

INTRODUCTION

One case of traumatic septal perforation and the literature review is presented with comparative study to the operative procedures employed in doing the septal perforation repair.

CASE PRESENTATION

M.A.O. Jordanian, aged 19 years, has attended the E.N.T. Clinic on 1.10.1980. His main complaint was repeated bleeding from both nostrils, the bleeding has been controlled by Silver Nitral Cautey.

The patient returned to the E.N.T. Clinic on 8.6.1981. He was complaining of whistling sound produced during heavy nasal breathing. He had no epistaxis, no nasal obstruction, no anosmia and no watery rhinorrhoea or sneezing.

No family history of bleeding tendency, hypertension or diabetes.

On examination, small anterior septal perforation has been found. He had good airway and no abnormality in other Ear, Nose and Throat system.

INVESTIGATION

WBC 8.7, Platlets 266000, Hb 16, PCV 49, PT Control 11, Test 11 Sec. X-Ray Sinuses are within normal limits.

PLANNING FOR SURGERY

After failure of two attempts of cauterizing, the edges of the perforation in order to make the perforation close spontaneously, grafting of the nasal septal perforation using temporalis fascia has been advised Farbanks¹.

OPERATION

Under general anaesthesia, the temporal fascia has been obtained

Repair of Septal Perforation

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through temporal incision similar to the fascia taken for Tympanoplasty. Left Killin incision has been done, the mucoperichondrium has been elevated on both sides of the Nasal Septal Cartilage.

The mucoperichondrium has been raised from around the perforation, which revealed a larger cartilagenous perforation than could be seen before. Two discs of temporalis fascia has been designed. The perforations in the mucoperichondrial flaps has been closed with chromic catgut. One disc of temporalis fascia has been put on either side of cartilagenous perforation. The mucoperichondrium put back over the septal cartilage and the nose has been packed with Bipp for 48 hours.

Follow up revealed closure of Nasal Septum Perforation and disappearance of the symptom.

REVIEW OF THE LITERATURE

Symptom due to Nasal Septal Perforation are Whistling, Crusting and Epistaxis. Small perforations are the most annoying to the patient which can always be converted into larger one when it is inadvisable or impossible to close it.

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ETIOLOGY & PREVENTION

Septal perforation is well known complication of S.M.R., as well it could result from Cryo Surgery of Turbinate, nasal picking and cautery (chemical or electrical).

Cocaine insufflated intranasally causes injury to nasal septum by two mechanisms, Vasoconstriction which diminishes blood supply available for the nutrition of the cartilage. Secondly, in pure form cocaine irritate the mucosa which might lead to a perforation.

In order to prevent post S.M.R. perforation, one should avoid a tear to the flaps especially bilateral opposing tears. If despite all these precautions perforation occurred, then the mucoperichondrium should be closed with chromic catgut and cartilage graft is inserted to separate the opposing tears.

NON-OPERATIVE MANAGEMENT

Patient with asymptomatic septal perforation are not treated. Symptomatic patients usually are poor operative risk, occasionally prosthetic devices can be inserted if the operation to be avoided.

OPERATIVE MANAGEMENT

Various surgical techniques have been proposed.

Johnson NE² Closed septal perforations by shortening the septum with Rhinoplasty techniques. Deneke HJ and Meyer R³ described a Bilateral flap taken from the inferior turbinate. Ismail HK⁴ employed composite free graft from middle turbinate. Farbanks¹ has employed two strategies in surgical design to increase the survival rate of the repairs :

1. Nasal mucosal flap should be based on the anatomical location of the blood supply, the

Figure 1 : Arterial Supply of the Nasal Septum

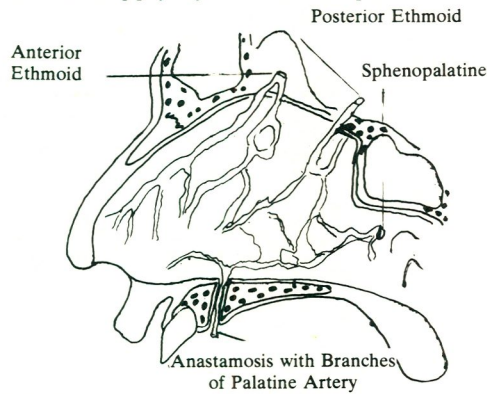


Figure 2 : Donor Site for Temporalis Fascia Autograft

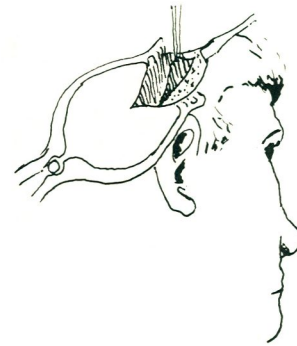


Figure 3 : Cross Section Nose through Perforation in Cartilaginous Septum

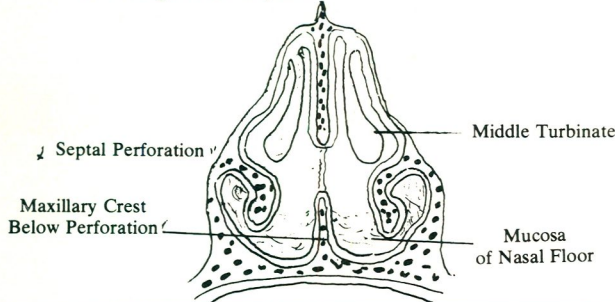


Figure 4 : Elevation of Mucosa from Septum around Perforation

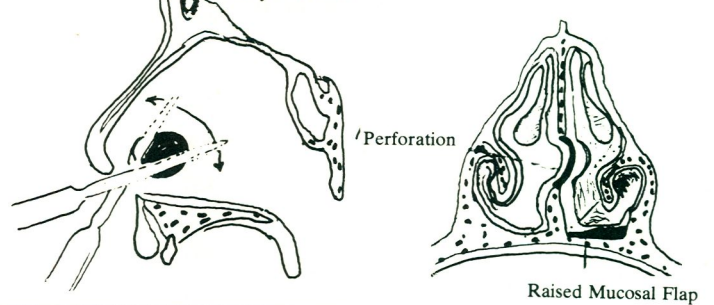


Figure 5 : Mucosal Closure with Bipedicte Flaps on Left side

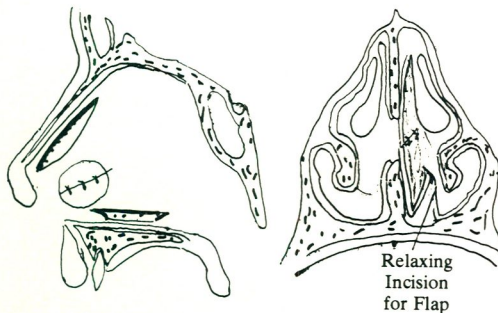
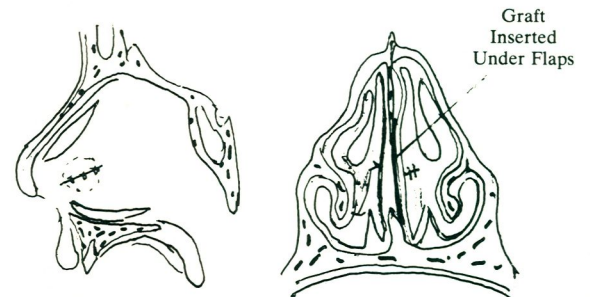


Figure 6 : Completed Closure with Fascia Graft Inserted Under Left Flaps



flaps should include branches of the anterior ethmoidal & sphenopalatine vessels in their pedicle.

2. The mucosal flap should be fortified with a supporting graft. Since the mucosa around the perforation is fragile and friable increases tissue substance would be advantageous.

Type of graft which has been used :

1. Peri-cranium

2. Fascia
3. Fascia & Cartilage
4. Bone (perpendicular plate of ethmoid)

POINTS TO BE CONSIDERED

1. The graft should be 2 cm. larger in diameter than the perforation.
2. Mucosal edges are brought together without tension and sutured with 5.0 plain catgut.

3. The columellar incision is closed and nasal cavity are packed lightly for one week.

4. Crust should not be removed until complete epithelialization.

5. Reperforation can occur until one year of the operation.

6. The connective tissue autograft is regarded as probably the key factor for improvement in the survival rate of the surgical repairs.

7. The graft has low metabolic requirement, it serves as non-vital tissue that acts as structural framework for ingrowth of new fibroblast.
8. Breakdown occurs in cases in which large areas of the graft could not be covered with mucosa on either side.

David Farbanks¹ has reported twenty patients with Nasal Septal Perforation treated in 7 years period (1972 - 1980) by closure with a combined flap and graft technique. 19 patients (95%)

reported relief of symptom and showed complete closure of their perforation on follow up examination. The technique employs mucosal advancement flaps designed to maximize blood supply for flap viability and underlying connective tissue autograft for structural reinforcement.

SUMMARY

One case of Septal Perforation produced by Silver Nitral application has been studied. The literature has been reviewed and the new method of closure of the septal

perforation (using temporal fascia) has been employed.

REFERENCES

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2. Johnson NE : Septal perforations and secondary septal surgery. Laryngoscope 78 : 586 - 599, 1968.
3. Denke HJ, Meyer R : Plastic Surgery of the Head and Neck : Corrective Rhinoplasty. New York, Springer-Verlag, 1967, Vol. 1, pp 137 - 140.
4. Ismail HK : Closure of Septal perforation : A new technique. J Laryngol Otol 78 : 620 - 623, 1964. □□