

ORIGINAL RESEARCH

Assessment of cases of correction of palatal fistulas

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ABSTRACT

Background: A palatal fistula is an abnormal communication or opening between the oral cavity (mouth) and the nasal cavity through the palate (roof of the mouth). The present study was conducted to assess cases of correction of palatal fistulas.

Materials & Methods: 58 cases of palatal fistulas of both genders was recorded. The technique for primary palatoplasty, type of palatal fistula, size of fistulas and rate of complications was recorded.

Results: Out of 58 cases, males were 38 and females were 20. Type of flap was anterior in 21, middle in 13, posterior in 8 and large palatal fistula almost involving whole palate in 6 cases. Size <2 mm was seen in 19, 2-5 mm in 32 and >5 mm in 7 patients. Type of surgery performed was tongue flap in 8, local flap in 7, Von Langenbeck palatoplasty in 37 and radial artery forearm flap in 6 cases. There were no complications in 52 and flap dehiscence in 6 cases. The difference was significant ($P < 0.05$).

Conclusion: In contrast to local flaps, tongue flap continues to be the preferred flap for treating extremely challenging anterior palatal fistulas. Von Langenbeck palatoplasty has positive results for middle and posterior palatal fistulas.

Key words: cleft palate, palatal fistula, Von Langenbeck palatoplasty

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Introduction

A palatal fistula is an abnormal communication or opening between the oral cavity (mouth) and the nasal cavity through the palate (roof of the mouth).¹ It can occur as a result of various factors, including congenital conditions such as cleft palate, trauma, infection, or as a complication of previous surgery.² Palatal fistulas can cause several issues, including difficulty with speech, nasal regurgitation of fluids during swallowing, and increased susceptibility to respiratory and ear infections. The size and location of the fistula can vary, ranging from small openings to larger defects involving a significant portion of the palate.³

The treatment of palatal fistulas usually involves surgical intervention to close the opening and restore the integrity of the palate. The specific surgical technique employed depends on the size, location, and characteristics of the fistula, as well as the individual patient's condition.⁴

The incidence of fistulas after palatoplasty ranges from 3% to 38%. Studies report rates in the range of 10%–20%.^{5,6} Palatal fistulas may present as asymptomatic holes or may cause such symptoms as speech problems, nasal regurgitation of fluids or difficulty in maintaining oral hygiene. The most common locations for fistulas are at the region around the incisive foramen, at the posterior nasal spine and the uvula.⁷ The present study was conducted to assess cases of correction of palatal fistulas.

Materials & Methods

The present study consisted of 58 cases of palatal fistulas of both genders. All gave their written consent to participate in the study.

Data such as name, age, gender etc. was recorded. The technique for primary palatoplasty, type of palatal fistula, size of fistulas and rate of complications was recorded. Data thus obtained were subjected to statistical analysis. P value < 0.05 was considered significant.

Results

Table I: Distribution of patients

Total- 58		
Gender	Male	Female
Number	38	20

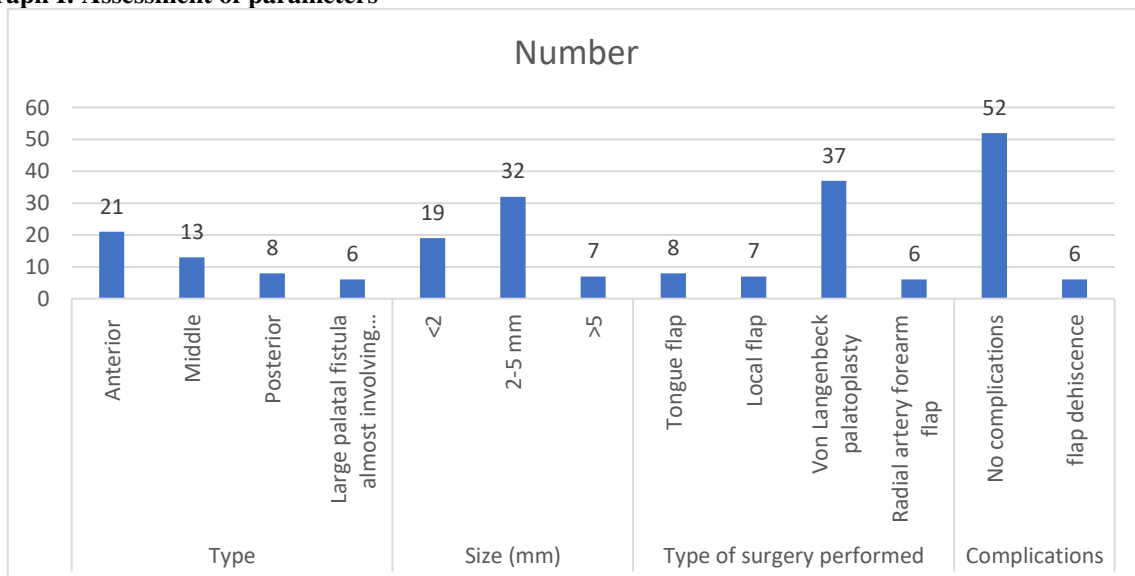
Table I shows that out of 58 cases, males were 38 and females were 20.

Table II: Assessment of parameters

Parameters	Variables	Number	P value
Type	Anterior	21	0.01
	Middle	13	
	Posterior	8	
	Large palatal fistula almost involving whole palate	6	
Size (mm)	<2	19	0.05
	2-5	32	
	>5	7	
Type of surgery performed	Tongue flap	8	0.02
	Local flap	7	
	Von Langenbeck palatoplasty	37	
	Radial artery forearm flap	6	
Complications	No complications	52	0.01
	flap dehiscence	6	

Table II, graph I shows that type of flap was anterior in 21, middle in 13, posterior in 8 and large palatal fistula almost involving whole palate in 6 cases. Size <2mm was seen in 19, 2-5mm in 32 and >5mm in 7 patients. Type of surgery performed was tongue flap in 8, local flap in 7, Von Langenbeck palatoplasty in 37 and radial artery forearm flap in 6 cases. There were no complications in 52 and flap dehiscence in 6 cases. The difference was significant ($P < 0.05$).

Graph I: Assessment of parameters



Discussion

The goal of cleft palate repair is to minimize hearing loss and difficulties in the middle ear while achieving the development of normal speech without severely affecting maxillary expansion.^{8,9} The timing of surgery, speech development, and facial growth are the most contentious problems in the care of patients

with cleft palate.¹⁰ Usually between 9 and 18 months of age is the optimal range for cleft palate surgery.¹¹ Before the child reaches the age of 24 months, cleft palate repair helps with speech and hearing. Maxillofacial area expansion is slowed down by delayed closure (after 5 years).¹² The present study

was conducted to assess cases of correction of palatal fistulas.

We found that out of 58 cases, males were 38 and females were 20. Mahajan et al¹³ determined the incidence and management of cleft palatal fistulas in a series of primary cleft palate repair surgeries. Of 185 palatal fistulas, 132 cases were operated for primary palatoplasty, and the rest 53 were the outside-operated cases. The patients with bilateral as well as unilateral cleft lip and palate. Palatal fistulas were subdivided into three types depending on their size. Anterior palatal fistulas were mostly treated by using tongue flap (65.57%), followed by local flaps (34.43%). Middle and posterior palatal fistulas were mostly treated by von Langenbeck Palatoplasty. One patient (>5 mm fistula) was treated using free radial forearm flap. Anterior palatal fistulas (65.57%) were most commonly reported, followed by middle (24.86%) and posterior (9.18%). Most commonly, the size of the fistulas ranged from 2 mm to 5 mm. The complication rate was reported to be 3.75% in case of tongue flap and 11.9% complications were reported in case of local flaps.

We found that type of flap was anterior in 21, middle in 13, posterior in 8 and large palatal fistula almost involving whole palate in 6 cases. Size <2 mm was seen in 19, 2-5 mm in 32 and >5 mm in 7 patients. Type of surgery performed was tongue flap in 8, local flap in 7, Von Langenbeck palatoplasty in 37 and radial artery forearm flap in 6 cases. There were no complications in 52 and flap dehiscence in 6 cases. Denny et al¹⁴ described a surgical technique for the correction of postpalatoplasty fistulas by total elevation of the palatal gingivoperiosteum starting at the dental sulcus, excision of the fistula, and watertight separate closure of the nasal and palatal mucosa by means of the transoral approach. This technique has the advantages of providing adequate exposure for closure of the nasal mucosal gap and allowing closure of the palatal defect under minimal tension. Placement of interdental sutures leaves no raw bone surfaces exposed. They used this technique on 60 consecutive patients with fistulas of the primary and secondary hard palate. Their overall success rate of fistula closure was 90 percent. The success rate for previously unoperated postpalatoplasty fistulas was 96.9 percent. All of the failures occurred in patients who had bilateral cleft lip and palate. No complications of tooth loss or gingival recession were observed.

Michael H. Carstens¹⁵ conducted a study encountering anterior palatal fistula in 77.5% of cases. In most of the cases, this results from failure to achieve control of the anterior nasal floor. We also report a high incidence of anterior palatal fistulas (65.94%) as compared to middle palatal fistulas (24.32%) and posterior palatal fistulas (9.18%). One very large palatal fistula, almost involving the whole of the palate was also reported.

The limitation the study is small sample size.

Conclusion

Authors found that in contrast to local flaps, tongue flap continues to be the preferred flap for treating extremely challenging anterior palatal fistulas. Von Langenbeck palatoplasty has positive results for middle and posterior palatal fistulas.

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