

# Determine the Frequency of Postoperative Complications in Patients Undergoing Primary Repair of Cleft Lip

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## ABSTRACT

**Aim:** To examine the postoperative complications in patients undergoing primary repair of cleft lip.

**Study design:** Retrospective/Observational

**Place and duration of study:** ENT Department & Paediatric Surgery Department, Civil Hospital Quetta and Bolan Medical Complex Hospital Quetta from 1<sup>st</sup> March 2019 to 31<sup>st</sup> March 2020.

**Methods:** Thirty two children of both genders with ages 9 months to 5 years undergoing primary repair of cleft lip were enrolled. Patient's detailed demographics were recorded after taking written consent from parents/guardian. Postoperative complications were recorded.

**Results:** There were 20 (62.5%) males while 12 (37.5%) were females. 18 (56.25%) patients were ages <2 years and 14 (43.75%) were ages above 2 years. 22 (68.75%) patients had unilateral and 10 (31.25%) had bilateral cleft lip. Postoperative complications found in 8 (25%) patients, among these wound infection found in 2 (6.25%) patients, 2 (6.25%) had bleeding, 1 (3.13%) patient had wound dehiscence, fistula developed in 1 (3.13%), 1 (3.13%) patients had respiratory tract infection, 1 (3.13%) patient had hypertrophic scar.

**Conclusion:** The frequency of early postoperative complication was 32.25% while 75% patients had no complication after primary repair of cleft lip.

**Keywords:** Cleft lip, Primary repair, Children, Postoperative complications

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## INTRODUCTION

Surgical treatment of clefts during the infancy is not only a particular challenge for the ENT surgeon, plastic surgeon, paediatric surgeon etc but also for the anaesthesiologist. Studies by Tiret et al<sup>1,2</sup> showed that the risk of complications during the general anaesthesia is three times higher in children than in adults. From the physiological point of view, an infant differs from an older child in that most organs are still immature.<sup>3,4</sup> Young infants possess anatomical particularities which can cause problems during the cleft treatment. The enhanced incidence of anaesthesiological complications in children with cleft lip and palate (CLP) can be attributed to various factors such as a higher viscous airway resistance, a higher incidence of respiratory infections, nutritional deficiencies, developmental anomalies and anatomical features like micrognathia, macroglossia and jaw-bone hypoplasia. Furthermore, in cleft lip and/or palate patients the anomaly requiring surgery can be associated with one of 150 different syndromes or nonsyndromal abnormalities<sup>3,5</sup>.

The factors influencing the overall outcome of cleft repair are multiple and complex. Timing of cleft lip and palate closure remains controversial in the literature.<sup>6</sup> A compromise must be made on the age at surgery and the surgical outcome concerning facial growth, scarring, speech, language development, and psychological factors<sup>7</sup>.

Morbidity and mortality rates for cleft lip and palate repairs are, however, difficult to compare because of the absence of a uniform classification of morbidity.<sup>8</sup> Improvement in pediatric anesthesia and surgical

techniques has been reported to decrease the incidence of intraoperative and postoperative complications and has allowed more complex operations to be carried out at an earlier age<sup>9</sup>. We conducted present study with aimed to examine the frequency of postoperative complication in children undergoing primary repair for cleft lip.

## MATERIALS AND METHODS

This study was conducted at ENT Department & Paediatric Surgery Department, Civil Hospital Quetta and Bolan Medical Complex Hospital Quetta from 1<sup>st</sup> March 2019 to 31<sup>st</sup> March 2020. Thirty-two patients of both genders with ages 9 months to 5 years presented with cleft lip were included. Patient's detailed demographics including age, sex, type of cleft lip, weight, and complete blood picture were recorded after taking informed written consent from parents/guardians. Patients with ages less than 3 months, patients with severe respiratory disorders, thalassemic patients, and patients with history of cleft repair were excluded. All the patients were received primary repair under general anesthesia. Postoperative complications were examined at immediate postoperative period. Patients were followed for 14 days after surgical treatment. All the data was analyzed by SPSS 24. Chi-square test was done to compare the frequency of complications types of cleft lips. P-value <0.05 was taken as significant.

## RESULTS

There were 20(62.5%) males while 12(37.5%) were females. Eighteen (56.25%) patients were ages <2 years and 14(43.75%) were ages above 2 years. Mean weight was  $9.84 \pm 4.66$  kg. Twenty two (68.75%) patients had unilateral and 10(31.25%) had bilateral cleft lip (Table 1).

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Postoperative complications found in 8 (25%) patients while 24 (75%) patients had no complication (Fig. 1). Among all the patients with post-operative complications, wound infection found in 2 (6.25%) patients, 2 (6.25%) had bleeding, 1 (3.13%) patient had wound dehiscence, fistula developed in 1 (3.13%), 1 (3.13%) patients had respiratory tract infection, 1 (3.13%) patient had hypertrophic scar (Table 2). Patients with unilateral cleft lip had more complications 6/22 (27.27%) as compared to bilateral 2/10 (20%), but the difference was not statistically significant [ $p>0.05$ ] (Table 3).

Table 1: Demographics of all the patients

Variable	No.	%
<b>Age (years)</b>		
≤2	18	56.25
>2	14	43.75
<b>Gender</b>		
Male	20	62.5
Female	12	37.5
<b>Type</b>		
Unilateral	22	68.75
Bilateral	10	31.25
Weight (kg)	$9.84\pm4.66$	

Fig. 1: Frequency of complications

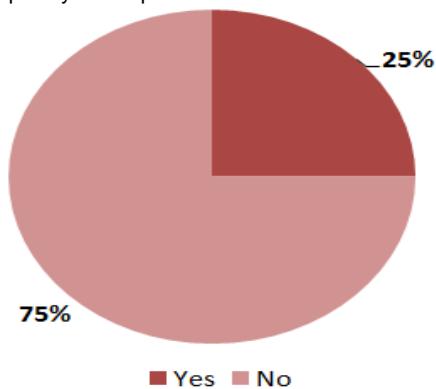


Table 2: Frequency of postoperative complication

Postoperative complication	No.	%
Wound Infection	2	6.25
PO Bleeding	2	6.25
Wound Dehiscence	1	3.12
Fistula	1	3.13
Respiratory tract infection	1	3.13
Hypertrophic Scar	1	3.13

Table 3: Association of complication with type of cleft lip

Complication	Unilateral	Bilateral	P value
Yes	6 (27.27)	2 (20)	>0.05
No	16 (72.73)	8 (80)	

## DISCUSSION

Surgical procedures are highly associated with postoperative complications and these complications may lead to morbidity and mortality.<sup>10</sup> Primary repair for cleft lips or palate is the most commonly performing procedure due to its fewer rates of adverse outcomes<sup>11</sup>. We

conducted this study to determine the early postoperative complications in patients undergoing primary repair for cleft lip. In this regard 32 children with cleft lips were enrolled. Majority of patients were male 62.5% as compared to females 37.5%, 56.25% patients were ages less than 2 years while 43.75% were ages above 2 to 5 years. These results were similar to many of previous studies in which majority of children were male 60% to 70% and majority of patients were ages <1 year<sup>12,13</sup>.

In the present study, we found that the mean weight was  $9.84\pm4.66$  kg. 22 (68.75%) patients had unilateral and 10 (31.25%) had bilateral cleft lip. A study by Sree et al<sup>14</sup> reported that mean weight of children was 8.6 kg whom were undergone primary repair. Adesina et al<sup>15</sup> reported in their study that out of 85 children who received primary repair of cleft lip, 49.41% had unilateral, 23.53% had bilateral and 23.53% had cleft palate.

This study showed that postoperative complications were found in 8 (25%) patients while 24 (75%) patients had no complication. Adesina et al<sup>15</sup> reported that out of 85 children the percentage of complication was 72% (31 complications). Sree et al<sup>14</sup> reported that the incidence of postoperative complications was 21% out of 100 procedures. A study conducted by Schönmeyret et al<sup>16</sup> regarding early postoperative complication of primary cleft lip repair and they reported that the incidence of Po complication was 4.4% and among them dehiscence (3.2%) and infection (1.1%) were the most common types of complication.

In the present study, wound infection found in 2 (6.25%) patients, 2 (6.25%) had bleeding, 1 (3.13%) patient had wound dehiscence, fistula developed in 1 (3.13%), 1 (3.13%) patients had respiratory tract infection, 1 (3.13%) patient had hypertrophic scar. A study by Abdurrrazaq et al<sup>17</sup> regarding surgical outcomes of cleft lip repair and they reported that 22 (14.1%) postoperative complications were found in 17 (13%) of the complications were oronasal fistula (ornasal fistula rate =29.8%), followed by 3 cases of hypertrophic scar of the lip, wound dehiscence of the nostril floor and lip notching, respectively. Some other studies demonstrated that wound infection and dehiscence were the common immediate postoperative complications associated with primary cleft lip repair<sup>18,19</sup>.

We found that patients with unilateral cleft lip had more complications 6/22 (27.27%) as compared to bilateral 2/10 (20%), but the difference was not statistically significant ( $p>0.05$ ). These results were comparable to some previous studies<sup>15,20</sup>.

## CONCLUSION

The frequency of early postoperative complication was 32.25% while 75% patients had no complication after primary repair of cleft lip. Wound infection was the commonest complication followed by bleeding, wound dehiscence, hypertrophic scar, fistula and respiratory tract infection. Moreover primary repair of cleft lip is safe and effective surgical procedure with fewer rates of minor complications and none of patient had developed any major complication.

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