CORRELATION OF RHINOSCOPY FINDINGS WITH NASAL ENDOSCOPY AND CT SCAN FINDINGS IN NASAL SYMPTOMATOLOGY

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ABSTRACT : BACKGROUND: In any ENT outpatient clinic, patients presenting with nasal symptoms like nasal obstruction, nasal discharge, smell disorders, headache, nasal bleeding is very common . During routine ENT examination even after a thorough history and careful conventional anterior and posterior rhinoscopy examinations, it is not uncommon to misss some of the important findings. Now a days all the patients after meticulous rhinoscopy are subjected for diagnostic nasal endoscopy and CT Scan which help in better diagnosis and better treatment. Studies have been undertaken to know the efficacy of diagnostic nasal endoscopy and CT Scan in arriving to a correct diagnosis. **AIM:** In our study an attempt has been made to compare the results of rhinoscopy, diagnostic nasal endoscopy and CT Scan and to know which is more conclusive for correct diagnosis and to compare our observations with the available literature. **MATERIAL AND METHODS:** 60 patients(22 males and 38 females) of age group 15 to 52 years complaining of nasal symptoms underwent thorough conventional rhinoscopy , diagnostic nasal endoscopy and CT Scan and the all the findings were recorded. The results were compared and analysed. **CONCLUSION:** In our present study CT Scan was found to be more superior to diagnostic nasal endoscopy in the diagnosis of sinusitis and concha bullosa. Diagnostic nasal endoscopy was better than CT Scan in diagnosing deviated nasal septum, septal spur, nasal polypi, hypertrophied turbinates, and rhinosporidiosis. Our observations were consistent with the results of majority of available literature.

KEY WORDS: conventional rhinoscopy, diagnostic nasal endoscopy, CT Scan

INTRODUCTION: In any ENT outpatient clinic, patients presenting with nasal symptoms like nasal obstruction, nasal discharge, smell disorders, headache, nasal bleeding is very common . During routine ENT examination in earlier days, even after a thorough history and careful conventional anterior and posterior rhinoscopy examinations, many important findings were missed because rhinoscopy gives a very limited view of nasal cavity and resulted in inappropriate diagnosis. With the advent of Hopkin's telescope and its use in diagnostic nasal endoscopy the picture changed. Endoscopy provides brilliant illumination, magnified direct visualisation and also has the advantage of photo-documentaion. As Amy E Lawrason mentioned , endoscopy can navigate directly to pathologic areas. In a good number of patients endoscopy allows identification of clinically significant pathological findings and thereby causing an alteration in the approach to surgical therapy.[1] Computerised Tomography is the ' gold standard' for imaging modalities for sinonasal disorders. As Dharambhir S Sethi told, CT provides the 'roadmap' of patient's anatomy. With the additional usage of computerized tomography (CT) scan and the advantages of its axial and coronal

cuts , the added contrast study , even other minute findings were added to rhinoscopy findings leading to more accurate diagnosis. . The success of FESS mainly depends upon a thorough preoperative endoscopic and CT coronal screening.[2] While going through the literature it was observed that various authors have given varying reports .

AIM: In our study an attempt has been made to compare the results of rhinoscopy, diagnostic nasal endoscopy and CT Scan and to know which is more conclusive for correct diagnosis and to compare with the existing literature.

STUDY DESIGN : Cohort study

MATERIAL AND METHODS : From among the outpatients attending the ENT department in Vinayaka Mission Medical College , Karaikal , 60 patients having nasal symptoms were selected for this study and all of them underwent thorough anterior and posterior rhinoscopy . They were subjected for Diagnostic nasal endoscopic study and CT Scan evaluation. Nasal endoscopy was done under local anaesthesia using 4% xylocaine and adrenaline packing. 30^{o} rigid 4mm. telescope was used. This study was conducted for a period of 5 months from March 2013 to July 2013.

RESULTS : These patients were of age group 15 to 52 years. There were 22 male patients and 38 female patients. The patients presented with the following symptoms.

Mainsymptoms	No. ofpatients
Nasalobstruction	48
Nasaldischarge	36
Headache	42
Epistaxis	4
Badsmellfromnose	4

Table 1 showingsymptomatology

No.	Diagnosis	Rhinoscopy	Nasal ensoscopy	CT Scan
1	Deviated nasal septum	46(77%)	52(87%)	38(63&)
2	Septalspur	14(23%)	28(47%)	8(13%)
3	Nasalpolypi	2(3%)	6(10%)	3(5%)
4	Sinusitis	6(10%)	15(25%)	22(32%)
5	Concha bullosa	2(3%)	12(20%)	19(32%)
6	Hypertrophied turbinate	40(67%)	46(77%)	36(60%)
7	Nasopharyngeal mass	-----	1(1.6%)	-----
8	Rhinosporidiosis	2(3%)	2(3%)	-----

Table2 showingdiagnosisarrived atafterrhinoscopy, diagnosticnasal ensoscopy andCTScanevaluation

DISCUSSION : As evidenced by the above results Diagnostic rigid nasal endoscopy was able to point out more number of septal deviations in 52 patients(81%), nasal polypi in 6(10%) and septal spur in 28(47%). 2 patients(3%) diagnosed by rhinoscopy as rhinosporidiosis were confirmed by diagnostic nasal endoscopy but was not detected by CT Scan. In an adult male patient who had frequent profuse epistaxis, conventional rhinoscopy and CT Scan could not show any obvious pathology but diagnostic nasal endoscopy showed a small congested mass in the nasopharyngeal roof just behind the septum.

CT Scan, on the other hand, is found to be having an edge over conventional rhinoscopy and diagnostic nasal endoscopy in diagnosing sinus pathologies. CT Scan could detect sinusitis in 22(37%) patients as compared to rhinoscopy 6(10%) and diagnostic nasal endoscopy 15(25%) patients. And also CT Scan is more useful in diagnosing concha bullosa , 19(32%) patients as compared to rhinoscopy 2(3%) patients and diagnostic nasal endoscopy 12(20%) patients. In a similar study by Hughes, endoscopy contributed positively in 18% of his patients towards correct diagnosis and in 8% of his patients there were false positive findings.[3]

In a similar study by Aracely Fernandes Duarte in hospital Nossa Senhora de Lourtes the comparative study for chronic nasal obstruction between diagnostic nasal endoscopy and CT Scan revealed that diagnostic nasal findings were more conclusive than CT Scan findings.[4] Rafael, in his study of diagnosis of chronic rhinosinusitis, has stated that 50% of his patients with chronic rhinosinusitis had negative CT findings and 65% of them had negative endoscopy.[5]

Similar study by Vining in 1993 has shown that diagnostic nasal endoscopy could pick up more findings in nasal cavity than CT Scan.[6] In another study by Neil Bhattacharyya it was concluded that combined with a symptom history, endoscopy can be a highly specific technique for predicting positive CT findings of chronic rhinosinusitis.[7] Rosbe , in his study , came to the conclusion that nasal ensoscopy was shown to be moderately sensitive and highly specific in predicting results of CT Scanning.[8] Pizzichetta, in 1994, in a similar study considered CT Scan did not explain the symptoms of nasal obstruction and felt nasal endoscopy enough for that purpose.[9] Interestingly Alireza Mohebbi, in his study, did not find any association with the presence or degree of septal deviation or concha bullosa and the severity of sinusitis.[10]

CONCLUSION: In our present study CT Scan was found to be more superior to diagnostic nasal endoscopy in the diagnosis of sinusitis and concha bullosa. Diagnostic nasal endoscopy was better than CT Scan in diagnosing deviated nasal septum, septal spur, nasal polypi, hypertrophied turbinates, and rhinosporidiosis. Our observations in this study were consistent with marority of the available literatures.

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