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Study of Distribution of Tumours in Pharyngeal, Laryngeal, Maxillary and Nasal Cavity Region

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Abstract:

Background: *In India although infections and malnutrition are the factors contributing to morbidity and mortality, but now a days neoplastic diseases are coming into greater focus because of the preventive measure and better treatment being taken for the infections Objective was to study the distribution of tumours in "Pharyngeal, Laryngeal, Maxillary and Nasal Cavity Region" in patients attending medical college Hospital Jabalpur.* ***Methods:*** *The present study comprises of 379 patients who attended the outpatient department or were admitted in the wards of associated hospital of N.S.C.B. Medical College, Jabalpur during the period from July 2003 to July 2005 with the presenting complaint of Tumour. The study was carried out for two years. Permission from Institutional Ethics Committee was obtained. From each and every patient included in the study, initially informed individual consent was taken.* ***Results:*** *Incidence of total malignant tumours of salivary gland in respect to total malignant tumours of head and neck was 1.5 percent. Age and Site Distribution of Pharyngeal, Laryngeal, Maxillary sinus and Nasal cavity tumours, maximum number of tumours fall into the (35-74) age group, while only 2 cases were in the paediatric age groups which were in nasal cavity. Sex distribution of Pharyngeal, Laryngeal, Maxillary sinus and Nasal cavity tumours shows that male to female ratio was very high in all the sites except maxillary sinus and nasal cavity tumours.* ***Conclusion:*** *Incidence, patterns and trends of head and neck tumours were analyzed in all age group patients. Our study includes 379 cases diagnosed in NSCB Medical College and Hospital, Jabalpur during July 2003 to July 2005. Incidence of total malignant tumours of salivary gland in respect to total malignant tumours of head and neck was 1.5 percent. Incidence of benign tumours in respect to various benign tumours of head and neck was 16.8 percent.*

Keywords: ***Tumours in Pharyngeal, Laryngeal, Maxillary and Nasal cavity, Fine needle aspiration cytology (FNAC).***

Introduction

In India although infections and malnutrition are the factors contributing to morbidity and mortality, but now a days neoplastic diseases are coming into greater focus because of the preventive measure and better treatment being taken for the infections and nutritional deficiencies and probably also due to the better diagnosis of cancers. Various malignant tumours include central nervous system tumours, lymphomas, neuroblastoma, retinoblastoma, soft tissue tumours, laryngeal cancer, oral cavity cancer and skin cancer etc.

Lesions of head and neck region are one of the most common ones subjected to Fine Needle Aspiration (FNA) diagnosis because of the easy accessibility of the lesions. The commonest indications are in the investigation of lymph node, salivary gland, and thyroid enlargement, suspected local recurrences & metastatic nodules. FNA is also useful in the evaluation of lesions of soft tissues, tonsils, pharynx, nasal cavity, sinuses and orbit. The only limitation is a suspected carotid body or glomus jugular tumour, due to fear of hemorrhage.[1]

A study of the pre- operative fine needle aspiration cytologies in consecutive patients with primary malignant tumours (203 cases) or benign thyroid tumours (217 cases) showed a sensitivity of 0.57 and specificity of 0.98. The sensitivity of FNA cytology in medullary and undifferentiated carcinomas was 0.82 and 0.84 respectively. None of these were microscopically misdiagnosed.[2]

The study was Aspiration Biopsy Cytology (ABC) in nodules of thyroid gland suspected to be malignant of the 412 cases, 63 showed to be malignant, 123 were suspected

to be malignant and 226 were found to be benign. After operation, biopsy was sent for histopathological examination Aspiration biopsy cytology (ABC) gave no false positive results as regards malignancy. False negative results in whom the cytology diagnosis was judged primarily to be benign, but was found later to be malignant by histopathologic examination occurred in 9 of 412 patients. The ABC diagnosis gave a suspicion of malignancy in 123 patients, representing almost all of the follicular tumours and that these were not classified as false negative.[3]

The present study analyse our experience with management of 58 cases of cervical metastatic with occult primary. A total of 1127 biopsy proven head and neck cancer patients were seen and managed during February, 1982 to February 1985 indicating a prevalence of 5.2 percent. A majority (60 percent) of these patients had no disease, indicating late presentation of these cases in our country. A protocol for the management of these cases has been presented and the controversies highlighted.[4]

Methods:

The present study comprises of 379 patients who attended the outpatient department or were admitted in the wards of associated hospital of N.S.C.B. Medical College, Jabalpur during the period from July 2003 to July 2005 with the presenting complaint of Tumour. Fine needle aspiration cytology was done in 51 cases and tissue biopsy for histopathological examination was done in all cases. All cases included in present series were taken up for study, irrespective of their age and sex. A detail clinical examination was done. The cytological findings and the diagnosis made accordingly were compared with histopathological examination of tissue obtained.

Equipment's required: Fine needle 22 to 24 guage (outside diameter of 0.7 to 0.5 mm) 25 mm in length, Disposable syringe 5 cc, Slides, Fixative, Antiseptic. Hence for aspiration cytology, only the simplest disposable equipment is necessary.

Technique: The needle transcutaneous biopsy of palpable lesion was performed as follows. The skin was cleared with an antiseptic and the suspected lesion was fixed with one hand in a position favorable for needle biopsy. The sterile needle was attached to the syringe and then inserted. When the needle has entered the lesion the plunger of the syringe was retracted creating a vacuum in the system, while the needle was guided in straight line through the lesion. I n this way material was aspirated into the needle. In order to obtain sufficient material, the needle have to be moved back and forth three or four times and possible directed into different areas of tumour. Through this manipulation negative pressure was maintained in the syringe by keeping the plunger retracted. When the aspiration has been completed the pressure in the syringe was allowed to equalize before the needle is withdrawn from the lesion. This was affected by releasing the plunger of the syringe.

The study was carried out for a period of 2 years and permission from Institutional Ethics Committee was obtained. From each and every patient included in the study, initially informed individual consent was taken.

Results:

Table 1: Sex distribution of Salivary gland tumours in relation to Head and Neck tumours

Sex	Benign		Malignant	
	No	%	No	%
Male	11	61.1	3	75
Female	7	38.9	1	25

Table No 1 shows distribution of salivary gland tumours in respect to total number of head and neck tumours was 5.8 percent. Incidence of total malignant tumours of salivary gland in respect to total malignant tumours of head and neck was 1.5 percent. Incidence of benign tumours in respect to various benign tumours of head and neck was 16.8 percent.

Table 2: Age and Site Distribution of Pharyngeal, Laryngeal, Maxillary sinus and Nasal cavity tumours

Site	Total No of Cases	Age Group				
		0-14	15-34	35-54	55-74	>75
Hypophyarx	32	0	01	14	15	2
Maxillary sinus	14	0	1	8	5	0
Oropharynx	12	0	0	4	7	1
Nasal Cavity	6	2	1	1	0	0
Larynx	4	0	0	1	2	1
Naso pharynx	4	2	1	1	0	0

Table No 2 shows Age and Site Distribution of Pharyngeal, Laryngeal, Maxillary sinus and Nasal cavity tumours, maximum number of tumours fall into the (35 – 74) age group, while only 2 cases were in the paediatric age groups which were in nasal cavity.

Table 3: Sex distribution of Pharyngeal, Laryngeal, Maxillary sinus and Nasal cavity tumours.

Site	Hypo pharynx		Maxillary Sinus		Oropharynx		Nasal Cavity		Larynx		Nasopharynx	
	M	F	M	F	M	F	M	F	M	F	M	F
Benign	0	0	1	4	0	0	1	2	1	0	4	0
Malignant	30	2	1	8	12	0	1	2	3	0	0	0
Total	30	2	2	12	12	0	2	4	4	0	4	0

Table 3: Sex distribution of Pharyngeal, Laryngeal, Maxillary sinus and Nasal cavity tumours shows that male to female ratio was very high in all the sites except maxillary sinus and nasal cavity tumours.

Discussion

In department of pathology, NSCB Medical College, Jabalpur. 379 cases of head and neck tumours studied.

Incidence of head and neck malignancies in relation to all malignancies and sex incidence reported by various authors.

Martin (1941) reported a highest incidence i.e. 70 percent in the age above 70 years. Particular high incidence of oral tumours between 41 – 69 years of age denotes the fact that people in these age groups were exposed. To the maximum effect of various etiological factors responsible for oral tumours like tobacco, alcohol, pan, betel nut, and poor oral hygiene dentures. Cell instability increases as age advances so that a stimulus which in younger age group would pass unnoticed induces a change in older age groups which may result in malignancy.[5]

Footed Frazell reported highest incidence in parotid gland tumours (87 percent) and lowest was reported in our series (36.4 percent).[6]

Wahi P.N et al (1965) who studied 1876 cases of oral cancers at Sarojini Naidu Medical College, Agra. The commonest site was cheek (52.3 percent) followed by tongue. (26.9 percent). But in above figures were in contrast to that reported from M.D.A. Hospital (1967).[7]

The report from MDA hospital records lip cancers as the commonest site in 44.9 percent cases followed by alveolar margin and palate cancers (16.8 percent). The study by Mashberg et al (1976) recorded an over whelming number of oral carcinomas in three locations. Floor of mouth (45.49 percent), soft palate anterior pillar retro molar complex (28.86 percent) and oral tongue (16.2 percent).[8]

Conclusion:

Incidence, patterns and trends of head and neck tumours were analyzed in all age group patients. Our study includes 379 cases diagnosed in NSCB Medical College and Hospital, Jabalpur during July 2003 to July 2005.

Incidence of total malignant tumours of salivary gland in respect to total malignant tumours of head and neck was 1.5 percent.

Incidence of benign tumours in respect to various benign tumours of head and neck was 16.8 percent.

Shows Age and Site Distribution of Pharyngeal, Laryngeal, Maxillary sinus and Nasal cavity tumours, maximum number of tumours fall into the (35-74) age group, while only 2 cases were in the paediatric age groups which were in nasal cavity.

Sex distribution of Pharyngeal, Laryngeal, Maxillary sinus and Nasal cavity tumours shows that male to female ratio was very high in all the sites except maxillary sinus and nasal cavity tumours.

Sex ratio for malignant tumours was (2:1) and for benign tumours was (1.27 percent)

Most common site of salivary gland tumours was minor salivary gland (45.4 percent) followed by parotid gland (36.4 percent), and submandibular gland (18.2 percent)

Bone tumours were 80 percent benign and 20 percent malignant. Orbital tumours were 77.8 percent malignant and 22.2 percent were benign. There were only three cases of thyroid tumours out of which 2 were benign and one was malignant.

In our study two lymph node biopsy were studied from which one was diffuse lymphocytic lymphoma another one was metastatic squamous cell carcinoma.

The emotions and philosophy behind all such scientific studies is to enlighten better approaches to relieve the ailing and suffering humanity in the form of accurate diagnosis and better treatment, same is true for this study.

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