

NASAL SEPTAL ABSCESS - RETROSPECTIVE ANALYSIS OF 14 CASES FROM UNIVERSITY HOSPITAL, KUALA LUMPUR

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ABSTRACT

Fourteen patients who presented to the University Hospital of Kuala Lumpur between June 1981 and June 1991 were reviewed retrospectively. Nasal septal abscesses are uncommon and therefore there are limited reports in the medical literature. Early diagnosis and immediate therapy is mandatory to avoid cosmetic nasal deformity or intracranial infection. Two out of the fourteen patients developed saddle nose deformity and septal perforation because of delay in treatment, the cases were misdiagnosed by non-otolaryngologist as turbinates swelling.

The leading cause of nasal septal abscess was non-surgical trauma which accounted for about 85.7%. The commonest pathogenic organism isolated from the pus of nasal septal abscess was *Staphylococcus aureus*.

Keywords : nasal septum, abscess, early diagnosis.

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INTRODUCTION

A nasal septal abscess is defined as a collection of pus between the bony or cartilagenous nasal septum and its normally applied mucoperiosteum or mucoperichondrium.

The sequelae of septal abscesses can be fatal. The septal abscess presents as a rhinological emergency. Causes range from trauma which appears to be the commonest predisposing factor, occurring in up to 75% of cases⁽¹⁾ to ethmoiditis⁽²⁾, sphenoiditis⁽³⁾, dental abscess⁽⁴⁾, nasal furuncles and AIDS⁽⁵⁾. In this paper the retrospective study of fourteen cases over the last decade at the University Hospital of Kuala Lumpur is presented.

Table I - Distribution of cases by age, sex and time interval between trauma and diagnosis

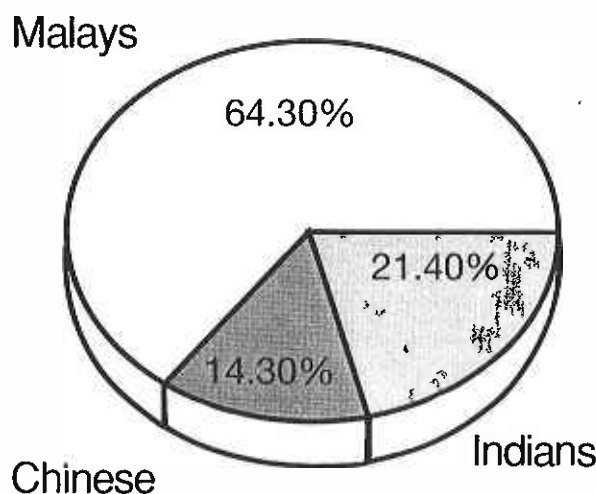
Cases	Age (Years)	Sex	Time interval between trauma and diagnosis in days
1	43	M	4
2	26	M	3
3	16	F	2
4	10	M	4
5	12	F	2
6	52	M	3
7	55	M	7
8	41	M	3
9	6	F	4
10	28	M	3
11	20	M	10
12	22	F	3
13	19	M	5
14	12	M	14

M - male
F - female

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Fig 1 - Racial distribution



MATERIALS AND METHODS

This is a retrospective study over the last ten years from June 1981 to June 1991, a total of 14 patients presented to us with such a condition.

A full history of these patients was recorded and a thorough examination including the systemic and ENT examination was done for all these patients.

All patients were admitted immediately to the ENT ward and were given intravenous infusion antibiotic and surgical drainage was performed either under local, sedation with injection of pethidine and phenergan or general anaesthesia. The pus drained was then cultured for the organism and its sensitivity.

Additional investigations included a full blood count and blood sugar.

RESULTS

The sex, age and the time interval between the onset of trauma to the diagnosis are tabulated in Table I. Out of fourteen patients, 71.4% or 10 cases were male and 28.6% or 4 patients were female. The mean age was 25.8 years. The youngest was 6 years old and the oldest was 55 years old.

The racial distribution is as shown in Fig 1, the Malays constituted 64.3% whereas the Indians and Chinese accounted for 21.4% and 14.3% respectively.

The aetiological factors as illustrated in Fig 2, showed that

Fig 2 - Distribution of aetiological factors

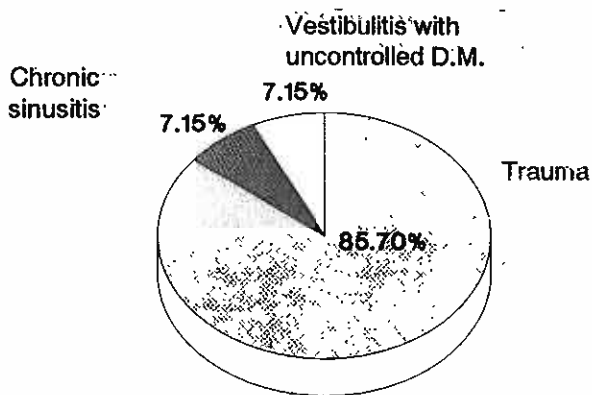
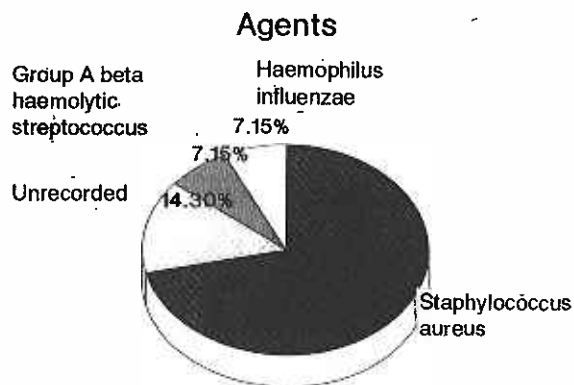


Fig 3 - Distribution of aetiological agents



non-surgical trauma to the nose was the leading cause. Trauma accounted for about 85.7%. Chronic sinusitis and nasal vestibulitis with uncontrolled diabetes mellitus were found in one case each. It is interesting to note that the average interval between trauma and diagnosis of nasal septal abscess was 4.8 days, ranging from 2 to 14 days (Table I).

The aetiological agents described in Fig 3 revealed that *Staphylococcus aureus* accounted for 71.4% whereas *Haemophilus influenzae* and group A beta-haemolytic streptococcus were found in one case each. Two cases were noted to have no growth of the organism.

Fig 4 showed that all the 14 cases presented with nasal obstruction and nasal pain. Eight of the patients had fever, chills and rigors. Four patients had headache and two cases had epistaxis.

The findings of anteriorrhinoscopy of all the patients revealed bilateral septal swelling.

Two out of the 14 patients developed saddle nose deformity and septal perforation. These two conditions were noted in two patients who were diagnosed as septal abscess after ten days and two weeks respectively from history of trauma. No patient developed intracranial complications.

DISCUSSION

The incidence of nasal septal abscess is unknown but several series have been reported. In view of the uncommon cases, there are limited reports in the medical literature. Eavey⁽⁶⁾ found three cases of nasal septal abscess in a 10-year review at the Children's Hospital in Los Angeles. Fearon⁽⁷⁾ described 43 cases of nasal septal abscess over an 8-year period at the Hospital for Sick Children in Toronto. Even in this series for the last decade there were only fourteen cases while the series

Fig 4 - Frequency of symptoms

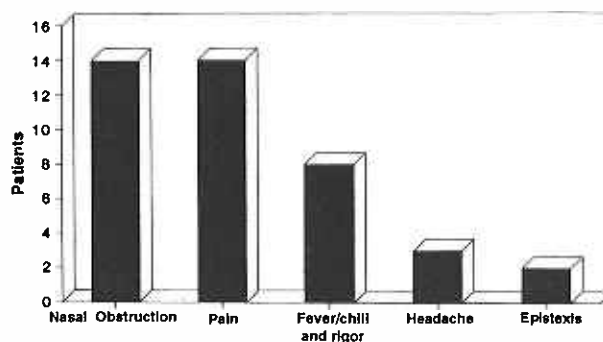
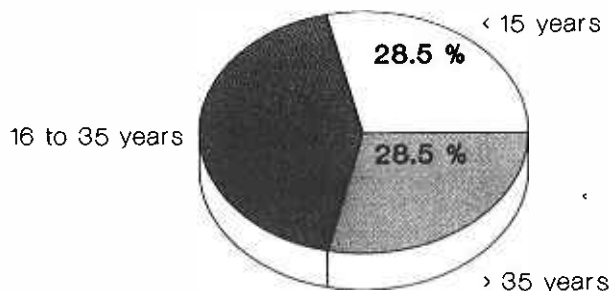


Fig 5 - Distribution by age group



described by Ambrus et al⁽¹⁾ included 16 cases occurring over a 10-year period at the Massachusetts Eye and Ear Infirmary.

The common finding to the abovementioned series described no age predispositions but we noted that the age group between 16 to 35 years old accounted for about 43% of our cases (Fig 5). Trauma appears to be the commonest predisposing factors accounting for about 85.7%. During the same period there is no reported case of nasal septal abscess as a result of any nasal surgery at University Hospital, Kuala Lumpur. In two out of the 14 cases, the predisposing factors were chronic sinusitis and nasal vestibulitis. The two patients concerned were elderly and suffering from uncontrolled diabetes mellitus. Hence, abscess of the nasal septum is an important consideration in the differential diagnosis of conditions such as nasal obstruction, nose pain, fever especially in cases of uncontrolled diabetes mellitus.

In this series there were two cases of saddle nose deformity and septal perforation. It is interesting to note that the two cases were treated by non-otolaryngologist before the patients attended the University Hospital. They were treated as rhinitis with complaint of nasal obstruction following a trauma to the nose. The intranasal swelling was misdiagnosed as hypertrophied inferior turbinates. This sign is easily confused by non-otolaryngologist, particularly if the external nose appears normal. These two patients were brought to us after the 10th and 14th day following the trauma to the nose. An extensive destruction of nasal septal cartilage was discovered after 36 hours of developing nasal septal abscess⁽⁷⁾. Eavey⁽⁶⁾ and Fearon⁽⁷⁾ also reported meningitis as serious complication of septal abscess.

The pathogenic organism in this series was typical of those cases reported in medical literature. The predominant organism was *Staphylococcus aureus*. Treatment of nasal septal abscess required incision drainage and antibiotic therapy. Hence

with the knowledge of bacteriology, the empirical antibiotic treatment can be started immediately when the patient was admitted to the hospital till the isolated organism with its sensitivity was identified. The commonly used antibiotic in our series was cloxacillin.

CONCLUSIONS

Nasal septal abscess is not a common condition. It presents as rhinological emergency. Prompt treatment with antibiotic and incision drainage can prevent serious cosmetic nasal deformity and intracranial infection.

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