Original Research Article

Study of nasal granulomatous disorder in Ranchi population - A tertiary care hospital

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Abstract

Background: Nasal granulamatous disorder are multi factorial diseases and most of them are reaction to the environment, genetic or idiopathic. Hence it remains a great challenge to diagnose and treat. **Method:** 50 patients of different age groups and both sexes were studied. Nasal swabs, tissue biopsy, KOH staining and culture. Blood examination include- RBI, CBC, ESR, LFT, S creatinine, S, uric acid S, ANCA, VDRL ACE inhibitor test. Complete urine analysis. Radiological study were CT scan/ MRI, chest-X-ray (if required) **Results:** The clinical manifestation were 11(22.%) epistaxis, 5(10%) saddling of nose, 9(18%) had pyrexia, 4(8%) had nasal block, 6(12%) had non- healing ulcer/nodule, 7(14%) had recurrent cold, 4(8%)had Eye congestion, 4(8%) Dimunition of vision. Various diagnose included 20(40%) tuberculosis, 11(22%) had weigner's 2(4%) had leprosy, 13(26%) had Fungal granulomatous, 4(8%) had Leishmaniasis. **Conclusion:** This empirical study of nasal granulomatous disorders will be certainly helpful to ENT surgeon to treat efficiently to avoid morbidity and mortality.

Key Words- ANCA, ANA, Mycobacterium, Fungal granulomatus, Wegener's granulamatosis.

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INTRODUCTION

Granulomatous inflammation is unique from of chronic inflammation.[1] Granulomas are distinct structures composed of epitheloid-shaped macrophages, multinucleated giant cells, lymphocytes and fibroblasts, However the clinical findings associated with granulomatous disorders usually variable and often indistinct. Granulomatous diseases have multi-factorial etiology. It may be due to as a reaction to environment, or genetic factors, infectious organisms or may be idiopathic[2,3]. The differential diagnosis includes foreign body reactions, infections crohn disease, foreign clinical findings. They may include ulcerations nodules[4]. These various disorders require tissue biopsy, pathological, mycological, biochemical investigation to diagnose and treat efficiently hence attempt was made to study the various clinical manifestation and diagnose the disorder of the nasal Granulomatous at different age groups and in both sexes.

MATERIAL AND METHODS

50 patients aged between 18 to 53 years regularly visiting to Gandhi Nagar Hospital. CCL Ranchi, to ENT OPD for Nasal problems were studied

Inclusive criteria

The patients having multiple nasal manifestations like epistaxis, saddling of nose, nasal blockage, non-healing ulcer or nodule of nose, recurrent cold with Eye congestion, diminution of vision with nasal problems were included in the study.

Method

Nasal swabs were sent for AFB (Acid fast Bacilli) in suspected tuberculosis patients and Kott staining and culture, Biopsies were taken from the lesions of the nose. In the case of septal perforation biopsy was taken after remaining crust from the margins of the perforations. In

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the case of masses or suspected fungal lesions additional biopsies were taken from the body of the idle turbinate bilaterally. The blood examination included CBC,ESR, LFT, serum creatinine S, uric acid, serum ANCA and ANA and VDRL, ACE inhibitor test, routine, Blood and urine examination, CT scan/ MRI chest –X-ray as per symptoms and history of the patients was also studied in the case visual problems opinion of ophthalmologist was sought. In the severe involvement of skin dermatologist and physician's opinion was also sought. Majority of the patients belonged to the middle socio-economic status. The duration of study was (March 2019 to August 2019).

Exclusion criteria

The patients having un-controlled diabetes mellitus malignancy and immune-compromised patients were excluded from the study.

Statistical analysis

The clinical manifestations different diagnosis, were classified with percentage. The ratio of male and female was 2:1

OBSERVATION AND RESULTS

Table-1 The clinical manifestation of the patents nasal Granulomatous disorders-11(22.%) epistaxis, 5(10%) saddling of nose, 9(18%) had pyrexia, 4(8%) had nasal block, 6(12%) had non- healing ulcer/nodule, 7(14%) had recurrent cold, 4(8%)had Eye congestion, 4(8%) Diminution of vision. **Table-2** Study of various diagnosis in nasal granulomatous disorder patients-20(40%) tuberculosis, 11(22%) had weigner's 2(4%) had leprosy, 13(26%) had Fungal granulomatous, 4(8%) had Leishmaniasis.

Table 1: Clinical manifestations of the patients

Sl.No	Particulars	Tuberculosis	Wegner's	Leprosy	Fungal granulomatous	Leish maniasis	Total	%
1	Epistaxis	8	3	-	3	-	11	22
2	Saddling nose	2	-	-	2	-	05	10
3	Pyrexia	5	2		2	-	09	18
4	Nasal block	-	-	2	-	-	04	08
5	Non-healing ulcer/nodules	2	-	-		4	06	12
6	Recurrent cold	3	2	-	2	-	07	14
7	Eye congestion	-	2	-	2	-	04	08
8	Diminution of vision	-	2	-	2	-	04	08

Table 2: The Various diagnosis of the patients with Nasal granulamouts disorder (Total No of patients)

Diagnosis	No of the patients	Percentage
Tuberculosis	20	40
weigners	11	22
Leprosy	02	04
Fungal granulomatous	13	26
Leishmaniasis	04	08

DISCUSSION

In the present study of Nasal Granulomatous disorders. The clinical manifestation were 11(22.%) epistaxis, 5(10%) saddling of nose, 9(18%) had pyrexia, 4(8%) had nasal block, 6(12%) had non- healing ulcer/nodule, 7(14%) had recurrent cold, 4(8%)had Eye congestion, 4(8%) Diminution of vision (Table-1) .The various diagnose included 20(40%) tuberculosis, 11(22%) had weigner's 2(4%) had leprosy, 13(26%)had Fungal granulomatous, 4(8%) had Leishmaniasis. (Table-2). These finding were more or less in agreement with previous studies[5,6,7]. In the present study the tuberculosis indicates immune mediated granulomatous, inflammation represents a unique from of type-IV delayed –type hypersensitivity reaction, while tuberculosis (TB) represents the prototypical example of infection related granulomatous disease.[8] Nasal obstruction (blockage) rhinorrhea, foul-smelling crusts, epistaxis are the un-specific local symptoms of tuberculosis, leprosy is a rare chronic infectious diseases caused by the obligate intercellular Mycobacterium (m) leprae(especially in macrophages and schwann cells) nasal obstruction, ulceration, crusts, sensory distribution, hyposmia, destruction of cartilage and bone (with deformity of the external nose and chronic atrophic rhitis) epistaxis are also associated with leprosy[9]. The fungal granulomatous is highly infectious caused by dimorphic fungus Histoplasma capsulatum. The incubation period amounts to some days to several months. A peck incidence occurs around 3rd to 4th decade of life. In majority of cases the infection is self limiting or limited to the lung and usually asymptomatic. The nasal mucosa is erythematous inflamed and shows irregular ulcerations with crust formation. The inflammation is chronic painful and can progress to outer skin. The diagnosis was based on histo-pathology, microbiological, sample biopsy and immunological method (Histo plasma skin test)[10].

Leshmaniasis is caused by obligate intracellular protozoa of the genus leismania. The muco- cutaneous type is mainly caused by Leishmania brazilliensis, predominaxly male patients are affected. Genetically determined suscepticability malnutrition and impaired celluar immunity are the risk factors of the infection. The manifestation involves edematous swelling nodules, granulomatous, lesions redness, ulceration, rhinorrhea, epistaxis, nasal obstruction cephalgia, destruction of cartilaginous structures and necrosis.[11] The wegners granulomatous also called granulomatous with polyangitis. It is rare auto immune disease of un-known origin. This disease can affect all organs of the body but 80% of head and neck was also observed. The symptoms of the nasal involvement are un-specific with epistaxis, obstruction, crusting, olfactory impairment, rare cephalgia and rhinorrhea. The gold standard methods for diagnosis is the histology of lesions.[12] Apart from this orbital pain visual loss, epistaxis, exopthalmos were observed in cholesterol granulomatous.[13] Furthermore most of nasal granulomatous are idiopathic and aggravated by environment mal-nutrition, and hormonal imbalance

SUMMARY AND CONCLUSION

The present study of Nasal granulomatous disorders will be helpful to differentiate the diagnosis as they have different clinical manifestations, Early diagnosis require muti-disciplinary approach to treat such multi factorial disorders. This study demands further genetic, histo-pathological, micro-cellular, nutritional studies because exact pathogenesis of nasal granulomatous is still unclear.

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