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Prevalence and Possible Surgical Interventionof Ear, Nose and Throat Diseases in Local Population of Pakistan

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Abstract

Objective: To study the prevalence of ear, nose and throat diseases and their possible surgical intervention in local population of Pakistan.

Methodology: 1,382 patients from the department of ear, nose and throat surgery from January-December 2016 were selected in this retrospective study. The age, gender, presenting complains with history, diagnosis and operative procedures were noted. These patients were divided into three groups according to the involvement of Otorhinolaryngological anatomical region. Analysis of the data was performed using SPSS version 16 and results are expressed in numbers or percentages.

Results: The age ranges of patients were one year to 85 years with maximum age group of 10-19 years. There were 58.82% males and 41.46% were females. Patients with head/ neck diseases were 42.15%, with nasal distress were 29.01%, with ear problems 16.71% and with oral disorders were 12.22%, therefore, the most commonly adopted methods were removal of tumor/ polyps, tonsillectomy and mastoidectomy.

Conclusion: Ear diseases were the most found in the current study and oral cavity lesions being the least common. The peak age was 10-19 years. There is a need of man power and implantation of new techniques.

Keywords: Otorhinolaryngological (ORL) Diseases; Retrospective Study; Prevalence; Surgical; Intervention

Introduction

Wide varieties of Ear, Nose and Throat diseases and limited facilities are always one of the leading challenges for health care administrators and providers in under developed countries like Pakistan [1-2]. The spectrum of these disorders displays great variation from one community to another be it congenital or acquired [3]. Proper knowledge and treatment/surgical intervention in time may let a patient to lead quality life without social embarrassment and economic losses due to aesthetic problem of the face or comorbidities associated with impairment physiologic functions of hearing and breathing [4]. Ear infection is one of the most prevalent diseases specially in pediatric population and may badly effect the speech development due to conductive and sensorineural hearing loss as well as behavioral responses in children if persist for longer period of time usually caused by *Pseudomonas aeruginosa* and *Staphylococcus aureus* [5-11]. Several studies conducted in different parts of the world including Europe and Asian countries reveals the risk factors associated with the middle ear infection strongly correlate this with poor socioeconomic status, improper ventilation, smoking and low birth weight etc. [12-17].

Acute sinusitis may lead to the chronic pathology, if lasts for couple of month with persistent symptoms and signs altering CT scan [18-20]. It is prevalent up to 14% of the global population in USA but in the case of pediatric patients, the condition is further exaggerated and may reach to 32%. If economic burden is taken under consideration, only in USA 24 million patients received medical aid for the same problem in 1992 that cost $200

million. In the case of children less than 8, rate is much higher [21]. When multivariate analysis was carried out in a study, not only occupational or inheritance factors proved to be affected but some medications such as corticosteroids and local decongestants were also included among risk factors [22-26].

Oral cancer damaging oropharynx cavity arising as the most prevalent type of carcinoma all over the world, having almost the same factors in all populations such as tobacco and alcohol with a new thread of Human Papillomavirus (HPV) including Pakistan involving tonsil, base of the tongue, and other parts of the pharynx [28-34].

The main objective of the current study is to provide a data based information reflecting the magnitude of otalaryngological disorders or distress with the possible surgical management in local population of Pakistanto guide health policy makers of the respective field for the implementation of modifiedplanning.

Patients and Methods

Inclusion Criteria: patients with chronic signs and symptoms that cannot be managed without surgical intervention, during the period January 2016 to December 2016 with the age 0 to 85 years of both the gender.

Exclusion Criteria: neonates, patients with acute diseases of e.n.t. that can be managed at home, other than 2016 calendar year or having any diseases other than ENT.

This is a retrospective study of patients records in January 2016 to December 2016 conducted in a public tertiary care hospital regarding the type of otorhinolaryngological diseases. All the patients who were admitted in the ear, nose and throat department for surgical intervention met, the inclusion criteria, were included in the study. Demographic data showing age gender and complain of the disease and its durationalong with socioeconomic status of the patients was also taken under consideration. Patients aged between 1-85 years of both the gender belonging to the different parts of the country visited the hospital during the mentioned period.

Statistical analysis was done for the collected data interpretation using descriptive analysis with the help of SPSS version 16.0 statistical software. Results are expressed in numbers or percentages and comparison is discussed among the groups.

Results

During the study period, as shown in (Table-1&Figure-1)1382 patients admitted in Ear, Nose and Throat (ENT) department (surgical ward) of a tertiary care hospital. Statistical values presented greater percentage of male patients' i.e., 58.82% as compare to female 41.46% like many studies conducted in different populations in different part of the world.

The highest percentage of age group 10-19 up to 27.56% is alarming situation for parents to protect their children from infections or allergens leading to e.n.t disorders. Although minimum percentage of 1.51% belong to 70 years or plus patients but the maximum age was of 85 years of two male patients.

Age in years	Male (numbers)	Female (numbers)	Total Numbers	Percentage/ frequencies of total (%)
0-9	89	67	156	11.28
10-19	215	166	381	27.56
20-29	147	108	255	18.45
30-39	106	86	192	13.89
40-49	123	75	198	14.32
50-59	59	38	97	7.01
60-69	58	28	86	6.22
70-onward	16	5	20	1.14
Total %	58.82%	41.46%	1382	100%

Table1: Age Distribution of E.N.T disorders.

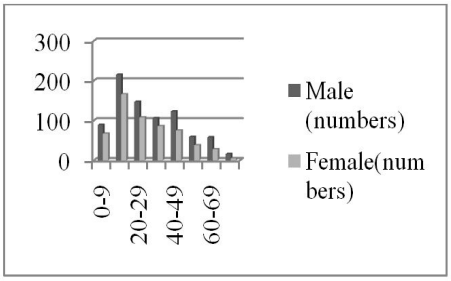

Figure1: Age Distribution of E.N.T disorders.

According to (Table-2 & Figure-2) most frequently applied surgical technique was with the use of general anesthesia upto 48.98 %, then local anesthesia found i.e., 21.56%, then Fibrotic direct laryngoscopy upto 17.43% and the least was punch biopsy up to 12.01 %.

Technique used	Numbers	Percentage
Local anesthesia	298	21.56
General anesthesia	677	48.98
Punch biopsy	166	12.01
Fiberoptic direct laryngoscopy	241	17.43
Total	1,382	100.00

Table 2: Adopted Surgical Technique.

If prevalence and surgical management is concerned, most of the patients (31.04%) were admitted due to pharyngeal problems, then nasal disorders (29.01%), after that ear problem (16.71%), then oral diseases and finally laryngeal disorders (11.11%) (Table-3 & Figure-3).

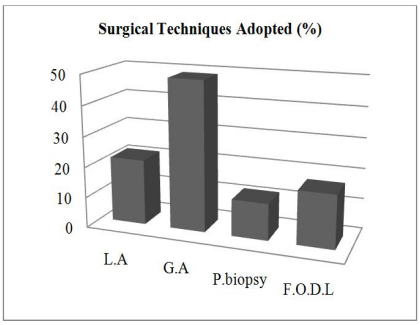

Figure2: Adopted Surgical Technique.

Total 169 patients were admitted due to oral growth or lesion (66), cancer (52), tongue tie (31) and other problems (20). In the case disorders , 231 patients were enrolled among them 144 were due to chronic suppurative otitis media, 40 because of cyst or keloid removal, 35 to get rid of foreign particles and 12 were sufferingother problems.401 patients were facing the disorders of nose in which maximum number was of angiofebroma either with epistaxis (182) or without epistaxis(30) , then of deviated nasal septum 91300who underwent septoplasty and the least number of patients with foreign particles for removal, although 16 patients were of different problems.Pharyngealcomplains reflecting the disorders of adenoids (570, tonsillitis (234), stridor (80), cancer (42) and overgrowth in the region (11). In the case of thyroid, 53 cases were reported who subjected to lobectomy. Laryngeal biopsy or removal of carcinogenic area was confirmed in 72 patients.

	Anatomical region	Numbers	Frequency (%)
A	**ORAL**		**12.22%(out of 1382)**
	Oral growth/lesion	66	9.05(out of 169)
	Cancer	52	30.7(out of 169)
	Tongue tie	31	18.34(out of 169)
	Others	20	11.83(out of 169)
	Total	**169**	
B	**EAR**		**16.71(out of 1382)**
	CSOM /Mastoidectomy	144	62.33(out of 231)
	Cyst /keloid	40	17.31(out of 231)
	F.B	35	14.9(out of 231)
	Others	12	5.19(out of 231)
	Total	**231**	
C	**NOSE**		**29.01(out of 1382)**
	Angiofebroma with epistaxis	182	45.38(out of 401)
	D.N.S / Septoplasty	130	32.41(out of 401)
	Nasopharyngeal growth	30	7.48(out of 401)
	F.B	43	10.72(out of 401)
	OTHERS	16	3.99(out of 401)
	Total	**401**	
D	**NECK**		**42.15%(out of 1382)**
	PHARYNX		31.04(out of 1382)
	Adenoids	57	13.28(out of 429)
	Tonsillitis	234	54.54 (out of 429)
	Stridor/ tracheotomy	80	18.6 (out of 429)
	Growth	11	2.56(out of 429)
	Vocal cord cancer	47	10.9 (out of 429)
	Total	**429**	
	LARYNX		11.11(out of 1382)
	Lobectomy	53	34.64(out of 153)
	Biopsy/ cancers	72	47.05(out of 153)
	Others	28	18.30(out of 153)
	Total	**153**	

Table 3: Ear, Nose and Throat Orders/Surgical Management Distribution.

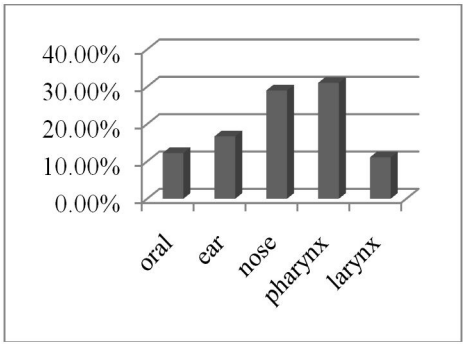

Figure 3: Ear, Nose and Throat Orders/Surgical Management Distribution Discussion.

The provided data of e.n.t. diseases of the whole mentioned-year in the current study reflect not just the spectrum of otalaryngological distress but in-depth of surgical interventions using different techniques too.These heavy expensesnot only due to recurrent and metastatic conditions but even because of presence of foreign particles in nasal, ear or airway path is an alarming situation for the parents, health establishments and also for general public to launch awareness programs and better policies [28].

There were more male patients as compare to the female who admitted the ward to seek aid and the maximum of teenage. Most of the cases strongly correlate to the socio-economic status and tropical region of the patients. This study is agreed with the research conducted by A. J FasunlaM. Samdiand O. G. Nwaorgu [36]. As far as combined cases of pharynx and larynx are considered, it contributes the maximum 42.15% of the total which is huge, among them tonsillitis aroused as the most common.

Irrespective to the anatomical site, if only local aggressive vascular tumor (be it benign or malignant) plus biopsy for its confirmation is focused, 499 out of 1382 constitute 32.48% of the whole year e.n.t incidences. In several evidence based research articles ear diseases usually infections are reported maximum among the e.n.t. distress but unfortunately in our population gutka chewing is found to exaggerate the prevalence of squamous cell carcinoma which is already accounting the head and neck malignancy at the highest level [35].

80 patients with Strider underwent tracheostomy for proper and safe mechanical ventilation. In addition to this, 53 patients, suffering from cold nodules were subjected to lobectomy from different parts of the country once again focusing our attention to provide clean and safe water to nip in the bud of this disease cause. Out of 401 patients from nasal disorders, 182 got angiofebroma with epistaxis and 30 without it. Septoplasty was the most commonly employed method for deviated nasal septum.

Chronic superlative otitis media was the leading ear diseases which affected 144 patients. Usually in first decade of life, ear infections badly influence life style but if it is left untreated, second decade become worsen due to this chronic infection or may be because of its late consequences such as hear loss or throat or nasal obstructions [36]. It's time to establish public speciallyparents awareness programs such as neonatal early hearing diagnosis and rehabilitation programs to save our energy, economy and the most importantly people.

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