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Age of presentation, Blood group , Demography and Skull-base erosion in Juvenile Nasopharyngeal

KEYWORDS: Nasopharynx, epistaxis,CT Scan, blood group.

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ABSTRACT *Introduction: Juvenile angiofibroma is an uncommon,benign and extremely vascular tumour that arises in the tissues within sphenopalatine foramen. It exclusively affects male adolscents,though there are reports of this tumour being found in children. Intracranial invasion occurs in 10-20% of patients.Materials and methods: A prospective study conducted on 24 patients in govt medical college associated hospital in Srinagar (j &k). All cases were analysed clinically,baseline investigation and subjected to radiological investigation CECT Nose and PNS and MRI in case of intracranial extension.Results:Peak age of occurrence is 15 years.More common in rural than urban.Mostly associated with blood group "o" positive.*

angiofibroma:Our experience.

Conclusion:JNA is a disease of adolescent males and is associated with blood group "o".

INTRODUCTION

Juvenile angiofibroma is an uncommon,benign and extremely vascular tumour that arises in the tissues within the sphenopalitine foramen.Juvenile angiofibroma accounts for less than 0.5 percent of all head and neck tumours with a high incidence of persistence and recurrence[1]. It exclusively affects male adolscents,though there are reports of this tumour being found in children,the eldrerly,young and even pregnant women[2].Of all angiofibromas, 10% to 20% have intracranial extensions and receive vascular supply from internal carotid artery[3].

MATERIALS AND METHODS

A prospective hospital based study was conducted in the Department of Otorhinolaryngology, Head and Neck Surgery SMHS Hospital Srinagar on patients of juvenile nasopharyngeal angiofibroma. A total of 24 cases of juvenile angiofibroma were included in this study. The study was done from February 2013 to March 2016. The cases were included with the following inclusion criteria.

- Pre-adolescent and adolescent males presenting with progressive nasal obstruction and recurrent epistaxis were included in the study.
- The study included patients presenting for the first time .

The observations and results were subjected to statistical analysis and conclusion drawn thereof.

- The following information was obtained from the patients .
- Demographic profile including age at presentation .
- Detailed clinical history regarding symptoms like nasal obstruction, recurrent epistaxis, headache, facial pain, anosmia, hearing impairment, and signs like proptosis, facial asymmetry trismus, protruding nasal mass and palatal bulge.
- General physical examination including pallor, pulse, blood pressure and respiratory rate.
- Detailed ENT examination including anterior rhinoscopy and posterior rhinoscopy.
- Investigations
- Baseline investigations like complete blood counts, blood grouping with Rh typing, bleeding and coagulation time .
- Imaging
- Contrast enhanced computed tomography (CECT) à Nose & PNS, axial & coronal cuts done in all the cases.
- MRI in cases with intracranial extension of tumor on CT scans.

AIMS AND OBJECTIVES:

1) To study the incidence and age of presentation in juve nile angiofibroma.
2) To study the blood group associated with juvenile angi ofibroma.
3) To study the skull base erosion in juvenile angiofibro ma.

RESULTS

During this study, a total of 24 cases of Juvenile Nasopharyngeal Angiofibroma attended the Department of ENT, Government Medical College, between February 2013 and March 2016.

Table 1:
Patient grouping according to age of presentation

Age of presentation (years)	No. of patients
9	1
10	1

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11	1
12	2
13	2
14	1
15	8
16	4
17	1
19	2
26	1

Out of the 24 patients, 8 (33%) were of 15 years of age and 4 (16.5%) of 16 years of age.

Table 2:
Incidence of JNA among hospital attending patients per 10,000 population

Category	Incidence (persons per 10000)
Hospital attending population	1.21
Hospital attending males	2.43

The incidence of JNA as calculated from the average number of patients attending ENT OPD is 1.21 per 10,000 population.

Table
3.Demographic distribution

	No. of patients
Urban	3
Rural	21

Highest number of patients were reported from rural area(21/24 or 87.5%).

Table 4:
Blood group and Rh factor in JNA

Blood Group	Rh factor	No. of cases
A	+	8
	-	1
B	+	3
	-	0
O	+	12
	-	0

Twelve out of the 24 patients (50%) had blood group 'O'. All except one patients were Rh factor positive.

Table 5:
Staging distribution in JNA

Fisch stage	No. of Patients
I	0
II	7
III a	11
b	3
IV a	0
b	3

Maximum number of patients (14) presented in stage III. Earlier stage (I & II) presentations are relatively rarer and there is a significant delay in diagnosis.

Table 6:
Skull base erosion on imaging

Invasion of basi—sphenoid	
Present	6
Absent	18
Total	24

Out of 24 patients only 6 patients have invasion of basi-sphenoid.

DISCUSSION:

The patients included in this series are all males with age ranged from 9 to 26 years, with the youngest patient 9 years of age and the oldest of 26 years and peak age of presentation at 15 years. This is closely in accordance with the 20 year study on juvenile angiofbroma regarding changing surgical concept carried out by Mann W.J. et al4. This is also in accordance with study by Harrison. D.F.N5. Martin et al.6 in 1948 reported a wide age range 7 and 19 years with isolated patients presenting earlier or later. However, extranasal angiofibroma can present in a wider age group with the oldest reported case of 79 years.7

In our study the incidence of JNA as calculated from the average number of patients attending ENT OPD is 1.21 per 10,000 population. Martin et al[6] reported an annual admission rate of one or two patients for the 2000 or so patients treated in Head and Neck service of the Memorial Hospital, New York. This surprisingly large incidence may be due to larger number of referrals to that institute because of its formidable reputation compared with other institutions. However, Harrison[5] recorded the figure of 1 per 15000 patients at the Royal National Throat, Nose and Ear hospital in London. The incidence in our hospital study lies within the limits of these two reputed references.

Twelve out of the 24 patients (50%) had blood group 'O'. All except one patients were Rh factor positive. Blood group 'O' with Rh factor positivity is the commonest blood group in patients diagnosed with nasopharyngeal angiofiboma as reported by Gaeta MM.[8]

Maximum number of patients (14) presented in stage III. Earlier stage (I & II) presentations are relatively rarer signifying that there is a significant delay in diagnosis. Economou T.S. et al.9 in a study of 83 patients of nasopharyngeal angiofibroma found that 44 patients had tumors extending laterally into pterygopalatine fossa and infratemporal space, i.e. more than 50% of patients had stage III disease at presentation. Antonelli A.R. et al.10 also found stage III disease as the most frequent stage of initial presentation in 63% patients in their series of 19 patients.

CONCLUSION

Angiofibroma is essentially a disease of adolescent males and peak age of presentation is 15 years.

- The incidence of angiofibroma, as calculated from the average number of patients attending ENT OPD, is 1.21 per 10,000 population.
- Earlier stage (I & II) presentations are relatively rarer signifying that there is a significant delay in diagnosis.
- Mostly associated with blood group "o" positive.
- Skull base erosion was found in 25% of our patients.

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