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Nasal Septoplasty in Mali

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ABSTRACT

In tropical environment in Mali the septoplasty is a less common surgical procedure. The lack of specialist in ENT made that often patients with trauma of the nose are not correct support. This situation causes the existence of septal deviation undiagnosed in a timely manner.

Aim: To report our experience in the appropriate management of nasal septal deviation in the tropics.

Patients and methods: A retrospective study was carried out in 33 patients with symptomatic deviated nasal septum who underwent septoplasty in the ENT Unit of the reference health center in Bamako (Mali), from March 2010 to August 2014.

All patients were operated under local anesthesia; a Killian's incision was used in all patients.

Results: Between 2010 and 2014, a total of 33 patients, aged 22-51 years (mean 36 years), 30 (90.90%) male and 3 (9.10%) female, underwent septoplasty for deviated nasal septum.

The observed probable causes were: not established 27 cases (81.81%) and traumatic 6 cases (18.19%).

The essential symptoms were: nasal obstruction, facial pain, vasomotor rhinorrhea.

30 patients (90.90%) have only benefited a nasal packing and 3 patients (9.10%) had a septal suturing and a nasal packing. The total disappearances of the preoperative symptoms were observed in 90% of cases and increased moderate in 10% of cases.

Conclusion: Despite its rarity in our unit, the septoplasty is a procedure that must occupy a significant place in rhinologic surgery of our country considering the results of this study.

Keyswords: Septoplasty, Tropical environment, Deviated nasal septum

Introduction:

Septoplasty is a common surgical procedure performed by otorhinolaryngologist[1-4].

The nasal septum is a rare rectilinear area; it is often the seat of morphological abnormalities that cause functional disorders[5-7].

Major anatomic variants leading to osteo-meatal obstruction are deviated nasal septum, concha bullosa, paradoxical middle turbinate and infra orbital (Haller cell)[6].

Septal deviation can be cartilage and/or bone; causes a narrowing of the nasal area in the convex part with a decrease in respiratory field (linear thickening); the overall impact on the human organism can then occur secondary to this condition[3,7,8].

Some people are born with a bent septum, overs acquire a bend as a result of trauma[6,9].

Osteal obstruction may lead to fluid accumulation and stagnation, creating a moist, hypoxemic environment ideal for growth of the pathogens[5,6].

A disorder of the nasal architecture can join; there is a tip of the nose without support.

Diagnosis is often delayed, in the tropical area most patients are seen before by other health professionals not specialized in the field of ENT diseases. This state of doing favors a non-adequate care based on poorly adapted treatments for

these patients with deformity of the nasal septum: iterative treatments to the nasal mucosa (nasal drops vasoconstrictor, inhalation of often toxic substances traditional); such a situation can only complicate an eventual surgery of the nasal septum.

Aim of study:

To report our experience in the appropriate management of nasal septal deviation in the tropics.

Patients and Methods:

A retrospective study was carried out in patients with symptomatic deviated nasal septum who underwent septoplasty in the ENT Unit of the reference health center in the town of Bamako, District IV, from March 2010 to August 2014. 33 patients between the ages of 22-51 years of both the sexes with symptomatic deviated nasal septum i.e. type 2 and 3 regarding the Cottle's classification[2,10] have been included in the study.

Our exclusion criteria were patients suffering from medical problem (e.g. uncontrolled diabetes and hypertension, heart problems, coagulopathies).

Informed written consent was taken from every patient. A detailed examination of the nose, throat and ears was performed. Laboratory tests were carried out on patients before surgery, and systemic diseases were not present in any case. X-ray examination of associated paranasal sinuses and nasopharynx was also done (Figure 1).

The various nasal symptoms are evaluated.

Our surgical procedure:

All patients were operated under local anesthesia:

- Topical anesthesia of the nasal mucosa by 5% xylocaine with naphazoline

- Infiltration anesthesia with 2% xylocaine

Figure1: X-ray of sinuses

- Premedication was conducted one hour before the operation by: neurosedative [Hydroxyzine (atarax®)], analgesic (paracetamol) and hemostatic [Etamsylate (dicynone)®]

- Treatment with hemostatic was introduced three days before and after the operation

- A Killian incision was used in all patients

- All incisions were sutured using 4-0 Vicryl® rapid

- The nasal packing impregnated with antibiotic ointment (Aureomycin®) was removed after 72 hours.

- After surgery, antibiotics were recommended to all patients for 10 days, and oral analgesic, nasal saline lavage and anti-inflammatory treatment was used as needed.

Results:

Between 2010 and 2014, a total of 33 patients, aged 22-51 years (means 36 years), 30 (90.90%) male and 3 (9.10%) female, underwent septoplasty for deviated nasal septum.

The observed probable causes were: not established 27 cases (81.81%) and traumatic 6 cases (18.19%).

Depending on the portion of the deviated nasal septum: cartilagenous portion 30 cases (90.90%) and bony portion 3 cases (9.10%).

The essential symptoms were: nasal obstruction, facial pain, vasomotor rhinorrhea

Short and long-term postoperative were simple. Minor hemorrhage was observed in all cases 30 patients (90.90%) have only benefited a nasal packing and 3 patients (9.10%) had a septal suturing and a nasal packing. All patients were able to join home 8 hours' time after the operation. The total disappearance of the preoperative symptoms were observed in 90% of cases and increased moderate in 10% of cases.

Discussion:

Septoplasty is one of the most widely used surgical methods for correction of septal deviation[8,10-13]. In Sub-Saharan Africa the studies related to the correction of the nasal deviation are very rare. Many obstructive nasal disorders are caused by the septal deviation. Management for the traumas of the nose in distant areas far from the hospital structures specialized promotes huge problems and most patients remain with their deviation from the nose without early correction after a trauma.

Our study will no doubt allow emphasis on this neglected rhinological pathology and which negatively influence the quality of life of patients.

This study confirmed the role of the septoplasty in rhinologic surgery within our unit despite the inadequacy of the medical equipment; this is a surgery that does not generally require expensive means that can represent an obstacle to its realization in such a unit like ours.

The majority of our patients is male with an average age of 36 years, confirmed numerous works dealing with the septoplasty[2,9,11,14-17].

The main indications of the deviation of nasal septum surgery are dominated mainly by traumatic, congenital malformative etiologies[1,3,6,8,13,18]. The low rate related to trauma in our study only 6 cases could be explained by the ridge that most patients have not been able to assert or set aside a history of nasal trauma.

Contraindications to the septoplasty apart from those inherent in any intervention, concern mainly under age 18 years, for some authors at this age, the development of the facial skeleton is incomplete and it has a risk for reproduction of the deviation[1,3,6,12,14]. However other authors operate under-18 years without damage[19,20]. Deviations of the nasal septum may to concern two portions of the septum (cartilage and bone) or one of the two[3,6]. Deviation at the level of the cartilaginous portion was especially found our patients 90.90% as is the case in some reported works[1,2].

The symptoms caused by septal deviations are entirely the result of their effects on nasal function. The dominent symptom being nasal obstruction, but this is rarely severe enough to cause anosmia[6,14].

The effects of septal deviation are not negligible: nasal obstruction, mucosal changes, neurological changes[2,3,6,14].

The main symptoms observed in our patients (nasal obstruction, facial pain, catarrh) are usually those found in the literature[1,2,6,14].

Our patients presented primarily symptoms of deviation of nasal septum of type 2 and 3 according to the classification of Cottle[2,10]. Cottle classified septal deviation in to 3 types i.e

1) Simple deviation: only mild deviation with no obstruction and it is the most common type seen.
2) Obstruction: here the deviated septum touches the lateral wall, but on decongestion with vasoconstrictors the turbinate shrinks and the obstruction is relieved.
3) Impaction: massive angulation of the septum with a spur.

Surgical techniques for deviated nasal septum are diverse they relate mainly to used anesthesia, the incision of the nasal septum, the packing of the nose, the suture of the cartilage, the postoperative follow-up[1-3,9,14-16].

Submucosal resection of nasal septum is ideally performed under local anaesthesia[3,8,18].

All our patients were operated under local anaesthesia, mode of anesthesia that we considered suitable to our technical conditions bearable on the cost plan and reassuring for our patients whose most don't have too much confidence in general anesthesia. A non-negligible number of operators have recourse.

There are several types of incision of the nasal mucosa for the septoplasty: Killian, Passow, Halle and Freer Incisions[7,10,11,14,21,22]. We opted for the Killian's incision[11] (Figure 2).

Killian's incision is preferred for sub mucosal resection operations, it's the commonly used incision[2,3,8,11,18]. It is an oblique incision given about 5 mm above the caudal border of the septal cartilage[2,11].

The peculiarities of the septoplasty are variously cited according to the authors: difficult detachment caused by a cartilage deflected in various directions, complicated crests, pre-existing perforations, anterior galvanocauterization, adhesions of septal cartilage (risk of perforation)[1-3].

Opinions are divided on a nasal packing tamponade or a suture of the nasal septum during a septoplasty[12,14,16,17].

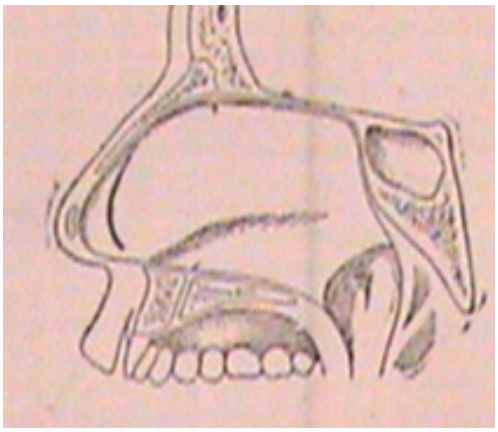

Figure 2: Killian's incision

Anterior nasal packing is done routinely in many nasal surgeries, particularly in septoplasty[3,8,12,13,17,18].

History of nasal packing after nasal surgery falls back to 1847 in the time of Gustay Killian of Germany[11] and Otto Tiger Freer of USA[21], yet systematic sub mucosal resection (SMR) and nasal packing was started in 1882 by Ephraim in Chicago and Peterson in Germany. Different types of nasal packing have been used like ribbon gauge soaked in bismuth iodoform paraffin paste, liquid paraffin, antibiotic ointments and others. Numerous other agents like polyvinyl acetate sponge (merocel), Nasopore (bioresorbable dressing), various balloon tamponade devices are also available[14].

Nasal packing after septoplasty has been used to approximate septal mucopericondrial flaps mechanically, to prevent bleeding and septal haematoma, to support the septum, to stabilize the repositioned cartilage and bone fragments, and to prevent synechiae between the septum and lateral nasal wall[3,8,12,17,18].

But few studies suggested that nasal packing is not necessary after nasal septoplasty as it causes discomfort when it is being removed[12,16,17].

Thus some authors opt for the suturing the septum after septoplasty has the advantage of eliminating discomfort for the patients, has minimal complications and the hospital stay is less than with the nasal packing[1,12,16,17].

Whereas the conditions of the tropical environment with its adverse impact on the nasal mucosa, we especially preferred anterior nasal packing. Thus all of our patients have benefited of a the nasal packing without suture and three patients had in addition to packing a suture of the nasal septum to better approach the flaps after a difficult septoplasty.

This approach allowed a perfect mastery of bleeding associated with the chirurgical procedure and all of our patients have joined the home after 8 hours of observation. We have removed the packing in our patients on the 3rd day of the intervention with virtually no observed bleeding contrary to the approach taken in the majority of studies that have mentioned a nasal packing maintained for 48 hours.

We deemed it necessary to remove the packing after 72 hours given our experiences accumulated in a tropical environment in support of the bleeding of the nose and we don't observed major damage to the nasal mucosa.

The septoplasty complications may occur: synechiae, perforation, and deviation from the Mucosa, often very serious epistaxis, rarely an intracranial complication, thrombophlebitis of lower extremities causing a pulmonary complications...[1,3,6,8,16,21].

A well suitable surgical technique allows to make it bearable and beneficial for the patient and reduce the risk of complications[2,3,16,23-25].

We have observed minor intraoperative bleeding in the majority of cases and our postoperative suites were simple without major complications.

The implementation of appropriate therapy (general and especially local to prevent the adhesions and crusty rhinitis favored by our tropical climate dry and hot) in postoperative period as rated in the works referring to the septoplasty[1-3], allowed a better healing of the nasal mucosa and a beneficial impact of intervention for our patients ; evidenced by our results.

Conclusion:

Despite its rarity in our unit, the septoplasty is a procedure that must occupy a significant place in rhinologic surgery in our country. The lack of ENT specialist causes the difficulties in the diagnosis of its obstructive diseases of the nose and sinuses.

Our results confirm that this intervention is well feasible despite the poor technical platform we have and the profits that are not negligible for the comfort of patients with deviated nasal septum.

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