



A STUDY OF CLEFT PALATE CRIPPLE AND ITS MANAGEMENT WITH TONGUE FLAP

Plastic Surgery

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ABSTRACT

INTRODUCTION: The incidence of post palatoplasty palatal fistula has been reported to range from 8.7% to 23%. Due to multiple attempts at fistula closure the palatal tissue surrounding the fistula is scarred. Any further attempt to close the fistula using the local flap of scar based on the scarred pedicle is destined to be a failure. Hence we formulated a protocol of using the tongue flap to ensure successful outcome.

PATIENTS AND METHODS: This is a prospective study. Cases of palatal fistula that were referred to our centre from January 2012 to December 2017. Patients who underwent more than two procedures and with a persistent fistula of more than 5 mm in size were classified as cleft palate cripple and included in the study. During this period we operated 15 cases of cleft palate cripple. The size of the fistula ranged from 5 mm to 5 cm. Tongue flap was done in all the cases. There was no case of flap dehiscence or flap necrosis.

CONCLUSION: Though the management of recurrent palatal fistula is a surgical challenge, closure of the fistula using distant vascularised tissues as tongue flap offers a predictable solution.

KEYWORDS

Palatal fistula; cleft palate cripple; tongue flap.

INTRODUCTION

Cleft lip and palate is the commonest congenital defect amenable by reconstructive surgery for aesthetic and functional restoration. Though the aesthetic aspect of the problem can be addressed and improved in stages, the restoration of speech depends on the prompt and successful repair of the palate in the primary surgery. The need for any secondary procedure invariably means less than an optimum result. As varied specialities like plastic surgery, paediatric surgery, otolaryngology and oral surgery deal with this problem, the incidence and the severity of the post operative complications are also equally varied.

The goal in palatoplasty is to achieve complete closure of the defect with good movement of the soft palate resulting in the competent closure of the velopharyngeal isthmus. Hence the development of a fistula after palatoplasty invariably compromises velopharyngeal competence with a poor prognosis for normal speech development.

The incidence of post palatoplasty palatal fistula has been reported to range from 8.7% to 23%.^[1,2] The recurrence rate after fistula repair using the local flaps range from 33% to 37%.^[1,2] But Emory et al reported that the incidence of the fistula is related to the experience level of the surgeon and with the best of care 91% of the fistula healed with one operation.^[3]

As the primary repair of cleft lip and palate are being done in many centres with dedicated social programmes, in our tertiary care centre referrals for secondary cleft palate problems far outnumber primary clefts. Further, an attempt to close the fistula is always done by the primary surgeon before referral. So, the palate surrounding the fistula was always badly scarred and any attempt at closure using the local flaps might aggravate the fistula. Such cases can be considered analogous to the repeatedly failed hypospadias repair known as hypospadias cripple. Similarly the term "cleft palate cripple" can be admirably fitting for this condition. To effectively deal with these problematic cases, instead of using the standard turn over lining flap and transposition flap we formulated a protocol of using the distant flap like tongue flap.

PATIENTS AND METHODS:

This is a prospective study of cases of palatal fistula that were referred to our centre from January 2012 to December 2017. Patients who underwent more than two procedures and with a persistent fistula of more than 5 mm in size were classified as cleft palate cripple and included in the study.

Patients were operated under general anaesthesia. After application of the mouth gag the turn over flaps were raised. If necessary, the flap dissection was extended in to the lateral wall of the nose and vomer to

ensure tension free closure. After closure of the lining, the gag was released and anteriorly based tongue flap of adequate size was elevated. The defect in the tongue was closed primarily. The tongue flap was attached to the anterior and lateral aspects of the palatal defect. After 3 weeks the pedicle of the flap was divided and inset was given to the posterior margin of the defect. Patient was on oral fluids during the period of flap attachment. After division, soft diet was prescribed for 2 weeks.

RESULTS:

During this period we operated 15 cases of cleft palate cripple. The cases underwent 3-6 procedures elsewhere for the closure of the fistula. The size of the fistula ranged from 5 mm to 5 cm. Tongue flap was done in all the cases. There was no case of flap dehiscence or flap necrosis. We could achieve fistula closure in all the cases. The flap settled well and the patients were referred for speech therapy in 3 weeks. Three cases developed respiratory distress in the immediate post operative period. They were managed by close monitoring and frequent gentle suctioning of the nose.

There was no restriction to the tongue mobility after the division. Tongue appeared to be of near normal bulk and length. (Figures 1&2)

DISCUSSION:

The problem of recurrent post palatoplasty fistula is well documented and numerous modifications are proposed in many studies. Jeffery et al, for small fistula inserted free cartilage grafts in to the pocket created all around the fistula. Only the graft bridged the fistula. They reported successful closure of the fistula with this minimal dissection technique.^[4] Free periosteal grafts and cancellous bone grafts were used as an interlay to minimize the recurrence of the fistula.^[5] Naddaf et al suggested the use of acellular dermal matrix interposition between the lining and the cover flaps to prevent the recurrence of the fistula.^[6]

In cases of palatal fistula with recurrent failures, irrespective of the size of the fistula the surrounding palatal tissue is scarred. Whatever the local flap one elevates it is nothing but a flap of scar based on the scar. Further, the attachment of this scar flap can be done to the existing scar only. This explains the recurrence of the fistula in such cases. Hence it is mandatory to bring in distant tissue for stable closure of the fistula.

Posteriorly based buccinator myo mucosal flap has been used successfully in a case of huge palatal fistula.^[7] But its reach to the anterior palatal region is doubtful. In a study it has been documented that 28% of the fistula cases required tongue flap for closure. In another study it was pointed out that though the tongue flap is extremely robust, dehiscence is a problem.^[8] As made out in our study if the lining flaps well mobilized and sutured in place it will provide support to the

tongue flap minimizing the possibility of dehiscence. In a study of 194 cleft palate patients, it is reported that 28% of their palatal fistula cases required tongue flap for successful closure of the fistula.^[9] Coghlan et al in their case series of 20 cases of tongue flap for palatal fistula documented 17 successful closures and 3 failures.^[10] We have not encountered any failures in our study.

CONCLUSION:

Though the management of recurrent palatal fistula is a surgical challenge, closure of the fistula using distant vascularised tissues as tongue flap offers a predictable solution.



Figure 1a-A case of large anterior palatal fistula. Operated 3 times elsewhere



Figure 1b-Closure of the fistula with the tongue flap



Figure 2a-A huge defect of the hard and soft palate secondary to necrosis of the palatal flaps during palatoplasty

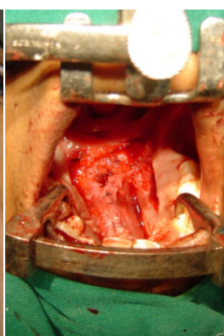


Figure 2b-Tension free closure of the lining flaps by extending the dissection into the lateral wall of the nose



Figure 2c-The whole palatal defect was reconstructed with the tongue flap



Figure 2d-Tongue appears to be of near normal bulk

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