

## CLEFT LIP AND PALATE IN NORTHERN NIGERIAN CHILDREN

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### Abstract

**Background:** Cleft lip and palate are congenital abnormalities often seen and managed early in life in the developed world. The current approach to management is a multidisciplinary one. In this part of the world however, patients present at a later age and are managed by a single specialist.

**Methods:** A retrospective review of children with cleft lip and palate seen and managed over a 10- year period was done using data obtained from patients' case folders.

**Results:** Five hundred children were treated over the ten-year period. 56.8% of patients treated presented with cleft lip alone while 43.2% had both cleft lip and palate. More males than females presented with cleft lip alone while more females had both cleft lip and palate. 59.3% of the patients were less than one year of age. There was a positive family history of cleft lip and palate in 5.5% of patients. Malnutrition, anaemia, convulsion, ear infection, diarrhoea, malaria fever, upper respiratory tract infection and skin rashes were often seen in these patients at first visit. All patients were managed by maxillofacial surgeons and anaesthetists. There was no involvement of the orthopaedic and plastic surgeon, orthodontist or speech therapist in patients' management.

**Conclusion:** Though management of cleft lip and palate was successful within our limits, there is need to increase public awareness of the treatment possibilities available and to adopt a team approach to management in order to improve treatment outcome.

**Key words:** Cleft lip and palate, northern Nigeria

### Introduction

The maxillofacial unit of the Ahmadu Bello University Teaching Hospital, Kaduna, Nigeria is one of the major treatment centers for cleft lip and palates in northern Nigeria; an area with an estimated population of 65 million people.

Unlike in the developed countries where cleft lip and palate (CLP) are managed by a multi-disciplinary team,<sup>1</sup> CLP are managed in northern Nigeria mainly by the maxillofacial, paediatric and sometimes plastic surgeons in the Teaching Hospitals in Zaria, Kano, Jos and Maiduguri. As a result of non-involvement of all relevant healthcare specialists in patient management, the defects are sometimes closed leaving patients with residual speech, hearing or facial structural impairment.

### Materials and methods

Five hundred cases of CLP seen at the Maxillofacial Unit of Ahmadu Bello Teaching Hospital, Kaduna, over a period of ten years were studied. Patients seen at the clinic but not operated upon were excluded

from the study.

Patient presenting at the time of operation with haemoglobin less than 10g/dl were either built up with haematinics or transfused with packed cells preoperatively. All patients were free from infections and in optimal physical condition before their surgery. Cleft lip was repaired usually at the age of 5 months and palate at 18 months if patient was seen early enough in the clinic.

### Results

Majority of the patients with cleft lip and palate were children below the age of one year (Figure 1). There was a preponderance of males over females in those that presented with both cleft lip and palate (M: F = 14:1). Among the patients who presented with cleft lip alone, 113 (48.9%) were females while 118(51.1%) were males (Table 1). There was a predominance of left sided cleft lip (245, 66.4%) over right-sided cleft lip (124, 33.6%). Among patients who presented with cleft palate, the defect commonly affected the soft and hard palate. Rarely were hard palate alone or the uvula alone affected (Table 2).

### Associated medical conditions

At the time of presentation, most patients had other medical conditions like malnutrition, anaemia, convulsion, diarrhoea, ear infections (1.2%), malaria fever, skin rashes and other congenital abnormalities like hypertelorism (3.2%), micrognathia (0.8%) and microphthalmos (0.4%). The overall incidence of anaemia in this study was 46.6%. Anaemia was most commonly seen in patients with the AS genotype. One hundred and eleven (67.3%) of the 165 of patients in this group had haemoglobin levels less than 10g/dl. One hundred and eighty one (61.98%) of all patients below the age of two years had haemoglobin levels less than 10g/dl.

### Family history

Twenty-seven (5.5%) patients had a positive family history of either cleft lip or cleft palate. In a particular family, three out of five children had cleft lip and palate.

### Drug history

Eighty-five (17.3%) of mothers admitted to taking drugs not prescribed by specialists during pregnancy.

Figure 1: Age distribution of children with cleft lip and palate

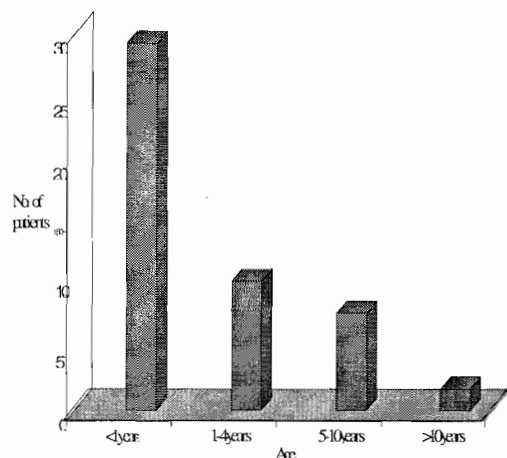


Table 1: Sex distribution of cleft lip and palate

Type of cleft	M	F	Total (%)
Cleft lip alone	118 (51.1)	113(48.9)	231 (100)
Cleft palate alone	32 (57.1)	24 (42.9)	56 (100)
Both cleft lip and palate	154 (59.0)	107 (41.0)	261 (100)

The commonest drug taken was the antibiotic chloramphenicol for treatment of typhoid fever.

### Surgical treatment

The cleft lips in this study were repaired under general anaesthesia using the Millard rotation – advancement approach while repair of cleft palates were done using the Veau-Ward II type of closure. In the three cases where lengthening was required, pharyngoplasty was done. All the cases received prophylactic antibiotics for five days post operatively. Feeding was via nasogastric tube for seven days. Sutures were removed seven days post- operatively.

### Complications

One death resulting from laryngospasm was recorded in the series. Post-operative complications were mainly upper respiration tract infection (112, 22.3%), bronchopneumonia (51, 10.2%) and partial breakdown of the repaired cleft (28, 5.6%). The breakdown was due either to poor nursing care, lack of adequate anti biotic cover or excessive tension on the different types of flaps.

Table 2: Extent of defect in cleft palate

Extent of defect	No. (%)
Soft and hard palate only	111 (44.2)
Soft palate only	83 (33.1)
Soft palate, hard palate and uvula	55 (21.9)
Hard palate only	1 (0.4)
Uvula only	1 (0.4)
Total	251 (100)

### Discussion

Cleft lip and cleft palate (CLP) are common cranio-facial congenital defects. It is said to occur in one in every seven hundred births. It is more common in Asians population<sup>1,2</sup> than in Africans.<sup>8 - 10</sup> Factors that have been implicated in the aetiology of clefts include, environmental factors, exposure to drugs, heredity and pre-natal nutrition. In developed societies, patients present for treatment very early in life. In this study, 84.3% of patients seen were below the age of 11years. In a similar study by Adekeye,<sup>4</sup> Only 36.4 % of patients presented below the age of 12 years. This indicates some improvement in age of presentation for treatment. This series confirmed the prevalence of left sided cleft lip as earlier reported.<sup>4</sup> There is an almost equal sex distribution between males and females in cleft lip presentation and a slightly higher female predilection for CLP. This is in agreement with earlier studies.<sup>5-7</sup>

Drug history was found to be significant in this study. Chloramphenicol widely used in Nigeria for the

treatment of typhoid fever was taken by many of the mothers during pregnancy for treatment of typhoid fever. This antibiotic has not been previously implicated in the aetiology of CLP. Further studies are required to determine the role of this antibiotic in the aetiology of CLP. Anti-convulsants and sedatives have been implicated in other report.<sup>3,8</sup>

The anaemia noticed particularly among patients below two years of age could be as a result of feeding difficulties. Some mothers of CLP children lack proper understanding of appropriate feeding methods. As a result, the patients are usually underfed. Mothers were routinely referred to the Nutritionist for advice on proper feeding methods. Expectedly, patients with the AS genotype were more anaemic than those with genotype AA.

The positive family history of CLP observed in 5.5% patients lends credence to the implication of hereditary factors in the aetiology of CLP. In a particular family, three out of five children had cleft lip and palate.

Nwanze and Sowemimo,<sup>9</sup> and Datubo-Brown<sup>10</sup> suggest that the problems of managing CLP may derive from the fact that each tribe in Nigeria tends to have different religious and social taboos associated with CLP. Some believe that children with CLP are in contact with "evil spirits" while for some CLP is a punishment from the gods. This results in the child being ostracized by the family and society. The willingness to expend scarce financial resources on treating such children is often not there. The present study however suggests that in Northern Nigeria, the problems have to do with the serious lack of medical personnel, ignorance and poverty. It is a known fact that there is no single orthodontist in the whole region. A child with isolated cleft needs orthodontia. The need to realign the gum ridge and dental arches by the orthodontist to give the patient a better function cannot be over emphasized. After surgery for cleft lip and palate, the child needs the help of a speech therapist to learn to make new sounds. There are less than five speech therapists in the whole country and the facilities and equipment for speech production are inadequate. The fact that children with CLP may not be treated before the age of 10 years is an indication of the low level of health awareness and the pervasive poverty that still exists. All these difficulties have limited the management of CLP to just surgical intervention.

## Conclusion

Most children with CLP in northern Nigeria present late to hospital for treatment and are malnourished. There is need for awareness to be increased so that patients can present early. There is more importantly the need to promote personnel training in the management of CLP in the area. Training of relevant personnel will encourage a multidisciplinary approach to management and ensure optimal results.

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