ORIGINAL RESEARCH PAPER

ENT

KEY WORDS:

MIDDLE TURBINATE LATERALISATION IN RHINOGENIC HEADACHE

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ABSTRACT

Background -Headache which is rhinogenic in origin is a difficult symptom to study. Nasal endoscopy and CT scan can help in the diagnosis of such cases and aids in the management of the disease.
Method- 40 cases of rhinogenic headache were included in the study. All underwent clinical examination,nasal endoscopy and CT scan before surgery and were followed up after surgery.
Result- All the cases responded favourably to surgery. No,major complications directly related to surgery occurred in this study

INTRODUCTION-

Patients with facial pain are frequently referred to otorhinolaryngologists. Great variations are found in the clinical presentation of headaches. Nasal causes of headache include sinusopathy, polyposis, allergic rhinitis, abscess, tumour.Stimulation of the sinonasal mucosa, anatomical abnormalities can create contact points between opposing mucosal surface that result in trigger points for the pain sensitive areas.The most pain sensitive regions of the nasal and paranasal sinuses are turbinates, ostia, septum and nasofrontal duct. Middle turbinate contacting the nasal septum or lateral nasal wall, inferior turbinate contacting the septum, ethmoid bulla contacting the middle turbinate, nasal spur contacting the lateral nasal wall or superior turbinate all results in referred facial pain.

Aims and Objectives-

1) To find out the role of nasal endoscopy in the diagnosis of facial pain and headache due to sinonasal diseases.
2) To find out the role of pathological and anatomical variations of Osteomeatal complex and nasal mucosal contact point in the causation of headache and facial pain.
3) To evaluate the result of middle turbinate lateralisation in rhinogenic headache

MATERIAL AND METHODS-

This is a retrospective study carried out in the Department of Otorhinolaryngology and Head and Neack Sugery M. G. M. M. C and M.Y. H, Indore from June 2017 to June 2019. Patients with facial pain , chronic sinus headache and rhinosinusitis who were not responsive to conservative therapy were included in the study. They underwent clinical examination , nasal endoscopy, CT PNS as part of preoperative evaluation for septoplasty and FESS, surgery. Postoperatively the patients were followed up at every 15th day for the first three months followed by monthly check ups up to six months and every half yearly thereafter.

Inclusion Criteria-

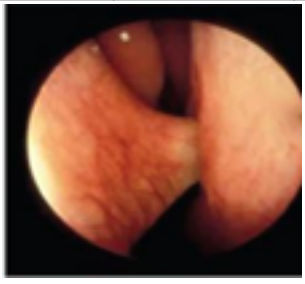
All patients with the diagnosis of facial pain, chronic sinus headache and rhonosinusitis were included. All the patients were refractory to conservative management for more than six months.

Exclusion Criteria-

1) Patients who were having catarrh or postnasal drip as only symptom, nosebleed, rhinitis medicamentosa, benign or malignant tumours, valve collapse ,granulomatous disorders and vestibulitis were excluded from the study.

Observations-

Symptom	No. Of cases	Percentage
Facial pain	32	80
Headache	35	87.5
Post nasal drip	13	32.5
Nasal Discharge	32	80
Nasal obstruction	32	80
Sneezing	14	35
Ear Discharge	10	30



Nasal endoscopic picture showing spur touching inferior turbinate

Nasal endoscopy findings-

Finding	Total no of cases	%	Unilateral cases	%	Bilateral cases	%
Contact point	40	100	36	90	4	10
ITH	5	12.50	4	10	1	2.50
MTH	40	100	36	90	4	10
DNS	38	95	32	80	6	15
Spur	16	40	14	35	2	5

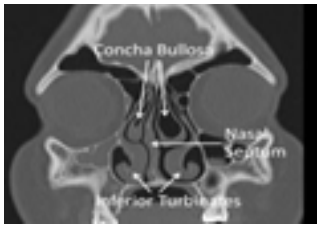
Nasal mucosal contact point in patients of facial pain during nasal endoscopy-

Contact point	No. Of cases	%
Septum touching MT	40	100
IT touching septum	5	12.5
Spur touching lateral wall of nose	16	40

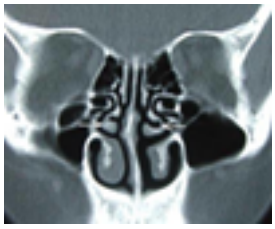
CT findings of sinuses

Site of involvement	No of pts.	%	Bilateral cases	%	Unilateral cases	%
Anterior ethmoid	28	70	16	40	12	30
Maxillary	14	35	6	15	8	20
Frontal	7	17.5	1	2.5	6	15
Posterior ethmoid	4	10	1	2.5	3	7.5
Sphenoid	1	2.5	0	0	1	2.5

Anatomical variations detected in CT scan-



Concha Bullosa



Paradoxical Middle Turbinate

Finding	Total no of cases	%	Unilateral cases	%	Bilateral cases	%
Concha bullosa	21	52.5	9	22.5	12	30
Enlarged bulla ethmoidalis	25	62.5	15	37.5	10	25
Enlarged UP	3	7.5	3	7.5	0	0
Medially bend UP	9	22.5	6	15	3	7.5
Paradoxical MT	9	22.5	6	15	3	7.5

Anatomical variations detected in CT Scan-

Variants	Total	Unilateral	%	Bilateral	%
Concha bullosa	21	9	22.5	12	30
BE	25	15	37.5	10	25
UP med	9	6	15	3	7.5
Agger nasi	9	6	15	3	7.5

Surgery done-	No of cases	%
MT lateralisation	40	100
Septoplasty	14	35
Infundibulotomy	11	27.5
Middle meatus antrostomy	25	62.5
Concha bullosa exteriorization	21	52.5
Anterior ethmoidectomy	28	70
Post.ethmoidectomy/sphenoidectomy	4	10
Cauterisation of ITH	7	17.5

Postoperative Complication	**No of pts**	**%**
Haemorrhage	-	-
CSF leak	-	-
Temporary blindness	-	-
Orbital haematoma	-	-
Restriction of eye movements	-	-
Adhesion	7	-
Septal perforation	-	-

DISCUSSION-

In this study 40 cases of sinus headache and facial pain secondary to contact point,chronic sinonasal pathology of allergic and/ or infective origin were studied. All the patients were evaluated clinically,radiologically and endoscopically preoperatively.After preoperative evaluation,Functional endoscopic sinus surgery and septoplasty was performed and post operatively the patients were evaluated clinically.

37.50 % of patients belong to the age group of 10-20 years, whereas 50 % of patients belong to the age group of 21-30 years.

The most frequent symptoms in cases of chronic sinonasal pathology in the series of 250 patients,Leviae HL(1990) noted nasal obstruction(31.6%), rhinorrhoea (51.2%). In the present study nasal obstruction was present in 80 % of cases. Nasal discharge was complained by 80 % .Headache was noted in 87.5 % . Post nasal drip was observed in 32.5 %cases and excessive sneezing in 35 % and ear discharge in 30 % of cases.

Apart from septal deviation, the most common abnormalities detected in anterior rhinoscopy were discharge 75 %, inferior turbinate hypertrophy 80 %, Middle turbinate hypertrophy 82.5 % and spur in 40 % of cases.

R. H. Kamel (1989) noted concha bullosa in 5.69 % in diseased sinus and 4.76% in disease free sinus. S.K. Kaluskar(1990) noted concha bullosa in 13% of patients with chronic maxillary sinusitis.Joe at al (2000) noted concha bullosa in 37% casesif sinus headache. In this study concha bullosa was found in 52.5% cases.

S. K.Kaluskar(1990) encountered paradoxical middle turbinate in 14% of cases, R.K. Kamel (1989) reported in 1.89% of cases. In this study we encountered 22.5 % of cases of paradoxical middle turbinate.

In this study, a medially bent uncinate process was found in 22.5% cases and enlarged uncinate process was found in 7.5 % cases.

In this study, enlarged bulla ethmoidalis was found in 62.5 % cases , unilateral in 37.5 % cases and bilateral in 25 % cases.

Pre operative CT Scan- . 70 % of cases revealed mucosal hypertrophy in anterior ethmoid region , 35 % cases in maxillary region , 17.5% cases in frontal region , 10% cases in post. Ethmoid region and 2.5% cases in sphenoid region.

Morgenstein (1980) described 19 patients with headache which he said was due to the middle turbinate touching the septum.Blaugrund (1989) reported a series of 9 patients with impacted middle turbinate.

Nasal mucosal contact point detected in this study by nasal endoscopy were septum touching to middle turbinate in 100 % cases.Inferior turbinate touching to septum in 12.5% cases and spur touching to lateral wall of nose in 40 % cases.

After complete preoperative evaluation and conformation by endoscopy and CT scan,FESS and septoplasty was performed in all using Messerklinger technique.Anterior ethmoidec tomy was performed in 70 % cases,Infundibulotomy in 27.5 % , middle meatus antrostomy in 62.5%,post.ethmoidectomy and sphenoidotomy in10 % cases.Concha bullosa exteriorised in 52.5% ,Septoplasty was performed in 35% and cauterisation of hypertrophied IT was done in 17.5 % cases.

Morgenstein (1980) described 19 patients with headache,all underwent middle turbinate resection, 15 weer better after surgery,two had partial relief and two were no better. Goldmith (1993) presented 8 patients having nasal contact facial pain.2 were better after medical treatment for rhinosinusitis.6 had surgery for their contact points.5 were asymptomatic post operatively ,while 1 patient continued to have occasional headache at 3 months.

Wigand (1981) reported on 220 patients undergoing complete ethmoidectomy came across CSF leak in 2 patients and 1 case of orbital haematoma.Maniglia (1981) reported 7 cases of blindness,4 cases of CSF rhinorrhoea and 2 deaths following intranasal *ethmoidectomy*.No major intraoperative and post operative complications noted in this study,however 7 patients presented with post operative adhesions.

CONCLUSION-

The results of this study show that FESS and Septoplasty are safe and effective method of treatment in cases of facial pain and headache secondary to contact point chronic allergic or non allergic sinonasal disease in all age group of patients.

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