Study of Nasal Polyps in a Tertiary Care Hospital

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INTRODUCTION

Nasal polyps are non-cancerous oedematous masses arising from the nasal sinuses mucosa characterized by yellow or pink soft tissue, (Soltankhah et al., 2015) which affects either one or both parts of the nose openings to the ethmoidal sinuses descending between the middle turbinate and lateral nasal wall into the nasal cavity (Newton and Ah-See, 2008; Maharjan et al., 2017). The causes of these lesions are unknown till date. Few theories have stated that these lesions occur as a result of chronic inflammation in nose and nasal sinuses (Bateman et al., 2003). Elevated levels of interleukin-5 (IL-5) have been observed in patients with nasal polyps (Bachert et al., 1997). The prevalence of nasal polyposis in the general population is around 4%. The disease is predominantly evident among the adults especially patients above the age of 20. Rarely the polyposis is seen in children less than 10 years of age. Preponderance of male to female ratio (2:1) is seen among the population. Asthmatic patients are among the one-third of nasal polyp patients (Settipane, 1996). Classic symptom of nasal polyp is nasal obstruction but varies according to the site and size of the polyps seen. Watery rhinorrhea, postnasal drip, anosmia or
hyposmia with alteration in taste are other symptoms reported by the patients (Lee, 1997). Clinical examination using rhinoscopy shows single or multiple pale, grey polypoid masses consisting of loose connective tissue, oedema, inflammatory cells, capillaries and glands. The inflammatory cells present are the eosinophils and neutrophilic cells (Bachert et al., 2003). Management of nasal polyps is individualized, involving a combination of observation, medical and surgical therapy. Elimination or reducing the size of the nasal polyps present is the main goal of the physicians thereby providing relief of nasal obstruction, increased sinus drainage, restore the taste and smell (Mygind, 1999). Medical treatment is often started with the application of nasal steroids either as drops or sprays (Badia and Lund, 2001). Recently, leukotriene receptor antagonists are found effective (Kieff and Busaba, 2005). Antihistamines have been shown to effectively reduce the symptoms of nasal polyps (Haye et al., 1998). In the present study, majority of the patients were male and in the age group of 41-60 years. In a retrospective cross-sectional study, nasal polyps commonly affected men, and mean age of the patients was 39.49±16.63 years (Jahromi and Pour, 2012). All age groups are prone to be affected with nasal polyps (Moloney and Collins, 1977; Fechner, 1990). Males appear to be more prone to the development of nasal polyps (Sreeparvathi et al., 2017; Larsen and Tos, 2002). Majority of the patients in our study had sinonasal polyps, which is consistent with previous reports. In our study, bilateral nasal masses were present in 68% patients, while the remaining patients had unilateral nasal masses. In a study by

Table 1: General characteristics of the patients with nasal polyps.

| Variable                  | Number of patients (%) |
|---------------------------|------------------------|
| Age (Years)               |                        |
| <17                       | 10 (8)                 |
| 18-40                     | 39 (31.2)              |
| 41-60                     | 55 (44)                |
| >60                       | 21 (16.8)              |
| Gender                    |                        |
| Male                      | 81 (64.8)              |
| Female                    | 44 (35.2)              |
| Type of polyp             |                        |
| Sinonasal polyposis       | 96 (76.8)              |
| Antrochoanal polyp        | 24 (19.2)              |
| Ethmoidal polyp           | 5 (4)                  |
| Location of nasal polyp   |                        |
| Both                      | 85 (68)                |
| Right                     | 20 (16)                |
| Left                      | 20 (16)                |
| Histopathology of nasal polyp |                |
| Inflammatory polyp        | 67 (53.6)              |
| Allergic polyp            | 26 (20.8)              |
| Inflammatory allergic polyp| 9 (7.2)               |

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Table 2: Signs and symptoms of nasal polyps.

| Signs and symptoms            | No of patients | Percentage (%) |
|-------------------------------|----------------|----------------|
| Nasal block                   | 111            | 88.8           |
| Nasal discharge               | 50             | 40             |
| Headache                      | 46             | 36.8           |
| Hyposmia                      | 30             | 24             |
| Nasal drip                    | 29             | 23.2           |
| Epistaxis                     | 27             | 21.6           |
| Breathing difficulty          | 27             | 21.6           |
| Anosmia                       | 25             | 20             |
| Allergy                       | 23             | 18.4           |
| Sneezing                      | 21             | 16.8           |
| Upper respiratory tract infection | 21           | 16.8           |
| Ear problem                   | 15             | 12             |
| Facial pain                   | 14             | 11.2           |
| Snoring                       | 11             | 8.8            |
| Throat pain                   | 7              | 5.6            |

Table 3: Co-morbidities among nasal polyps patients.

| Co-morbidities      | No. of patients | Percentage (%) |
|---------------------|-----------------|----------------|
| Hypertension        | 27              | 21.6           |
| Diabetes mellitus   | 16              | 12.8           |
| Asthma              | 14              | 11.2           |
| Rhinitis            | 14              | 11.2           |
| Dyslipidemia        | 13              | 10.4           |
| Sinusitis           | 5               | 4              |
| Hypothyroidism      | 4               | 3.2            |
| Coronary artery disease | 3             | 2.4            |
| Tuberculosis        | 3               | 2.4            |

Table 4: Procedure done for nasal polyps.

| Procedure                           | No. of patients | Percentage (%) |
|-------------------------------------|-----------------|----------------|
| Bilateral functional endoscopic sinus surgery | 88              | 70.4           |
| Unilateral functional endoscopic sinus surgery | 26             | 20.8           |
| Functional endoscopic sinus surgery  | 2               | 1.6            |
| Caldwell Luc surgery                | 1               | 0.8            |
| Not done                            | 8               | 6.4            |

Hadfield et al., in 46% patients with polyposis, the polyps were unilateral. In a study by Lathi et al., unilateral nasal masses were present in 47.7% patients, while the remaining had bilateral nasal masses (Sharma et al., 2017). In our study, nasal block was the most common (88.8%) presenting complaint, followed by nasal discharge (40%) and headache (36.8%). These findings compare favorably with other studies (Lathi et al., 2011; Chukuezi, 1994). Inflammatory (53.6%) and allergic (20.8%) were the most common non-neoplastic mass reported in our study, which is consistent with other report (Keith, 1997). In a study by Lathi et al. allergic (62.5%) and inflammatory (25%) polyps were the most common non-neoplastic mass. Hypertension (21.6%), diabetes mellitus (12.8%), asthma and rhinitis (11.2%) each were the major comorbidities seen in our study. In a study by (Rugina et al., 2002) 10.4% patients had asthma while 7.4% had allergic rhinitis. Corticosteroids remain
the main treatment option for allergic condition. Improvement of nasal breathing, symptoms of rhinitis and size of nasal polyps are observed during steroid treatment (Unni et al., 2015). In a retrospective study conducted by Lathi et al., clinical improvement in patients with nasal polyps with topical nasal steroid therapy was reported. Corticosteroid treated group showed lower activated eosinophil in the tissues of stromal layer as compared to the non-treated patients. Surgical treatments are usually reserved for refractory cases of nasal polyps. FESS is the most commonly used surgical procedure. In our study, majority of patients had undergone bilateral FESS for the complete removal of polyp from nasal cavity. (Klossek et al., 1997) study have highlighted the surgical management of nasal polyps to minimize the complications and recurrence.

CONCLUSIONS

Nasal polyps appear to be associated with inflammatory and may be an allergic response. Most of the patients require surgery while few can be managed with anti-inflammatory and/or anti-allergic drugs.

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Conflict of interest

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