THE MORTALITY RATE IN OPERATED CLEFT LIP AND PALATE PATIENTS IN AL- ZAHRA'A TEACHING HOSPITAL

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ABSTRACT
This is a prospective study include 200 operated patients born with cleft deformities and were operated under general anaesthesia in the maxillofacial department in Al Zahra’a teaching hospital in wassit between 2013-2017. Cleft lip and/or palate are common birth defects due to genetics and environmental causes. CLP may be isolated or as part of syndromes. Congenital heart disease (CHD) is one of the most common diseases that association with orofacial clefts. The aim of this study is the evaluation of the mortality rate, causes and prevention of death in Cleft lip and Palate patients during and after operation. For 200 operated patients with cleft deformities, two patients were diagnosed due to respiratory and congenital heart diseases. Therefore, precise clinical examination, echocardiography should be done preoperatively to exude congenital heart disease and to determine the fitness for general anesthesia.

Aim of study: To determine the mortality rate, causes and prevention of death during and after operation.

Keywords: mortality, cleft, palate

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INTRODUCTION

A cleft is a gap in the lip and/or palate. Clefts occur when the two sides of the lip or palate fail to grow together during the first trimester of pregnancy. Infant may be born with a cleft lip, a cleft palate, or both. Orofacial clefts occur in about 1 of every 600 births in the United States of America, making them one of the most common congenital anomalies in the head and neck region.6,7 The etiology of Orofacial clefts is complex, including many genetic and external (environmental) factors.1,2,5,6

In many studies, significant correlation was reported between oro-facial clefts at birth and other defects. Congenital heart disease (CHD) is the one of the most common associated anomalies with oro-facial clefts, it is reported as the principal cause of death among infants with OFCs.6,7
**MATERIAL AND METHODS**

This prospective study is including 200 operated patients presented with cleft deformities to Al-Zahraa teaching Hospital in Wassit, department of oral and maxillofacial surgery from May 2013 to May 2017. All patients are preoperatively examined by pediatrician and otolaryngologist to exclude other abnormalities, and by anesthetist to confirm their fitness for general anesthesia. All the patients have the investigation: C.B.P, blood sugar, serum creatinin, HBV-HCV-Chest X-ray and some of them echocardiography taken by pediatric cardiologist. Two infant died preoperatively due to malnutrition and recurrence chest infection were exclude from this study, as this study conducted for operated cases only (expose to general anesthesia).

**RESULTS**

Within a period of 4 years, from May 2013 to May 2017, higher incidence of cleft lip with or without palate in male than in female, in contrast to isolated cleft palate higher in female than male table (1). Two patients were died out of 200 patients (1%), one of them female with complete cleft lip and palate and the second is male with complete cleft lip and palate also table (2). The female was died 1 hr. postoperatively due to respiratory embarrassment in respiratory care unit, while the male was died after intubation by the anesthetist due to cardiac stand still.

<table>
<thead>
<tr>
<th>Cleft type</th>
<th>Sex</th>
<th>Ratio(Male: Female)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>Cleft lip</td>
<td>40</td>
<td>22</td>
</tr>
<tr>
<td>Cleft lip &amp; palate</td>
<td>80</td>
<td>40</td>
</tr>
<tr>
<td>Cleft palate</td>
<td>4</td>
<td>14</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>124</strong></td>
<td><strong>76</strong></td>
</tr>
</tbody>
</table>

Table 2: The mortality rate.

<table>
<thead>
<tr>
<th>Cleft type</th>
<th>No. of cases</th>
<th>No. of death</th>
<th>Mortality rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cleft lip</td>
<td>62</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Cleft lip &amp; palate</td>
<td>120</td>
<td>2</td>
<td>1.6%</td>
</tr>
<tr>
<td>Cleft palate</td>
<td>18</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td><strong>All types of cleft</strong></td>
<td><strong>200</strong></td>
<td><strong>2</strong></td>
<td><strong>1%</strong></td>
</tr>
</tbody>
</table>

**DISCUSSION**

Orofacial cleft is one of themost common defects in the united states of America. The occurrence rate varies by population. In this study isolated cleft palate higher in female than male, in contrast to cleft lip with or without palate higher in male than in female table (1). This is agree with Mossey et al 2009.7,8. “Cleft lip and palate classified into syndromic and non-syndromic defects. The syndromic may be up to 62.9%”.9,10.
most common defects associated with orofacial clefts are velo cardio facial syndrome, Pierre robin syndrome, stickler syndrome and others. In this study two patients were died, one after few minutes of induction and intubation due to congenital heart disease (large A.S.D) according to forensic report, that not detected by clinical examination by anesthetist who is well trained and qualified, and the same time the Echo study is not available, and the E.C.G mostly not enough to detect all the congenital heart disease. The congenital heart disease and the adverse effect of anesthetic drugs (hypotensive agent), also vasovagal reaction that may be occur after stimulation of recurrent laryngeal nerve by intubation, all result in cardiac stand still, according to the explanation of anesthetist steam in the death conference in the teaching hospital, after the failure of all measures to regain heart beats. The second case with history of chronic airway obstruction and episodes of stridor without response to treatment, clinical examination by maxillofacial, pediatrician, cardiothoracic surgeon, and bronchoscope, laryngoscope and esophagoscope were done with no clear cause or defect other than cleft lip and palate. In fact the patients with history of sever upper or lower respiratory tract infection are more sensitive to sedative drugs and increase the risk of obstruction at the time induction or postoperatively, and she was died in the R.C.U after one hour of extubation due to bronchospasm and sever hypoxia and fail of reintubation according of forensic report. In this study both the dead cases were with complete cleft lip and palate table (2) that means there is a relation between the severity of orofacial cleft and mortality rate. Aspiration and food reflux are increase with complete cleft lip and palate, thus increase the severity of chest infection and malnourishment (anemia, underweight), therefore these patients liable for local and systemic infection, also the congenital anomalies, especially heart disease associated with severity of clefts, that complete cleft lip and palate highly associated with congenital anomaly than cleft lip or palate only.

7,8

CONCLUSION
1- All the patients should be examined by Echocardiography to exclude C.H.D.
2- Preoperative antibiotic to treat the upper or lower respiratory tract infection which is common in clefts patients due to food reflux into the nasal passage and postponed the sever cases as the operation is not emergency.
3- If the patient has history of stridor or obstruction; the patient should be discharge intubated after operation to the R.C.U.
4- The congenital anomaly highly associated with the severity of orofacial cleft, therefore multidisciplinary team is the cornerstone to reduce the mortality and morbidity.

ETHICAL CLEARANCE
The Research Ethical Committee at scientific research by ethical approval of both environmental and health and higher education and scientific research ministries in Iraq

CONFLICT OF INTEREST
The authors declare that they have no conflict of interest.
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