to educate the population that health must be prioritised everytime but not only when basic amenities in life such as breathing, swallowing & speaking are at stake.

Materials and methods:

Study design: Descriptive study.

Place of study: This study was conducted at Subbaiah Institute of Medical Sciences, Shimoga (Tertiary Care Hospital).

Study period: 1 year (from September 2018 to August 2019).

Selection criteria:

A random sample of 352 patients (pts) who consulted the ENT outpatient department with various Head & Neck disorders were assessed & evaluated clinically and provisional diagnosis was made. Following which, "triple test" was adapted and required management algorithm was amended in all the patients both conservatively as well as surgically.

Inclusion criteria:

- > 30 years of age and < 75 years of age were considered for the study.
- All cases of only disorders of Head & Neck were considered for the study.
- Only adults are included in the study.

Exclusion criteria:

- < 30years of age and >75 years of age were excluded from the study.
- Children are excluded from the study.

Procedure of the study:

Over a period of 1 year, a random sample of 352 pts who consulted ENT OPD with various causes of Head & Neck disorders were clinically evaluated after taking a detailed & thorough history. Following which a possible diagnosis was made. After arriving at a diagnosis after clinical evaluation with diagnostic endoscopy, next step is doing the "Triple test".

Triple test includes mainly:

1. **Thyroid function test** for thyroid swellings/ **Biopsy** of the mass or growth under LA or GA. Histopathological grading/staging is based on the biopsy which confirms the tissue diagnosis.
2. **CECT Neck from base of skull to inlet of thorax** for most of the Head & Neck conditions: to know the extent of the mass, to look for any involvement of important structures in neck, to look for any bony erosion & involvement, to also know the secondary local metastasis if any/ USG Neck gives an apparent diagnosis for the same.
3. **FNAC** from the thyroid swelling/ cervical lymph nodes: to know the nature of the mass in case of thyroid and other neck swellings, to need a confirmatory diagnosis for metastasis in case of cervical lymph node with primary elsewhere.

In some pts with advanced disease, further radiological investigations such as X-ray chest, USG abdomen with pelvis were done to rule out distant metastasis.

After the triple test along with further required laboratory investigations, management was advised based on the diagnosis which was mainly surgical and specimen postoperatively was sent for histo-pathological reporting for re-confirmation of the diagnosis made clinically.

Patients requiring advanced treatment with diagnosis of malignancy were referred to higher centre such as for growth of oral cavity/oropharynx/laryngopharynx with extensive secondaries, as they would need postoperative radiation following neck dissection. While thyroid swellings, be it Papillary CA, Follicular CA, Anaplastic CA, Medullary CA, Solitary thyroid nodule, Simple nodular goitre, Multinodular goitre in all these cases either Total thyroidectomy or Hemithyridectomy was done accordingly. Following the Histopathological confirmation, tumors requiring radioactive iodine were referred to higher centre.

On the other hand, Salivary gland tumors such as Pleomorphic adenoma, Warthin's tumor, CA parotid, CA submandibular gland, Minor salivary gland all were surgically excised and sent for Histopathological examination. Based on the diagnosis arrived from histopathological report, patients were referred to higher centres in those needing postoperative radiation. The cases with minimal secondaries after excision of primary tumor needing minimal neck dissection were done here.

Most of the patients who were treated here as well as outside were followed up. On follow up, majority of patients showed good response to treatment provided to them. While a few of them did show recurrence or residual growth as they did not complete their course of treatment either due to financial crisis or ignorance of their health. All patients submitted the informed written consent during the study period. Ethical clearance was taken from Institutional Ethics Committee before the start of the study.

Results:

The observations are depicted both in diagrammatic as well as tabular representation below-

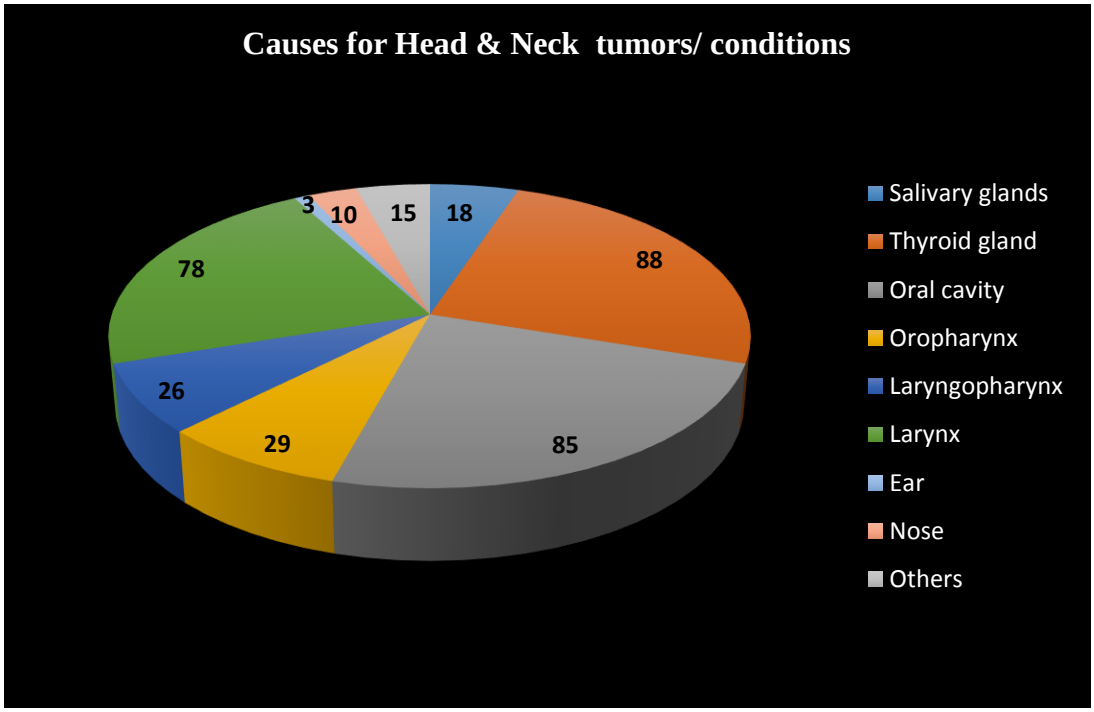

Figure 1: 3D Pie representation of all the causes of Head & Neck disorders among 352 pts.

Table 1- List of head & neck disorders-----352		**B: Benign, M: Malignant**	
SALIVARY GLANDS: 18			
Pleomorphic adenoma(PA)	5 (B)	Warthin' tumour(WT)	4 (B)
Ca Parotid gland(Ca P)	3 (M)	Ca Submandibular gland(Ca S)	3 (M)
Minor salivary gland tumor (MGST)	3 (M)		
THYROID GLAND: 88			
Papillary CA (PCA)	15(M)	Follicular CA (FCA)	8 (M)
Anaplastic CA (ACA)	4 (M)	Medullary CA (MCA)	2 (M)
Solitary thyroid nodule (STN) 8(B)+ 11(M)	19	Simple nodular goitre (SNG) 6(B)+ 9(M)	15
Multinodular goitre (MNG) 10(B) + 15(M)	25		
ORAL CAVITY: 85			
Growth involving buccal mucosa along with Retromolar trigone (RMT), Floor of mouth(FOM), Gums with or without involving the mandible----------12+15+9=36 (M)			
Growth over the lip(both upper & lower)	4(M)	Growth over the tongue involving lateral border(either on right or left)	30(M)
Pyogenicgranuloma(PG) involving (tongue/lips)	8(B)	Haemangioma(H) involving (lips/ tongue/ buccal mucosa)	7 (B)
OROPHARYNX: 29			
Growth over Soft palate, Tonsils, in Posterior 1/3 rd of tongue with or without involving lateral pharyngeal wall(LPW)------13+ 4+ 12= 29 (M)			
LARYNGOPHARYNX: 26			
Growth involving Posterior pharyngeal wall(PPW), Post-cricoid area(PCA), Pyriform sinus/fossa(PS/PF) with/without involving the lateral pharyngeal wall: 3+2+21= 26 (M)			
LARYNX: 78			
Growth involving Supraglottis, Glottis, Subglottis, Transglottic growths, Growths involving more than 1 subsite, Growths involving more than 1 subsite with lateral pharyngeal wall involvement----18+5+3+8+9+11= 54 (M)			
Haemangioma(H)	3(B)	Vocal cord nodules(VCN)	9(B)
Vocal cord polyp(VCP)	8(B)	Epiglottic cyst(EC)	4(B)
EAR	**3(B)**	**NOSE**	10(B)
OTHERS(O)	**15(B)**		

Table 1. List of head & neck disorders-----352

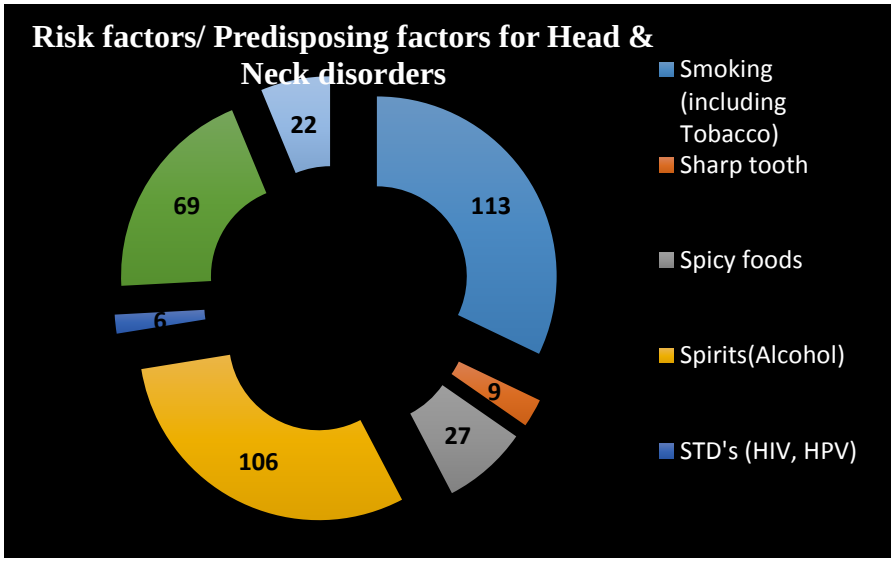

Figure 2: Exploded doughnut diagram showing all 6 "S" as the risk factors involved in Head & Neck disorders.

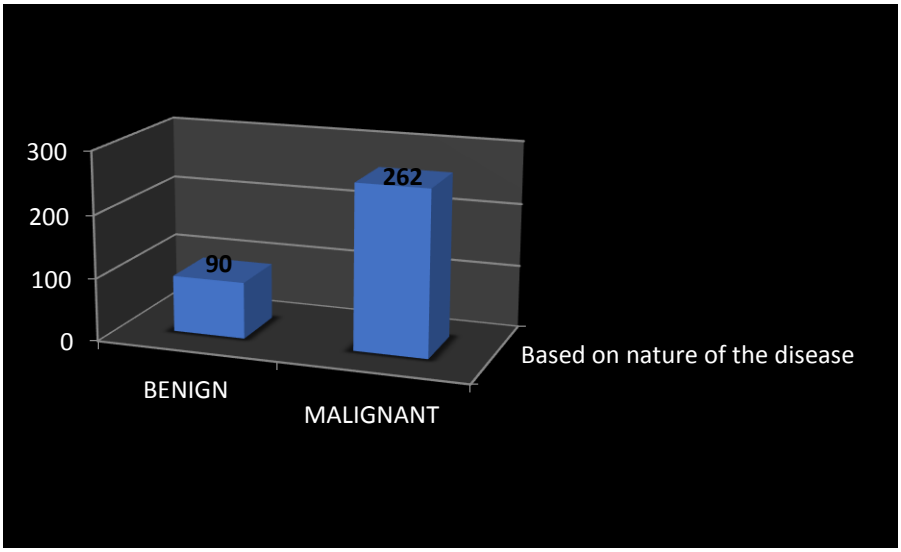

Figure 3: Stacked column 3D illustration showing the nature of the disease in all the Head & Neck disorders.

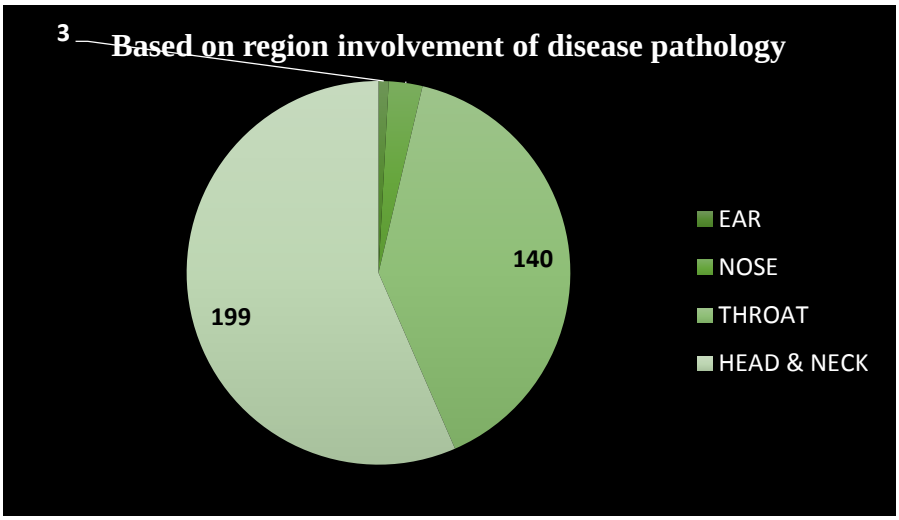

Figure 4: Pie diagram demonstration showing the region of involvement of the disease pathology.

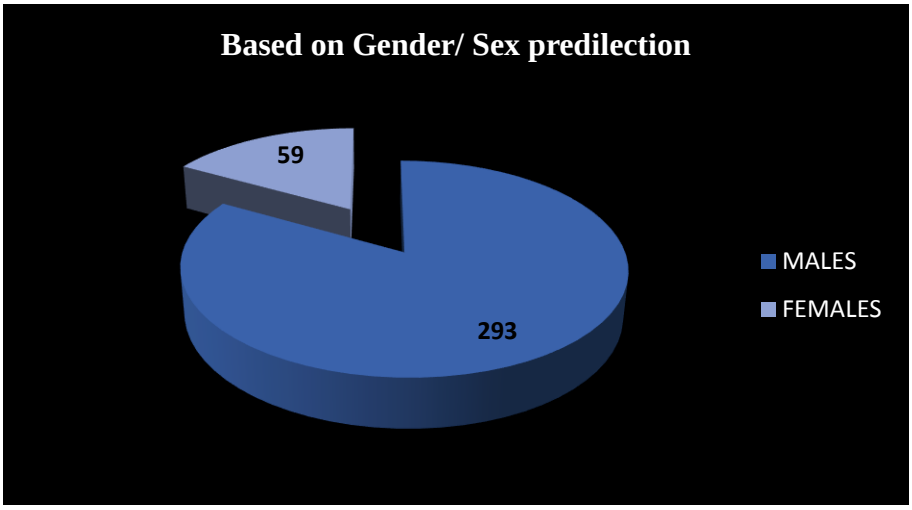

Figure 5: All the patients in the study are categorised based on gender predilection shown in exploded pie 3D depiction.

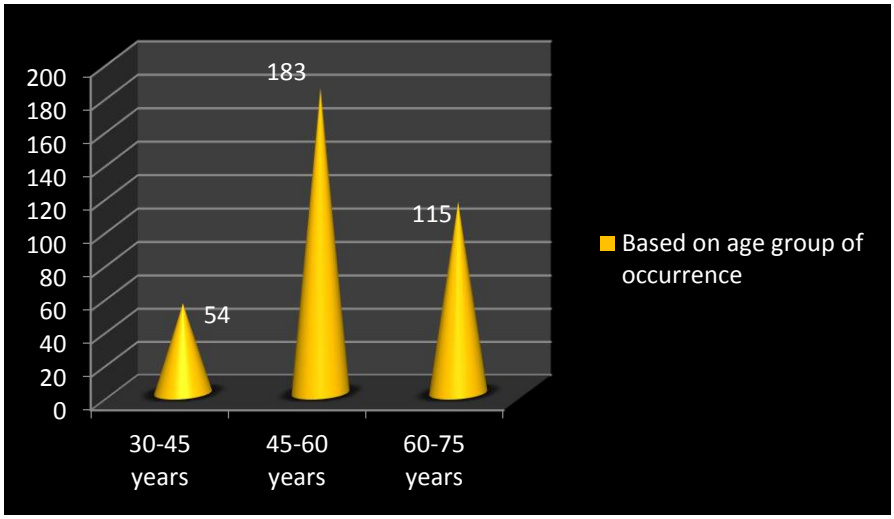

Figure 6: As per the study, age-wise distributions of all Head & Neck disorders are shown in the clustered cone diagram.

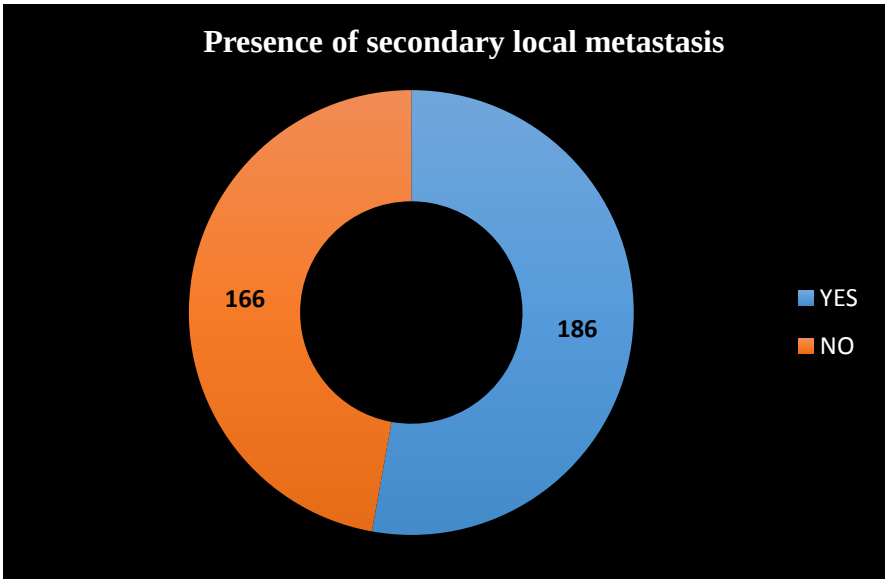

Figure 7: Doughnut diagram showing presence of local metastasis in pts with Head & Neck disorders.

Table 2- Conditions of Salivary glands & Thyroid glands: 18+ 88= 106 pts.

Clinical symptoms	PA (5)	WT (4)	Ca P(3)	Ca S(3)	MSGT (3)	PCA (15)	MCA (2)	FCA (8)	ACA (4)	STN (19)	SNG (15)	MNG (25)
Trismus	2	2	1	1								
Halitosis		1	1		1							
Pain/Tender	1	1		1	1	2				3	3	5
Referred otalgia	1		1	1							2	
Dysphagia						2	1	2	1	5	2	4
Odynophagia	1				1							3
FB sensation in the throat						5	1	1	1	3	3	4
Dyspnoea						2		2		2		2
Change voice						1		2	1	3		2

Cough										1	3	3
Swelling in the neck						3		1	1	2	2	2

Table 2. Conditions of Salivary glands & Thyroid glands: 18+ 88= 106 pts.

Table 3- Conditions of oral cavity: 85 pts.

Clinical symptomatology	Growth over lips (4)	Growth in buccal mucosa inv. RMT (12)	Growth in buccal mucosa inv. FOM (15)	Growth in buccal mucosa inv. Gums (9)	Growth over the tongue involving the lateral border (30)	PG over lips/ tongue (8)	H over lips/ tongue/ buccal mucosa (7)
Trismus		3	2	2	3		
Halitosis		2	2	1	2	2	2
Pain/ tenderness	2	2	1	1	4	2	2
Dysphagia		2	2	1	2		
Odynophagia				2	2	2	1
Change of voice			1		3		
Burning in the mouth	2	2	1	1	2	2	2
Restrictive tongue movts.			3		4		
Referred otalgia		1	2		3		
Swelling in the neck		2	3	2	5		

Table 3. Conditions of oral cavity: 85 pts.

Table 4- Conditions of oropharynx & laryngopharynx: 29+ 26= 55 pts.

Clinical symptomatology	Growth over the soft palate (13)	Growth over tonsils (U/L or B/L) (4)	Growth over post. 1/3 of tongue (12)	Growth over PPW (NPC) (3)	Growth over Postcricoid area(PCA) (2)	Growth in the Pyriform fossa (PF) (9)	Growth in PF inv. LPW (12)
Halitosis			1	1			
Dysphagia	3	1	2	1		2	2
Odynophagia	1	1	1				
Dyspnoea					1		
Change of voice	2	1			1	2	2
Pain/Tenderness	2		1				
FB sensation in the throat	2		2			1	1
Referred otalgia	1	1	2				2
Restrictive tongue movts.			2				
Cough	1			1		1	2
Swelling in the neck	1		2			3	3

Table 4. Conditions of oropharynx & laryngopharynx: 29+ 26= 55 pts.

Table 5- Conditions of the Larynx, Ear & Nose, Others: 78+3+10+5= 106 pts.

Clinical symptomatology	Growth in supra Glottis (18)	Growth in glottis (5)	Growth in subglottis (3)	Trans-glottic growths (8)	Growth inv.>1 subsite (9)	Growth inv. >1subsite with LPW (11)	H (3)	VCN9	VCP8	EC4	EAR3	NOSE10	O15
Dysphagia	6			1	2	3							3
Odynophagia							1	2	2				2
Change of voice	2	3			1	1		1	2	1			
Dyspnoea	2		2		1				1				
Cough	1	2	1	1		1	1	2	1	2			2
FB sensation in throat	1						1	4	2	1			
Referred otalgia	2			1	1	2					2		
Swelling in the neck	4			5	4	4							8
Pain/ Tenderness												3	
Nasal bleed												4	
Ear bleed											1		
Nasal obstruction												3	

Table 5. Conditions of the Larynx, Ear & Nose, Others: 78+3+10+5= 106 pts.

Discussion:

Around 6.4 million head and neck cancer cases are diagnosed worldwide every year, out of which nearly 1.5 million cases are from India, which accounts for 20% of all head and neck cancers of the world. Head and neck disorders have diverse causes with origin from multiplicity of sites specifically cancers mainly from upper aerodigestive tract. The main predisposing factors for cancers are excess intake of tobacco and alcohol consumption notably in India and in the West [2, 18, and 22]. The specific characteristics like aetiology, outline of primary sites and clinical pattern are different from person to person. Clinically, these disorders or tumours have exceptional problems in management and need skilled multidisciplinary groups in order to achieve the highest level of service and exploration. In ancient times, surgery and radiotherapy were the most important treatment modalities but now chemotherapy has made its way and is increasingly employed but not fully recognised. Successful rehabilitation of patients with head and neck cancers require access to high quality support staff with training in any functional disorders [3, 11, and 20].

Current research efforts are largely directed towards defining the proper role of chemotherapy and assessing the possible advantage of unconventional radiation approaches. In recent years the roles of primary, reconstructive and salvage surgery have also become better defined. With the advent of latest technology in the field of science such as artificial

intelligence technology and also Lasers, protocols on management have become well-defined and concised [4, 15]. They are having robust growth from minimally invasive to skilled techniques which has lot of precision and detailing,that is on a long run beneficial to the service of mankind. These methods have been advocated on variety of patients who are not just identified early, but also made to realise the importance of early intervention which has been benefitted at the earliest [5, 19]. These techniques also have their genesis not much in private segments but are in the vogue in government sectors these days. Usually patients with different health schemes are benefitted to a larger extent which makes their financial deprivation status a better possibility for survival [6, 17].

In this study, which is one of its kind where it is tried to showcase the impact of Head and Neck disorders at this Tertiary care hospital. This belt of our state is more prone to Head and Neck cancers as they not only grow and merchandise tobacco but also consume it widely. People here are with not so good socioeconomic as well as health status are seen more prone to malignancy [7, 16, and 25]. This study is a re-visit and re-emphasis on the facts which are down dusted and to bring to light the specifics that were forgotten which need to be followed judiciously and timely action has to be taken by far to the early times. Most of the facts are already present in the literature data but a very specific, in-detail prominence is given to each and every factuals covering from the etiology uptil the clinical symptomatology that has been come across in this study [8, 21].

Patients usually must have neglected their symptoms which must have occurred during the initial stage. When their basic eminities are compromised, that is when they get alert and get a consultation done. With the financial burden in the back of their mind, though willing neglect to further proceed for any intervention for self [9, 14]. Patient education must also be given utmost emphasis on a routine basis so that they prioritise health. As it is rightly said, that health is wealth, though that fact is known, they must instill it in their day to day basis. Following which, the developing phase of mankind will be abolished soon [10, 24]. With the advent of fast growing science & technology, especially in medical field, changes not just in health systems but self-changes must also be mandatorily developed. Healthy self will automatically lead to healthy system which will reflect towards a healthy country [12, 23].

Among various causes for Head & Neck conditions, nearly 62% that is 218 pts from oral cavity to larynx comprise majority of causes as they share a common epithelium of origin and 25% that is 88 pts belong the causes of thyroid gland. While rest 13% belongs to other causes of Head & Neck conditions. In a total of 87% (62+25) that is in 306 pts, 79% comprise of malignant etiology that is in 243 pts as per this study.

As per this study, there are lot of risk / predisposing factors for Head & Neck conditions. It ranges from the virulence of virus-HPV, EBV & HIV to usage of supple Spices & Spirits. But the most common among them are the predominant 6 "S". In this study, nearly 82% belonged mainly to Smoke, Spirit & Spices (32 + 30 + 20). As in this belt of Malnad where cases tend to be on a little peak as arecanut is mostly cultivated, merchandised and consumed.

In terms of nature of disease pathology, out of total 352 pts nearly 1/4th of the cases are Benign (26%) that is in 90 pts while the rest 74% are Malignant in nature that is in 262 pts. These figures correlate to the fact of high prevalence of Head & Neck cancers in India and the counts are still peaking to a greater extent. Nearly 51% pts belong to region consistent from oral cavity to larynx according to this study.

As per the region involvement of the disease pathology in this study in 352 pts, nearly 57% that is 199 pts belongs to Head and Neck region with 40% that is 140 pts belonging to oral cavity with throat. So, a total of 96% that is 339 pts belong to a group, where tumors share the equivalent epithelium of origin.

According to gender predilection in this study, where 83% that is 293 pts, men are seen occupied with the disease pathology while 17% that is 59 pts, women are seen occupied with the disease pathology. Hence, the ratio for gender predilection seen in Males: Females= 5:1.

As per age-wise distribution for the disease pathology, most affected age group is 45-60 years with 52% that is 183 pts. Nearly, 33% that is 115 pts are bound to age group of 60-75 years in this study.

In a total of 352 pts, the presence of local metastasis that is disease spread to cervical lymph nodes is seen in 186 pts that is 53% and not seen in 166 pts that is 47% in this study. There were no pts with distant metastasis to Lungs, Liver, Kidneys, Brain & Bone based on the necessary investigations done to look for the same distant metastasis.

With 16 symptoms on presentation of pts in OPD, 70% that is 246 pts had compromise in their ability of speech, swallow & breathe. On individual basis, 57 pts had swelling in the neck, 50 pts had dysphagia, 37 pts had pain/tenderness and nearly 33 pts had foreign body sensation in throat & change of voice. These symptoms are related to malignancy mostly, which on the contrary is the matter of concern in all of them.

Conclusion:

Not all Head & Neck conditions are malignant in nature until proven otherwise. The hallmark aspect to assess any Head & Neck condition is "Triple test". The early the condition is evaluated the better is the morbidity, mortality and in turns the prognosis. Any H & N condition must not be neglected and ignored hence must be intervened to the earliest. Though all the above mentioned facts are known but still they are been re- emphasized as Indians mindset is still in infancy stage in majority of them. People still hinder & hesitate when it comes to prioritising health. They reach upto the outlets only when their basic necessity in life such as swallow/ breathe/ speech & blood are compromised and encountered. Though it is been repeatedly said not to deter & dither, still this longstanding burden prevails in Indian population. That is one of the reason why India is still in the "developing phase", as health is still not been given utmost importance as it had to be given as malignancy remains in the hit list of causes despite all the odds. This study is also focussed to bring to light the necessity to re-emphasize, re-collect and re-deem the importance of education and awareness among the population regarding the false apprehensions regarding these disorders.

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