ENDOSCOPIC ENDONASAL SURGICAL PROCEDURES IN NIAMEY: INDICATIONS AND OUTCOMES.

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ABSTRACT

Objective: *To report the indications and results of endonasal endoscopic surgery in our department*.

Patients and Methods: *This was a retrospective, descriptive study conducted at the Ear, Nose, and Throat (ENT) and Head and Neck Surgery Department of the General Reference Hospital of Niamey over a 2-year period, from January 1, 2022, to December 31, 2023. It concerned all patients in whom a diagnosis of sinonasal pathology was made and for whom endoscopic endonasal surgery was performed. The parameters studied included epidemiological factors, surgical indications, and immediate postoperative follow-up.*

Results: *Endoscopic endonasal surgery accounted for 6% of ENT surgeries performed in 2 years. There is a male predominance (66.66%), with a sex ratio of 2:1 (male to female). The median age was 35 years (IQR: 27-52), with extremes of 3 years and 72 years. The age group from 20 to 30 years old were the most represented (37%). Nasal polyposis accounted for 62.96% of surgical indications, followed by septal deviation (25.94%). The postoperative periods were uneventful in 88.89% (n = 24) and complicated in 11.11% (n = 3). Complications included epiphora, periorbital emphysema and moderate haemorrhage. There were no operative mortalities recorded, and patients were followed up for a period of one year. There was 1 case of recurrence of nasoethmoidal squamous cell carcinoma.*

Conclusion: *Endoscopic endonasal surgery is frequently performed in the ENT department at the General Reference Hospital of Niamey. The postoperative periods were uneventful in most cases.*

Keywords: *Endoscopic endonasal surgery, nasal polyposis, septal deviation, Niamey*.

INTRODUCTION

Endoscopic endonasal surgery is a set of techniques that allow the nasal cavities to be operated on using video assistance via the nasal cavity. Endoscopy has stimulated the interest of practitioners in rhinology and is now indispensable as a diagnostic and therapeutic tool. Endoscopic endonasal surgery is currently a surgical technique in vogue worldwide and is increasingly used by ENT specialists in sub-Saharan Africa.[1] The indications for endonasal endoscopic surgery have continued to grow, replacing more invasive external routes.

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The aim of this study was to report the indications and results of endonasal endoscopic surgery in the ENT Department of the General Referral Hospital of Niamey.

PATIENTS AND METHOD

This was a descriptive, retrospective study conducted at the ENT and Head and Neck Surgery Department of the General Referral Hospital of Niamey over a 2-year period, from January 1, 2022, to December 31, 2023. The inclusion criteria for this study were patients who were diagnosed with sinonasal pathology and had endoscopic endonasal surgery performed. The illustration of the equipment used is shown in Figure 1. Epidemiological parameters, surgical indications and immediate postoperative follow-up were studied. From an ethical perspective, respect for human life was maintained through the confidentiality of the results, and the authors declared no conflicts of interest related to this study.

Figure 1: Endoscopy column and operating table.

RESULTS

Epidemiological data

In 2 years, we recorded 455 cases of ENT surgeries, 27 of which were endonasal endoscopic surgery (6% of all ENT surgeries). There were 18 patients (66.66%) of male sex and 9 females, resulting in a sex ratio of 2:1. The median age was 35 years (IQR: 27-52), with extremes of 3 years and 72 years. The age group of 20 to 30 years was the most represented (37%).

Indications for surgery.

Nasal polyposis was the main surgical indication. Note that 5 patients in our series each presented with Sino-nasal polyposis associated with a septal deviation. Surgical indications are listed in Table I.

Table I: Patient distribution according to surgical indications

Indication	Frequency	Percentages
Nasal polyposis	12	44.44
Nasal polyposis with septal deviation	5	18.52
Septal deviation	2	7.41
Chronic rhinosinusitis	2	7.41
Nasal foreign body	1	3.70
Maxillary cyst	1	3.70
Frontoethmoidal mucocele	1	3.70
Antrochoanal polyps	1	3.70
Bleeding polyps of the septum	1	3.70
Nasoethmoidal tumour	1	3.70

Postoperative Outcome

The postoperative outcome was uncomplicated in 24 patients (88.89%) and complicated in 3 patients (11.11%). The complications included a case each of periorbital emphysema, epiphora and moderate haemorrhage. No mortality was recorded among the patients, and the mean duration of hospital stay was 3 days (range: 2 - 5 days). Patients were followed up for one year, and a case of recurrence of naso-ethmoidal squamous cell carcinoma was noted.

DISCUSSION

In 2 years, we recorded 27 cases of endoscopic endonasal surgery, representing a frequency of 6% of the ENT and Head and Neck Surgery department's surgical activity at the General Reference Hospital of Niamey. The frequency of endoscopic endonasal surgery performed in our study is similar to that reported by Mindja in Cameroon.[1] Endoscopic endonasal surgery is a relatively frequent occurrence in our practice. Endoscopic endonasal surgery's role is undeniable in treating chronic sinonasal pathologies.[2] Among its many advantages, we find the magnification of the image allowing good discrimination between normal and pathological mucosa and the absence of unsightly facial Scars significant. Others include a reduced frequency of complications and a shorter time to intervention and hospitalization.[3] There were several indications for endoscopic sinus surgery in our study. Infectious, inflammatory or tumoral sinonasal pathologies are currently most often treated by the endonasal route.[4] Nasal polyposis represented the majority of surgical indications in our series, with 62.96%, followed by septal deviation at 25.93%. In Madagascar, nasal polyposis and septal deviation accounted for 35% of the surgical indications.[5]Ranked third among the surgical indications in our series, chronic rhinosinusitis was the first indication (68.6%) for endoscopic endonasal surgery in Cameroon.[1]Like all sinonasal surgery, endonasal endoscopic surgery is not without complications due to the close anatomical relationships of the sinuses and nasal cavities with the orbit, endocranium and carotids. These complications have now become rare and may be linked to technical error.[6] In our study, the overall rate of postoperative complications was 11.11%. It was 14% in Steven's series in the USA.[7] Periorbital emphysema, epiphora, and moderate haemorrhage were the postoperative complications recorded in our study. Celis in Spain noted 40 minor complications with synechiae and minimal bleeding.[8] Major complications, such as breach of the lamina papyracea, were reported in 4 patients. Piquet in France reported haemorrhage (15.85%) and orbital breach (5%).[9] Netkovski in

Macedonia, recorded post-operative bleeding among 3.7% of cases.[10] On the other hand, in the Boutirame series, the postoperative follow-up was Uncomplicated in 100% of cases.[11] The experience of endoscopic endonasal surgery is recent in our context, and the results obtained were encouraging. The postoperative complications recorded in our series decreased throughout the learning period.

CONCLUSION

Endoscopic endonasal surgery is now frequently performed in the ENT Department of the General Reference Hospital of Niamey. Surgical indications were dominated by nasal polyposis, followed by septal deviation. The postoperative outcomes were generally uncomplicated. There was no operative mortality recorded in our series.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

REFERENCES

1. Mindja ED, Djomou F, Asmaou BD, Bola SA, Andjock NYC, Meva'A BRC et al. Endonasal Endoscopic Surgery in Yaounde. Health Sci. Dis 2021; 22(12): 43-48p.
2. Schmerber S, Chen B, Lavallée S, Coulomb M, Chirossel J-P, Lavieille J-P et al. Endonasal surgery under computer-assisted endoscopic guidance. French Annals of Otorhinolaryngology and Head and Neck Pathology. [Internet] Google. Accessed January 7, 2025. Available at https:// www.em.consulte.com.
3. Kemchi R, Benchaoui M. Contribution of modern endoscopy in rhinological surgery. Algerian Journal of Medicine 2017; 25(3): 113-17.
4. Vincent P, Hitier M. Chirurgie endoscopique endonasale. Elsevier Health Sciences; 2021 Sep 7.
5. Ravaoavy SM. Indications and results of endonasal surgery under endoscopic guidance seen at CEHOSOSA. [Med Thesis], Antanarivo: Antanarivo University, Faculty of Medicine of Antanarivo; 2006, 7516,75p.
6. Masson E. Complications of sinonasal surgery [Internet]. EM-Consulte. [Accessed June 3, 2022]. Available at: https://www.em-consulte.com/article/678996/complications Complications of sinonasal surgery.
7. Steven D, Scott M, Lanny G. Endoscopic paranasal sinus surgery: indications and considerations. Revue Laryngoscope 1989; 99:1-6p.
8. Celis LS, Melcon MG, Calvo FF, Canibano R, Tomas-biosca F, Caletrio AB. Complications of endoscopic sinus surgery in a residency training program. Acta Otorrhinolaringologica; 2010; 61(5): 345-50.
9. Piquet LM.Surgical management of sinonasal polyposis: indications and results [Internet] Google. Accessed 08/15/2022. Available at https://dumas.ccsd.cnrs.fr
10. Netkovski J, Sirgovska B. The impact of functional endoscopic sinus surgery on symptoms in chronic rhinosinusitis. Revue Contribution Sec Biol Med Sci2006; 27(2):167-174p.
11. Boutirame F, Ammar H. Antrochoanal polyp about 22 cases. [INTERNET] Google 2010. Accessed 05/29/2022. Available at http://wd.fmpm.uca.ma/biblio/theses.