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RHINOLOGIE ET ALLERGIE

Importance of ct scan in planning endoscopic surgery for sinonasal polyposis

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Introduction

Nasal polyposis (NP) is a chronic rhinosinusitis. Despite medical treatment, surgical management is often necessary. CT scan is important in preoperative evaluation.

Aims

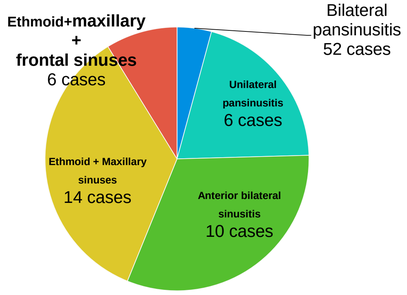
Our study aims to evaluate the role of computed tomography scan in appreciating the extent of polyposis and evaluating anatomical variations, also to identify radiological factors that can influence early and late recurrence.

Methods

Our study was a retrospective study that included 110 patients operated for NP in the ENT department of the Rabta Hospital of Tunis over a period of 13 years with a minimum follow-up of 12 months. All CT scans were carried out using a 3 mm thickness in axial and coronal planes with sagittal reconstruction.

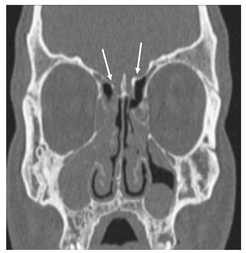
Results

Age : 42 years [10-76 years]
Sexe : 67 hommes et 43 femmes , sex-ratio = 1,56
Symptoms : nasal obstruction (10%), rhinorrhea (58%), sneezing (25%), anosmia/hypoasmia (90%), facial pain (12%)
Polyps stage: 1 (7,2%), 2 (66,3%), 3(26,5%)
Sinonasal polyposis extent : the average score of Lund-Mackay = 17,4
Lesion topography :

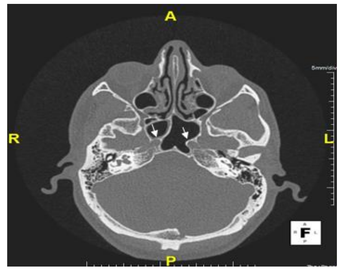


Anatomic variants : 52 cases

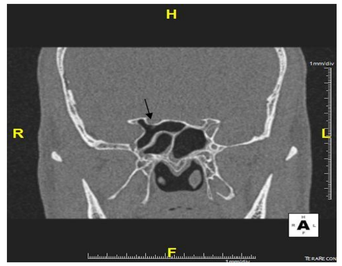
Dehiscence of the lamina papyracea	4 cases
Asymmetry of the ethmoid roof	22 cases
Procidence of the internal carotid artery (ICA) in the sphenoid sinus	10 cases
Protrusion of the optic nerve into the sphenoidal sinus	6 cases
Septal deviation	11 cases
Concha bullosa	3 cases



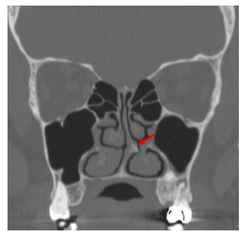
CT scan showing assymetry of the roofs of the ethmoid



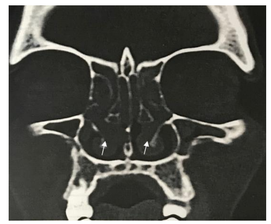
CT scan showing bilateral procidence (arrow) of the internal carotid artery in the sphenoid sinus



CT scan showing procidence of the right optic nerve in the sphenoidal sinus



CT scan showing deviation of the nasal septum to the left with bone spur



CT scan showing bilateral concha bullosa

Surgery: polypectomy (50 cases), functional ethmoidectomy (47 cases), radical ethmoidectomy (13 cases).
Recurrences : early (19,1%); late (25,4%)

There was no statistically significant relationship between the extent of lesions on CT and early or late recurrence: p = 0.13 and 0.44
No significant relationship was found between the presence of architectural abnormalities and early or late recurrence: p = 0.39 and 0.19..

Discission

Radiological extension is considered to be a predictor of poor postoperative outcome in polyposis
A Lund -Mackay score greater than 17 is a statistically significant factor of recurrence (p=0.044).

Importance of CT scans in sinonasal polyposis patients are:
1.To know the anatomical variations as an etiology of sinonasal polyposis
2.To know the extent of polyposis and anatomical variations to prevent complications during FESS and Navigation sinus surgery.

Conclusion

CT scan must be realized before endoscopic surgery for sinonasal polyposis to assists the surgeon in pre-operative planning and to prevent complications.

Bibliography

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