Humeroradioulnar Synostosis in an African Child: A Case Report.

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This is a report of humeroradioulnar synostosis at left elbow, in a girl from Sokoto, Nigeria in whom there is no history of hereditary/congenital diseases. This case is the thirtieth reported in literature. This defect was not solitary. Plain radiography revealed other deformities: In the right upper limb, the humerus, radius and ulna were well developed. There were three metacarpals and three fingers. In the left upper limb, there was humeroradioulnar synostosis and partial radial hemimelia. There were two metacarpals and three fingers. Treatment was offered but the child was not brought back to the hospital. This is the first case of humeroradioulnar synostosis reported from Africa.

Keywords: Humeroradioulnar synostosis.

Introduction

A girl presented one week after delivery with a stiff left elbow and three digits on both hands. These were the only defects seen. Such a congenital deformity at the elbow had been reported before from this hospital[1]. Plain radiography revealed all the defects. The defects were failures of differentiation and formation on the basis of A.B Swanson's classification[2]. Below are the case report and description of the treatment option.

Case History

SI is a girl who was delivered at term by a 24-year old mother, gravida 4, para 4, (two boys and two girls). Both parents were native Nigerians. There was no history of hereditary/ genetic diseases in both parents' families. The mother attended antenatal care. During pregnancy, apart from iron supplements, she did not take any other drugs or herbal preparation. Pre and post natal periods were uneventful. Delivery was normal, vaginal. The baby cried immediately after delivery and weighed 2.90 kg. The baby was admitted into the special baby care Unit of Usmanu Danfodiyo University Teaching Hospital, Sokoto, Nigeria because of the obvious congenital upper limb anomalies. She was reviewed by an orthopedic surgeon a week after delivery.

The girl looked healthy. She was neither pale nor had jaundiced. Her anterior fontanelle was not bulging. No pathology was seen on the face. Her lungs were clear. Her cardiac contractions were 155 beats / min. No murmurs were heard. The abdomen was not distended and no abdominal wall defect was seen. No enlarged organs were palpated. Both upper limbs had three fingers. The right upper limb was longer than the left upper limb. There was no sensory deficit in upper limbs. The bulk and tone of the muscles in both upper limbs were not the same. The difference was in the biceps branchi muscles. The left biceps branchi muscle was hypoplastic. There were passive and active movements at the right elbow. There were neither movements nor angular deformity at the left elbow. Pronation and suppination were possible only in the right forearm. Both hands had only three digits and no thumbs.

Plain radiography was done and the following deformities were revealed (figure1): In the right upper limb, the humerus, radius and ulna were well developed. There were three metacarpals and three fingers. In the left upper limb, there was humeroradioulnar synostosis[1] and partial radial hemimelia. There were two metacarpals and three fingers. The electrophoretic pattern of the parents' hemoglobin was AA. Both parents were not reactive to VDRL (venereal diseases research laboratory) test.

The child's condition was explained to the parents and they requested for a detailed explanation of soft release and excision arthroplasty[1], which was the treatment offered. Extension and flexion at the elbow are usually accomplished by the biceps and triceps branchi muscles respectively. Force of

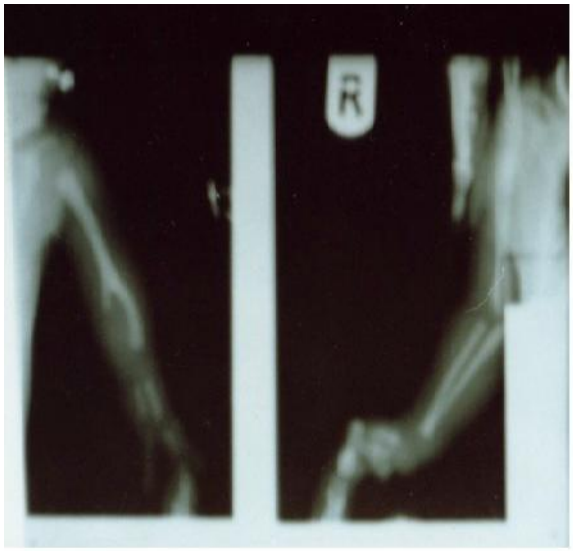

Figure 1

gravity alone can also accomplish extension at the elbow if there is agenesis or any defect of the triceps branchi muscle. They were impressed by the treatment option and requested for a three-month appointment but the child was not returned for surgery.

Discussion

The subject of this report is the thirtieth[3] and the first case of humeroradioulnar synostosis being reported from Africa. The parents of the child were not blood relation. In the right upper limb the congenital limb defects were only failures of formation[2]. In the left upper limb, there were failures of differentiation[2] (humeroradioulnar synostosis[3,4]) and formation (partial radial hemimelia, two metacarpals and three fingers). In the literature reviewed soft tissue release with excision arthroplasty at the elbow is the recommended treatment. Although initial range of movement is always satisfactory, re-ossification occurs[3]. This upper limb congenital defect if associated with lower limb, pelvic and genital malformations is a clinical variant of Al-Awadi/Raas Rothschild syndrome[4].

Conclusion

Although this patient was not operated it is being reported because of the rarity of humeroradioulnar, especially in native African children. This report will sensitise other clinicians to report more cases especially from Africa and shed more light on the mode of inheritance. The result of these new studies will help in prevention or at least reduction in the incidence.

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