

Postoperative Complications of Cleft Lip and Palate

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ABSTRACT

Aim: To determine the causes and prevention of early and late postoperative complications.

Orofacial cleft is a gap or split in either the upper lip or the roof of the mouth (palate) or sometimes both. Surgical repair of lip is usually carried out during the third month of life while surgical repair of palate is usually carried out between 8-18 months. This a prospective study is include 250 operations for various types of orofacial clefts operated under general anaesthesia. In this study the serious complication is the death of one case due to airway obstruction, also scar formation and lip notch common in lip surgery indicate for scar revision, also breakdown common in cleft palate that need for secondary repair. Chest infection also common due to velopharyngeal incompetence and influx of food to the airway.

Keywords: Complications, cleft, palate

INTRODUCTION

Orofacial cleft is a gap or split in either the upper lip or the roof of the mouth (palate) or sometimes both.¹ It occurs when there is failure of fusion of the facial processes properly during the early stage of pregnancy. This is occur during the fifth to ninth week of pregnancy².

Surgical repair of lip is usually carried out during the third month of life, including the skin, mucosa and underlying muscles. The nose should be reshaped at the same time³.

The surgical intervention usually leaves a slight scar, but the operator will attempt to line up the scar with the natural lines of the lip to make it less noticeable⁴.

Surgical repair of palate is usually carried out between 8-18 months. The muscles of soft palate and the lining of the hard palate are rearranged⁵.

The surgical intervention for reconstruction of dentoalveolar cleft carried out before the eruption canine⁶.

PATIENTS AND METHOD

This a prospective study is include 250 patients with various types of surgical intervention for orofacial clefts, operated under general anaesthesia in the department of oral and maxillofacial surgery in al Zahraa Teaching Hospital between May 2013 and January 2018. This study deals with early and late postoperative complications and exclude those complications that occur before the extubation. In this study the follow up extended 1-3 years. The age of the patients was from 3 months to 30 years, 160 male and 90 female.

RESULT

Table 1: Distribution of surgical interventions of orofacial clefts.

Type of cleft surgery	n
Cleft lip repair	95
Cleft palate repair	148
Dent alveolar reconstruction cleft(bone graft)	7
Total	250

Table 2: Complication of palate (n=95)

Complication	n	%age
death	1	0.67
Chest infection	30	20
Bleeding	11	7.4
Partial break down	10	6.7
Complete breakdown	2	1.35
Nasal speech	2	1.35
Infection of wound	1	0.67
Obvious scar	1	0.67

Table3: Complications of lip.

Complication	n	%age
Obvious scar and lip notch	20	20.5
Chest infection	18	18.5
Lateral displacement of ala	11	11.5
Partial break down of lip	10	10.5
Stenosis of nostril	7	%
Infection of wound	3	3
Bleeding	0	0

Table 4: Complications of dento alveolar cleft

Complication	n	%age
Pneumonia and lung abscess	1	14
Gait and difficult of walking	7	100
Failure of graft	2	28
Chest infection	1	14
Bleeding from donor site	1	14
Conspicuous Scar of donor site	1	14%

DISCUSSION

This is a new study that deals with the complications of orofacial cleft classified the surgical intervention into: lip repair, palatal repair and reconstruction of dentoalveolar cleft. The order of complications is starting with a serious one: death, in this study one patient was died, this patient presents with cleft palate with sever and chronic upper and lower respiratory tract infection without improvement by

medications, this patient died due to upper airway obstruction one hour after completion of surgery and extubation, and failure of reintubation, therefore this patient should be discharge to R.C.U intubated, then extubated after had been become stable. Second case was exclude from this study because he was died during operation due to cardiac stand still.

A second serious complication is pneumonia with lung abscess for patient presents with dentoalveolar cleft and end with lobectomy and hospitalize for 12 days at the cardiothoracic department, this patient developed flu like illness followed by severe chest infection and lung abscess after 11 days of surgery. We cannot avoid or predict this complication as this patient was fit for surgery, clear, chest, and the procedure ran straight forward. Also one of the most common complications is chest infection, mild to moderate, because most of the patients especially with cleft palate have aspiration and food influx to the airway, therefore it is better to managed these patients preoperatively to avoid serious complications. Also one of the most complication is scar formation and notch of upper lip, this is may be due to the surgeon don't follow the ideal principles of incision and suturing or related to the body of patients (proliferation of fibroblast), the incisions should be line up to the natural skin line. Also lip notch common in cleft lip can be avoided when medial and lateral line of clefted site is equal in length to horizontalization of cupid bow, also postoperative application of silicone gel and message, to avoid linear scar formation. Infection generally is minimum when the staff follow the ideal technique of sterilization.

Breakdown is a common complication in cleft surgery because the child is usually uncooperative, crying or early bottle feeding may result in breakdown, therefore postoperative intravenous fluid especially first days may minimize this complication, or sometimes we can use nasogastric tube but it is difficult for some children. It is important that the breakdown may be due to deficient tissue available for repairing, this a problem can be skipped by staging the operation (step by step), for example: bilateral cleft lip converted to unilateral lip, Or using pharyngeal flap, tongue flap for repairing cleft palate Tongue flap used in two cases, but both them fail because it needs cooperative patient that is absent during childhood, therefore we advise to use the tongue flap in cooperative patients (adult), taking the medial portion of tongue pedicled posteriorly because it is nearer to midline of palate.

Also one of the important goals of surgical repairing of palate is to get velopharyngeal competence and avoid nasal speech, this can be obtained by using Z plasty of palate, using pharyngeal flap or step back incision of palate.

Stenosis of nostril occur due to edema after lip surgery or suturing under tension, this complication usually in bilateral cleft lip, can be avoided by preoperative steroid

injection and undermined of tissue skin, muscle and mucosa and fracturing and fixation of prolabium.

Regarding the bone graft for reconstruction of dentoalveolar cleft, failure of graft can be occur. From 7 cases, 2 cases were failed due to unstable of graft due to mobility of premaxilla in bilateral cleft palate therefore we advise to fix the premaxilla by arch bar during healing time.

Gait and difficulty of walking occur in all cases of bone graft taking from iliac crest due to stripping of muscles, therefore it is better to inject local anesthesia of long duration at donor site post operatively, and the graft taking from the medial side of iliac crest.

In cleft surgery a profuse bleeding do not occur, because there is no large major artery in this region, but it is serious due to it is interference with the airway especially during cleft palate, and damage to the greater palatine artery, bleeding to the airway can be controlled by pressure pack and bone wax to the great palatine foramen or gel foam, therefore never remove the tube without good haemostasis.

CONCLUSION

1. Well trained multidisciplinary team is the cornerstone to reduce these complications, Including: surgeon, anaesthetist, pediatrician, periodontist, orthodontist, speech therapist and psychiatrist), also the surgeon should be stick to the principles of cleft lip and palate procedures.
2. The surgeon should inform the parents from starting the schedule and timing of surgical intervention: lip, palate, dentoalveolar, scar revision, orthognathic surgery and rhinoplasty, to avoid late management that result in nasal speech even in good palatal repair.
3. It is important to establish large specialized centers to managed clefts patients.

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