

Septal perforations – Prosthetic and surgical treatment

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SUMMARY

Septal perforations 4 mm or less in diameter have been successfully closed in eight out of ten patients with interposition of fascia temporalis. Larger perforations could, however, not be closed with this technique.

Silicone buttons were helpful in half of the patients with perforations 5–20 mm. In larger ones they were not tolerated.

With the vestibuloconchal flap technique perforations 7–20 mm were closed or markedly improved in four out of eight cases.

Our conclusion is that small septal perforations should primarily be operated upon, whereas larger ones should initially be treated with silicone buttons. If uncomfortable, surgery may be successful. A preferred technique for larger perforations, however, cannot be recommended.

INTRODUCTION

Perforations in the anterior part of the nasal septum often give annoying symptoms. The many treatment modalities indicate that they are difficult to treat (Younger and Blokmanis, 1985). The scope ranges from solely prosthetic (Brain, 1980) to solely surgical (Meyer and Berghaus, 1983). Masing et al. (1980) advocated surgery for small perforations and obturators for large ones. The number of patients in each clinic is too limited to compare several methods. More surgeons should publish their results in order to reach the best treatment modality.

Particularly important are results obtained by methods described by other surgeons. In that way it is the method and not the particular skill of the doctor that will be evident.

MATERIAL

From 1981 to 1988 46 patients have been treated for symptom giving septal perforations at the ENT department, Rikshospitalet in Oslo, Norway. All have been followed for at least six months after treatment. The report is given as a six month post treatment status. Age and sex distribution is given in Table 1.

Table 1. Age and sex distribution of the patients studied

age and sex distribution (N=46)		
age	men	women
11-20		2
21-30	7	2
31-40	5	7
41-50	6	3
51-60	4	2
61-70	2	5
> 71		1
Total	24	22

RESULTS

The probable causes are listed in Table 2, the size of the perforations in Table 3 and symptoms in Table 4.

Table 2. Causes of septal perforation

causes (N=46)	
submucous resection (Killian)	13
trauma	9
cauterization	4
septoplasty	4
nose picking	3
cocain sniffing	1
Wegener's granulom	1
unknown	11

Table 3. Size of the septal perforations

size (N=46)	
\leq 4 mm	10
5-10 mm	11
10-20 mm	19
> 20 mm	6

Table 4. Symptoms observed

crusting	38
stenosis	34
bleeding	23
pain	8
whistling	5

Prosthetic treatment

Perforations larger than 7 mm have primarily or after unsuccessful surgery been treated with Xomed silicone button. As shown in Table 5 they have been tolerated in less than half the patients, the better the smaller the perforation. Patients with large perforations that are most difficult to treat surgically unfortunately are also less likely to benefit from the silicone button. My experience, like others, are that the initial one or two days clarify whether the patient will accept these buttons or not.

Table 5. Cases treated by silicone button

size of perforation	silicone button (N=28)		
	no.	success	failure
7- 9 mm	5	3	2
10-20 mm	17	9	8
> 20 mm	6	1	5
Total	28	13	15

Surgery

Perforations 7 mm or less in diameter have been treated primarily surgically with fascia temporalis interposition (Masing et al., 1980).

Septoplasty was performed at the same time in four cases. In Table 6 the results show that the method is successful in nearly all perforations 4 mm or less. In one of the failures it became smaller and gave less symptoms. However, larger perforations have not healed at all.

Patients with perforations larger than 7 mm who did not tolerate a prosthesis, were treated surgically with a vestibuloconchal flap. Originally developed by Seiffert and later modified by Masing (1980), it is a two stage procedure.

Table 6. Cases treated by fascia interposition

size of perforation	fascia interposition (N=15)		
	no.	success	failure
≤ 4 mm	10	8	2
5-7 mm	5	0	5

In the eight patients operated with perforations 8–15 mm, closure was complete in two cases, and in two others a small rest perforation gave little symptoms. In three of the four complete failures the flap would not take at the first stage. In two of them corticosteroids, either orally or as local ointment, had been used for several years.

DISCUSSION

Most septal perforations are iatrogenic. As more and more surgeons turn to functional septoplasty instead of submucous resection, the number of cases will become smaller, as also noted by Meyer and Berghaus (1983). However, we have seen cases of perforations even after functional septoplasty.

Our operative results in small perforations support the findings of Masing et al. (1980), that those less than 5 mm in diameter can be closed by interposition of fascia alone. Different interposition materials have been used in a variety of techniques (Fairbanks and Chen, 1970; Kridel et al., 1986; Goodman and Strelzow, 1982). After analyzing a series of 90 cases with different materials, Younger and Blokmanis (1985) concluded that fascia temporalis gives the best results.

In larger perforations it is simple to introduce the silicone button which seems to be helpful in many patients. The silicone button does not replace the mucoperichondrium, however. The larger the perforation, the lesser mucociliary clearance and consequently the greater the crusting. In addition, in large perforations it is more likely that the button will make contact with other areas of the nasal cavity, which may induce sneezing and secretion. In spite of this, Pallanch et al. (1982), in a larger series, have found prosthetic treatment successful in 73% of the cases. Brain (1980) found it useful in half of the patients with perforations even larger than 20 mm. Though septal deviation had been corrected beforehand, only less than half of our patients tolerated the button, and very few in the larger ones. Perhaps one explanation for this moderate success is that, in our series all small perforations were operated upon and therefore did not enter the statistics of prosthetic treatment.

In patients not satisfied with the silicone button surgery should be considered. Rettinger et al. (1986) have abandoned the vestibuloconchal flap technique in favour of mucoperichondrial rotation flaps, whereas Bockmeyer et al. (1987) have successfully introduced another variant of the conchal flap. Our results with the vestibuloconchal flap are discouraging. However, due to lack of comparative methods from our clinic, it is not possible to evaluate this directly in comparison with other methods. Surgical treatment of perforations larger than 5 mm can utilize several methods described in the latest years. These consist of unilateral or bilateral mucoperichondrial rotation, advancement or inverting flaps (Rettinger et al., 1986; Meyer and Berghaus, 1983; Judson and Belmont, 1985; Karlan et al., 1982; Kridel et al., 1986; Goodman and Strelzow, 1982; Bridger, 1986). How-

ever, only future reports from surgeons who have not developed the methods can help us decide which operation to favour.

Our conclusion is that small perforations should primarily be treated surgically with fascia temporalis interposition technique. In medium sized one should first try the silicone button. If this fails, surgery can be helpful in some cases. The ideal technique is not agreed upon by rhinosurgeons. Only future reports can help us in that respect.

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