

# Septal Perforations- Are Septal Buttons Better?: A Retrospective Analysis

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## Abstract

**Objective:** To evaluate all cases of septal perforation who underwent closure, either surgically or non surgically, and determine if septal buttons were more effective in terms of successful closure and tolerability to the patients.

**Study Design:** Retrospective analysis involving 30 patients who underwent closure of their septal perforation between 1995-2003.

**Setting:** ENT department of a busy district general hospital

**Result:** 25 patients (84%) had their septal perforations closed by septal button (closed method), 4 underwent surgical closure and 1 patient did not want any treatment. 7 patients, in whom the perforation was closed using septal button, had re-perforation.

**Conclusion:** 90% of the patients had resolution of epistaxis post operatively. Nasal crusting persisted post operatively in 11 patients. 18 patients out of 20 who responded to the questionnaire, had closure by septal button.

## INTRODUCTION

Septal perforations in many cases are asymptomatic but on occasions can be responsible for a variety of symptoms, some of which can be distressing for the patient. Symptom complex can comprise of epistaxis, nasal crusting, whistling noise, nasal obstruction, rhinorrhoea, nasal discomfort and facial pain. <sup>1</sup> Aetiology of septal perforations include trauma, infection, irritant exposure, neoplasm and many are idiopathic. <sup>2</sup> Treatment options vary from no treatment or conservative management to closure of the septal perforation. Conservative treatment mainly involves use of emollients and humidification. However, in symptomatic cases, closure of the septal perforations could be performed either non surgically (use of silastic septal button) or surgically (grafts/flaps). <sup>3</sup> Primary aim of the surgical closure has been to achieve a successful closure. Various methods have been developed to achieve this goal and they include advancement and suturing of the perforation border, use of grafts including cartilage, temporal fascia, inferior turbinate, bone and acellular dermal allograft to name a few. However, a significant drawback of the surgical closure is the breakdown at the repair site leading to re-perforation

especially in cases of larger perforations where the failure rate can be as high as 70%. <sup>4</sup> Non surgical closure entails using of a silastic obturator which can be tailored according to the size of the perforation and inserted either under local or general anaesthesia. This is especially favoured in cases with anterior cartilaginous perforations. <sup>1</sup> This is a good technique for closure of septal perforations but still can present difficulties.

The purpose of this study was to evaluate retrospectively all cases of septal perforation who underwent closure, either surgically or non surgically, and determine if septal buttons were more effective in terms of successful closure and tolerability to the patients.

## MATERIAL AND METHODS

30 patients with established septal perforations, who underwent closure, either surgically or non surgically, between 1995 –2003 at Fairfield General hospital, Bury were evaluated retrospectively. A septal questionnaire detailing the method of closure, present state of septal perforation and follow up as well as pre & post operative

symptoms was sent to all the 30 patients.

**Figure 1**

Table 1

| TOTAL NO. OF PATIENTS (n=30) |  |    |  |
|------------------------------|--|----|--|
| MALE                         |  | 16 |  |
| FEMALE                       |  | 14 |  |

The mean age of the study group was 53 years and there were 16 (54% ) males and 14 (46% ) females in the group. (Table 1) In 43% of cases, no specific aetiology could be ascertained. (Table 2)

**Figure 2**

Table 2

| AETIOLOGY OF THE SEPTAL PERFORATION |  |    |  |
|-------------------------------------|--|----|--|
| (n=30)                              |  |    |  |
| CAUSE                               |  | NO |  |
| SURGICAL TRAUMA                     |  | 7  |  |
| DIGITAL TRAUMA                      |  | 2  |  |
| NASAL CAUTERY                       |  | 3  |  |
| NASAL PACKING                       |  | 2  |  |
| CGD                                 |  | 1  |  |
| IDIOPATHIC                          |  | 13 |  |
| NASAL TRAUMA                        |  | 2  |  |

The presence or absence of symptoms relating to septal perforation were noted. Epistaxis and nasal crusting was the predominant symptoms in 70% of cases. (Table 3)

**Figure 3**

Table 3

| SYMPTOMATOLOGY    |              |  |               |
|-------------------|--------------|--|---------------|
| n= 30             |              |  |               |
| SYMPTOMS          | PREOPERATIVE |  | POSTOPERATIVE |
| EPISTAXIS         | 22           |  | 3             |
| NASAL CRUSTING    | 22           |  | 11            |
| WHISTLING         | 8            |  | 1             |
| NASAL OBSTRUCTION | 11           |  | 2             |
| NASAL DISCHARGE   | 3            |  | 2             |
| ANOSMIA           | 0            |  | 0             |
| DISCOMFORT        | 0            |  | 2             |

25 patients (84%) underwent closure of their perforation using septal button by closed method . In majority, this was carried out under general anaesthesia. (Table 4)

**Figure 4**

Table 4

| n= 30                            |  |  |    |
|----------------------------------|--|--|----|
| PRIMARY CLOSURE BY SEPTAL BUTTON |  |  | 25 |
| CLOSURE BY FLAP/ CARTILAGE       |  |  | 4  |
| NO TREATMENT                     |  |  | 1  |

The size of the perforation was measured by simple

measuring techniques but a suitably designed gauze for measuring the perforation size would be invaluable. . Silastic septal button was reshaped, inserted either under LA or GA, by placing through one side and pulling the flange across through the other side thereby securing the septal button. Lubrication with Terra-cortril ointment helps insertion of the button.

## RESULTS

25 patients (84%) had their septal perforations closed by septal button, 4 underwent surgical closure and 1 patient did not want any treatment. 7 patients, in whom the perforation was closed using septal button, had re-perforation. Of these, in 4 patients it got dislodged while remaining 3 could not tolerate it. All the 4 patients whose septal perforation was closed surgically, had re-perforation. (Table 5)

**Figure 5**

Table 5

| TREATMENT                      | MANAGEMENT     |                 |              |              |   |
|--------------------------------|----------------|-----------------|--------------|--------------|---|
|                                | SB REINSERTION | FLAP/ CARTILAGE | NO TREATMENT | NO TREATMENT |   |
| SEPTAL BUTTON :<br>N= 7        |                |                 |              |              |   |
| DISLODGED :<br>n= 4            |                | 1               | 3            |              | 3 |
| UNABLE TO TOLERATE:<br>n= 3    |                |                 | 3            |              | 3 |
| FLAP/ CARTILAGE<br>REPAIR: n=4 |                |                 | 4            |              | 4 |

20 patients sent the completed questionnaire back which were analysed. 10 patients did not respond to the questionnaire and data pertaining to their symptomatology was analysed by reviewing their case notes. Majority of the patients had follow up period exceeding two years with the longest period being upto 5 years.

90% of the patients had resolution of epistaxis post operatively. (Table 3) These mainly comprised of patients who had closure of their septal perforation by silastic button. Nasal crusting persisted post operatively in 11 patients. 18 patients out of 20 who responded to the questionnaire, had closure by septal button.

## DISCUSSION

Benign septal perforations, which are asymptomatic and do not warrant any treatment. Brain in his review of 69 cases of septal perforations, reported that 62.4% of patients were asymptomatic and suggested that the size and position of the perforation are primary indicators to affect the function of nose and production of symptoms. 5 All patients in present

review had anteriorly placed perforations. Noisy breathing is usually associated with small anterior perforation whereas epistaxis and nasal crusting are linked to larger perforations. It is usually the above symptoms that prompts patient to seek consultation. The aim of the management should be to determine the aetiology of the perforation so as to treat the underlying cause and thereby encourage natural healing. As mentioned earlier, conservative management centres around the use of emollients and humidification. A formal closure, surgical or non surgical, should be contemplated if perforation does not heal and patient's symptomatology warrants it. <sup>1</sup> In patients with persistent symptoms, historically first line of management is the insertion of septal button with surgical closure reserved for cases in which septal button does not alleviate the symptoms. <sup>5</sup> The main drawbacks of surgical closure are difficulties in closing larger perforations and an unsuccessful attempt can enlarge the perforation. <sup>4</sup> A number of recent articles have good results where closure is done surgically and this has led many to challenge the role of septal buttons. <sup>6,7,8</sup> These studies, however, are based on small patient population size. A successful closure still depends on various factors like size and site of the perforation, patient factors and experience of the surgeon.

In the present retrospective analysis, 25 patients out of 30, had their septal perforation closed by septal button. Only 7 of the 25 patients had re-perforation, as in 4 the button got dislodged and 3 could not tolerate it. 90% of patients had alleviation of epistaxis whereas nasal crusting did persist post septal button insertion in 11 patients. However, other symptoms had diminished significantly following the insertion of septal button. None of the patients in this group

had post operative infection.

We believe septal perforation closure by septal button is a good technique despite various adverse reports. We suggest that it should not be placed in archives with surgical closure being favoured, till a randomised controlled trial between surgical and non surgical closure of septal perforations is performed.

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