

# Histopathological Analysis of Otorhinolaryngologic Diseases – An Institution Based Study

Histopathological Analysis of Otorhinolaryngologic Diseases

Sakina Jamil<sup>1</sup>, Raees Abbas Lail<sup>2</sup>, Munazza Choudary<sup>3</sup>, Munazza Hassan<sup>2</sup>, Qurrat-ul-Ain Tahir<sup>2</sup> and Nadia Naseem<sup>4</sup>

## ABSTRACT

**Objective:** The aim of this study is to analyze the histopathological diagnoses of surgical specimens from otorhinolaryngeal region.

**Study Design:** Descriptive cross-sectional study

**Place and Duration of Study:** This study was conducted at the Pathology Department of Quaid-e-Azam Medical College from January 2016 till December 2018.

**Materials and Methods:** This descriptive cross-sectional study was carried out at the Pathology Department of Quaid-e-Azam Medical College which analyzed three year record from January 2016 till December 2018 of all the histopathologically proven benign, malignant and non-neoplastic lesions from otorhinolaryngeal region. The data was retrieved from the record of biopsies requisitioned by ENT Department of Bahawal Victoria Hospital, Bahawalpur-Pakistan. The data based upon epidemiology was evaluated for gender, exact site of lesion and the histological type of lesion.

**Results:** Out of the total number of 224 cases, 123 turned out to be males and 101 were females. 63.83% (143 patients), 17.85 % (40 patients) and 18.30% (41 patients) of the biopsies were malignant, benign and non-neoplastic respectively, that were sent from ENT wards. The most frequent non-neoplastic lesion diagnosed was nasal polyp in 25 patients representing almost 61 % of the burden of non-neoplastic disease. Whereas 10 patients were diagnosed with squamous papilloma, sharing 25 % of the burden of benign diseases from otorhinolaryngeal region and it was the most common benign lesion. Out of the 143 patients suffering from malignancy, 126 cases were of squamous cell carcinoma, sharing almost 88 % of the burden of malignancies from otorhinolaryngeal region.

**Conclusion:** Neoplastic lesions, most of which were malignant formed the major bulk of disease burden in surgical pathology specimens from otorhinolaryngeal region at Bahawal Victoria Hospital, Bahawalpur. Nasal polyp, squamous papilloma and squamous cell carcinoma turned out to be the most common lesions in non-neoplastic, benign and malignant groups respectively.

**Key Words:** Otorhinolaryngologic Diseases, Otorhinolaryngologic Neoplasms, Nasal polyps, Squamous cell papilloma, Inverted papilloma, Squamous cell carcinoma, Nasopharyngeal Carcinoma

**Citation of article:** Jamil S, Lail RA, Choudary M, Hassan M, Tahir QA, Naseem N. Histopathological Analysis of Otorhinolaryngologic Diseases – An Institution Based Study. Med Forum 2020;31(1):32-34.

## INTRODUCTION

Diseases of the ear, nose and throat (ENT) account for a large proportion of consultations in urban as well as rural areas. These diseases range from minor medical ailments to severe problems like malignancies.<sup>1</sup>

<sup>1</sup>. Department of Pathology, GMC, Gujranwala

<sup>2</sup>. Department of Pathology, SMC, Sahiwal

<sup>3</sup>. Department of Pathology, AMC, Faisalabad

<sup>4</sup>. Department of Morbid Anatomy & Histopathology, University of Health Sciences, Lahore.

Correspondence: Dr. Raees Abbas Lail, Assistant Professor of Pathology, Sahiwal Medical College, Sahiwal.

Contact No: 0300 783 4400

Email: raeesabbas@gmail.com

Received: August, 2019

Accepted: December, 2019

Printed: January, 2020

Among these diseases, ear problems rank number one followed by those affecting nose and then throat.<sup>2</sup> A number of problems affect the ear which usually compromise life quality, however mortality is rare. Inflammatory disorders along with benign tumors are far more prevalent as compared to cancers. Among inflammatory disorders, polyps of ear are most commonly found after cholesteatomas.<sup>3</sup>

Much diversity is seen in the benign tumors and cancers that affect para-nasal sinuses and the nasal cavity itself. A long list of disorders that affect these structures are basically because of the various tissues of specialized nature present in this area.<sup>4</sup>

Oral cavity benign tumors and cancers are not uncommon. In latter, SCC (squamous cell carcinoma) is the most common malignancy.<sup>5</sup> Diseases of the ear, nose and throat in adults as well as children in Pakistan is a significant health issue.<sup>1</sup>

Detailed clinical examination and advanced radiological investigation aids to make an initial

diagnosis of these diseases but definitive diagnosis of these diseases is not possible without histopathologic confirmation.<sup>6</sup>Limited health resources in developing countries along with the diverse range of disorders that affect ear, nose and throat is quite a challenge for health administrations in the developing world<sup>7</sup>, the story is not different in Pakistan.

Developing data on otorhinolaryngologic diseases will be very helpful in planning and implementation of policy in this specific field.<sup>6</sup>Studies to acquire this data from different regions of Pakistan is mandatory for national policy making to address these health problems in our country. This study aims to contribute towards this goal.

## MATERIALS AND METHODS

It was a descriptive cross-sectional investigation. After due approval from ethical review committee of the institution, a retrospective analysis was done from January 2016 till December 2018 at Pathology Department of Quaid-e-Azam Medical College attached with cases referred from Bahawal Victoria Hospital, Bahawalpur, Pakistan for histological diagnosis. Record of all the histopathologically proven benign, malignant and non-neoplastic lesions from otorhinolaryngeal region was retrieved from the record of biopsies requisitioned by ENT Department.

The data based upon epidemiology was reviewed along with analysis for the exact site involved by the lesion, gender and the histopathological type of lesion. Frequencies and percentages were calculated for individual lesions in non-neoplastic, benign and malignant groups.

## RESULTS

Out of a total of 224 cases, 123 were males and 101 were females. 63.83% (143 patients), 17.85% (40 patients) and 18.30% (41 patients) of the biopsies were malignant, benign and non-neoplastic respectively, that were sent from ENT wards.

Benign polyp from nasal area was the most common non-neoplastic lesion diagnosed in 25 patients representing almost 61% of the burden of non-neoplastic disease, followed by aural polyp, tuberculous lymphadenitis, sialadenitis and several other lesions. The details of distribution of non-neoplastic lesions is given in detail in Table No. 1.

Ten patients were diagnosed with squamous papilloma, sharing 25% of the burden of benign diseases from otorhinolaryngeal region and turned out to be the most common lesion in benign category followed by squamous papilloma, inverted papilloma, angiofibroma, hemangioma, nasopharyngeal fibroma and a few other lesions. The details of distribution of benign lesions is given in Table No. 2.

**Table No. 1: Frequency of Non-neoplastic disorders**

| Type of abnormality                             | Patient number (n) | Percentage (%) |
|---|--------------------|----------------|
| Nasal Polyp                                     | 25                 | 60.97%         |
| Aural Polyp                                     | 07                 | 17.07%         |
| Tuberculous lymphadenitis                       | 02                 | 4.87%          |
| Sialadenitis                                    | 02                 | 4.87%          |
| Others*   | 05                 | 12.19%         |
| <b>Total non-neoplastic lesions= 41(18.30%)</b> |                    |                |

\* Other lesions include one case each of dentigerous cyst, acute laryngitis, cholesteatoma, tonsillitis and fibroepithelial polyp.

**Table No. 2: Frequency of benign disorders**

| Type of abnormality                      | Patient number (n) | Percentage (%) |
|--|--------------------|----------------|
| Squamous papilloma                       | 10                 | 25%            |
| Inverted papilloma                       | 09                 | 22.5%          |
| Angiofibroma                             | 06                 | 15%            |
| Hemangioma                               | 05                 | 12.5%          |
| Nasopharyngeal fibroma                   | 02                 | 5%             |
| Others*                                  | 08                 | 20%            |
| <b>Total benign lesions= 40 (17.85%)</b> |                    |                |

\*Other lesions include one case each of adenomatoid-dontogenictumour, cylindroma, hemangiopericytoma, neurofibroma, paraganglioma, lipoma&keratocanthoma

**Table No. 3: Frequency of malignant disorders**

| Type of abnormality                          | Patient number (n) | Percentage (%) |
|--|--------------------|----------------|
| Squamous cell carcinoma                      | 126                | 88.11%         |
| Nasopharyngeal carcinoma                     | 07                 | 4.8%           |
| Transitional cell carcinoma                  | 03                 | 2.09%          |
| Non- Hodgkin's lymphoma                      | 02                 | 1.39%          |
| Others*                                      | 05                 | 3.49%          |
| <b>Total malignant lesions= 143 (63.83%)</b> |                    |                |

\* Other lesions included a case each of adenocarcinoma, adenoid cystic carcinoma (ACC), basal cell carcinoma (BCC), Ewing's sarcoma & Hodgkin's lymphoma.

Out of the 143 patients suffering from malignancy, 73 were males and 70 were females. Squamous cell carcinoma was present in 88% (126 patients) of malignant biopsies. Squamous cell carcinoma was followed by nasopharyngeal carcinoma, transitional cell carcinoma, Non-Hodgkin's lymphoma and some other lesions in descending order of occurrence, the details are highlighted in Table No. 3.

## DISCUSSION

An extensive range of ear, nose and throat disorders come to the attention of Otorhinolaryngologists and surgeons dealing with head and neck tumors.<sup>5</sup> This retrospective data based study of 224 cases of surgery from ENT ward, have predominance of male patients (123) as compared to female (101). Many studies have shown stronger predilection of ENT diseases affecting males.<sup>1,3,7</sup>

Maximum number of the surgical biopsies from ENT ward were neoplastic (81%). Amongst these neoplastic disorders, 83% were malignant while only 17% were benign. A study conducted on prevalence of ear mass showed that malignant lesions were 2/3<sup>rd</sup> of all surgeries done for mass in ear.<sup>7</sup> Similarly neoplastic lesions were found to be common in nasopharyngeal region.<sup>8</sup> Squamous cell carcinoma (SCC) formed the bulk of malignant lesions (88%), followed by nasopharyngeal carcinoma (4.8%). Studies have shown SCC to be the most predominant head and neck tumour.<sup>4,7</sup> SCC of head and neck region constitute 25% of all SCC in the body.<sup>2</sup> In 2012 a study by Baig et al. in Karachi, had found that gutka had exaggerated the incidence of SCC.<sup>9</sup> In another study nasopharyngeal carcinoma was found to be the most frequent tumor of nasopharynx.<sup>10</sup>

According to data, in benign neoplastic lesions squamous papilloma (25%) and inverted papilloma (22%) constitute about 50% of such lesions. In non-epithelial benign neoplastic lesions hemangioma and angiofibroma form another 25% of benign lesions. Inverted papilloma was the commonest 15.38 % in an investigation by Aperia et al. carried out in India.<sup>3</sup> In another study on the diseases of nasal cavity, squamous papilloma was more frequent followed by hemangioma and then inverted papilloma.<sup>11</sup>

In non-neoplastic lesions nasal polyps were most prevalent 60% followed by aural polyps 17%. Other non-neoplastic lesions were rare. Sino-nasal polyps were found to be most common (70%) of non-neoplastic lesions in many studies.<sup>4,8,11</sup> Nasal polyps are associated with chronic inflammation especially allergic rhinitis and asthma.<sup>12</sup>

It is of utmost value to ascertain otorhinolaryngologic disorders and the related causes for early identification and treatment of these disease entities by relevant health care delivery facilities.<sup>13</sup>

## CONCLUSION

Neoplastic lesions, most of which were malignant formed the major bulk of disease burden in surgical pathology specimens from otorhinolaryngeal region at Bahawal Victoria Hospital, Bahawalpur. Nasal polyp, squamous papilloma and squamous cell carcinoma were the most common lesions in non-neoplastic, benign and malignant groups respectively.

**Acknowledgement:** We are obliged to Dr. SadafShafique, Assistant Professor, Department of Pathology, Quaid-e-Azam Medical College, Bahawalpur who helped us immensely in collection of data from records.

### Author's Contribution:

|                            |                                |
|----------------------------|--------------------------------|
| Concept & Design of Study: | Raes Abbas Lail                |
| Drafting:                  | Munazza Hassan                 |
| Data Analysis:             | Sakina Jamil, Munazza Choudary |
| Revisiting Critically:     | Qurrat-ul-Ain Tahir            |
| Final Approval of version: | Nadia Naseem                   |

**Conflict of Interest:** The study has no conflict of interest to declare by any author.

## REFERENCES

1. Zeeshan M, Zeb J, Saleem M et al. ENT diseases presenting to a tertiary care hospital. *Endocrinol MetabInt J* 2018;6(6):416-418.
2. Eziyi JAE, Amusa YB, Akinpelu OV. Prevalence of Otolaryngological diseases in Nigeria. *East and Central Afri J Surg* 2010; 15(2):85-89
3. Agarwal NM, Popat VC, Traviad C, Srivastava A. Clinical and histopathological study of mass in ear: A study of fifty cases. *Indian J Otolaryngol Head Neck Surg* 2013;65(Suppl 3):520-5.
4. Kulkarni AM, Mudholkar VG, Acharya AS, Ramteke RV. Histopathological Study of Lesions of Nose and Paranasal Sinuses. *Indian J Otolaryngol Head Neck Surg* 2012;64(3):275-279.
5. Bajracharya D, Gupta S, Ojha B, Baral R. Prevalence of Oral Mucosal Lesions in a Tertiary Care Dental Hospital of Kathmandu. *JNMA J Nepal Med Assoc* 2017;56(207):362-6.
6. Rafi MT, Mehboob S, Aftab K, Saify ZS, Rehman U. Prevalence and Possible Surgical Intervention of Ear, Nose and Throat Diseases in Local Population of Pakistan. *J Pharma Pharma Sci* 2017; 137.
7. Ibekwe TS, Nwaorgu OG, Onakoya PA, Ibekwe PU. Spectrum of otorhinolaryngology emergencies in the elderly in Ibadan, Nigeria. *Niger J Med* 2005;14(4):411-4.
8. Zafar U, Khan N, Afroz N, Hasan SA. Clinicopathological study of non-neoplastic lesions of nasal cavity and paranasal sinuses. *Ind J Pathol Microbiol* 2008;51(1):26-9.
9. Baig S, Lucky MH, Qamar A, Ahmad F, Khan S, et al. Human papilloma virus and oral lesions in gutka eating subjects in Karachi. *J Coll Physicians Surg Pak* 2012;22(3):135-8.
10. Binesh F, Shajari A, Abdollahi S, Behniafard N. Ten years of experience in clinicopathologic characteristics, treatment and outcome of patients with nasopharyngeal pathologies in Yazd, Iran. *Electron Physician* 2016;8(10): 3081-3087.
11. Nepal A, Chettri ST, Joshi JJ, Karki S. Benign sinonasal masses: a clinicopathological and radiological profile. *Kathmandu Univ Med J (KUMJ)* 2013;11(41):4-8.
12. Ahmadiashar A, Farjd HR, Moezzi F, Mousavinasab N. Nasal polyposis in patients with asthma and allergic rhinitis. *J Laryngol Otol* 2012; 126(8):780-3.
13. Kishve SP, Kumar N, Kishve PS, Syed MMA, Kalakoti P. Ear Nose and Throat disorders in paediatric patients at a rural hospital in India. *AMJ* 2010; 3(12):786-770.