AMNIOTIC BAND SYNDROME (ABS) A CASE STUDY

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ABSTRACT

One case of foetal malformation due to the amniotic band syndrome (ABS) of the forearm is reviewed. No history of malformation in the family, herbal enemata or drug abuse during the antenatal period is recorded. The 2-stage operation technique by Ombredanne and a plaster of paris slab was employed with excellent result.

Keywords: Congenital, malformation ABS, Ombredanne.

INTRODUCTION

More than 500 cases of amniotic band syndrome have been reported in the literature. Several instances of osseous deformity at the level of the congenital band have ranged from mild bowing to complete discontinuity (Baker et al, 1971; Greenfield, 1969; Sarnat et al, 1971). Reports of discontinuity referred to as pseudarthrosis have all involved the leg (Lewis et al, 1984).

The paper reports a single case of severe ABS affecting the forearm, the only case seen by the authors in seven years at the Komfo Anokye Teaching Hospital. Our literature resouces do not permit us to say that it is the only case of this type seen in West Africa during the time period mentioned.

CASE REPORT

Congenital Constricting Band

After an uneventful antenatal course, a woman aged 28 - gravida 2, para.1 — delivered a male infant at term in the hospital. Both mother and infant were seen at our Pediatric Surgery Clinic a week after delivery. She gave no family history of congenital deformity of the limbs and had been on routine antenatal drugs only.

The child had presented vertex and delivery had been uneventful. The Apgar score at birth was 6 and the child weighed 3.090gm.

Examination of the infant revealed a congenital constricting band at the middle of the right forearm with distal oedema (Fig.1 [a & b]). Abnormal mobility of the affected limb was present at the level of the constriction in the middle of the forearm. Every movement of the right upper limb was accompanied by an angulation in the middle of the right forearm.

A radiograph (Fig.2) of the right forearm revealed a discontinuity of both radius and ulna - at the level of the constriction.

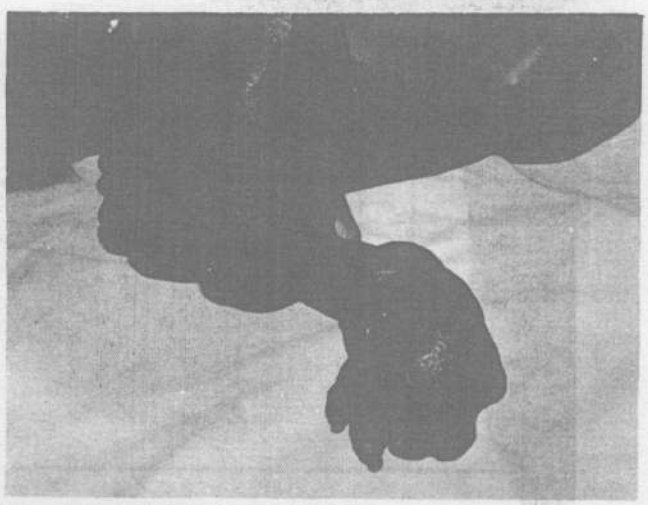

Figure 1: (a) Photograph taken at one week after birth. The anterior part of the right foream showing the level of constriction.

Figure 1: (b) The posterior part of the arm. At the middle portion of the right forearm there was deep circular constriction with distal oedema.

Fig. 2: X-ray of the right forearm, demonstrating discontinuity of the radius and ulna at the level of the constriction.

MANAGEMENT

A two-stage reconstruction technique by Ombredanne, at approximately two weeks interval, was used to repair the forearm deformity. The first stage which deals with the dorsal aspect of the band was done by Z-plasty when the child was five weeks old.

Figure 3: Showing the anterior part of the right forearm

Figure 3: (a) Immediately after the operation, at 5 weeks of age.

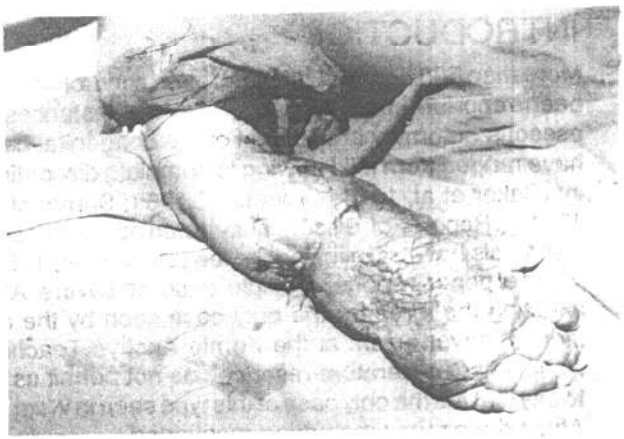

Figure 3: (b) Six days after the operation - smooth wound healing. There was some pigmentation of the dorsal skin and the oedema had reduced.

A padded volar Plaster of Paris slab was then applied to protect and immobilise the wound. Over the next five days, the venous congestion and lymphedema distal to the constriction decreased, the fingers remained warm and the circulation improved. Over the next thrity-six hours, the oedema had almost subsided. The second stage dealt with the Volar half of the band by the same technique (Fig.4 [a & b]).

Figure 4: (a) Posterior half of the constriction showing the zigzag outlines and interrupted fine sutures.

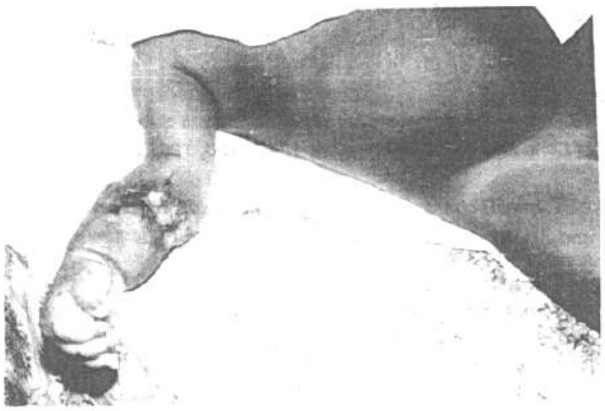

Figure 4: (b) Smooth healing. Six days post operation and sutures removed.

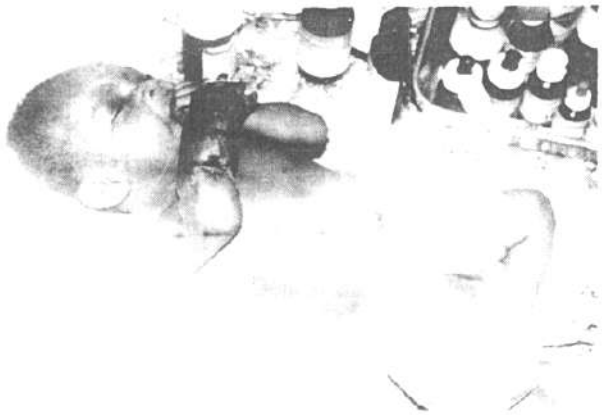

Figure 5: Child at 8 weeks of age. There was no oedema distal to the constriction. Note the normal posters of the child with both arms resting on the chest.

The result so far is excellent (Fig.5). There was increased pigmentation of the skin, but no more oedema distal to the constriction. Further no motor or sensory deficits were observed.

DISCUSSION AND CONCLUSION

Amniotic bands are congenital constricting bands which present as deep depressions of the skin which may encircle the limbs partially or completely. The involvement of the deeper structures is variable. It ranges from simple cosmetic defect through vascular disturbances to osseous deformity.

The pathogenesis of the amniotic band syndrome, despite numerous theories, remains unclear and is still a matter of controversy among research workers who have studied the problem (Streetor, 1930; Torpin, 1965).

The osseous deformity in our case is one of the very few cases involving the forearm; previously reported cases involved mostly the legs. The defect can be corrected by a two-stage Ombredanne reconstruction technique.

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CALENDAR

Date	*Theme*	*Place*	*Organisers*
3-5 Oct,1990	National Congress of University Teacher' Association of Ghana on "The Environment and Human Survival: The Role of Universities"	UST Kumasi Ghana	UST-Branch,University Teachers' Association of Ghana, UST, Kumasi,Ghana
12-13 Oct.1990	National Artists Congress	UST/Kumasi Ghana	College of Art, UST and Ghana National Commission on Culture
13-14 Nov.1990	Workshop on Consultancy	UST/Kumasi Ghana	Director,Technology Consultancy Centre, UST Kumasi, Ghana
27-28 Nov.1990	Advanced Technology in Water Management	London U.K.	Conference Office, Institution of Civil Engineers, 1-7 Great George Street London SW1P 3AA
17-19 Feb.1991	Techniques for Environmentally Sound Water Resources Development	Alexandria Egypt	Richard Wooldridge Symposium Secretary Hydraulics Research Wallingford, Oxfordshire OX10 8BA U.K.
15-20 Apr.1991	Desalination and Water Re-use	Malta	Institution of Chemical Engineers, 165-171 Railway Terrace, Rugby CV21 3HQ U.K.
13-18 May 1991	IWRA World Congress on Water Resources for Sustainable Development	Rabat Morocco	Administration de L'Hydraulique, Rue, Hassan Ben chekroun, Agdal-Rabat Morocco
4-9 Aug. 1991	17 Biennial Conference, Ghana Science Association on "Science - the backbone of development."	UST Kumsi Ghana	Ghana Science Association c/o Biochemistry Department, UST, Kumasi,Ghana
19-23 Aug. 1991	17th WEDC Conference on 'Infrastructure,Enviroment Water and People.'	Nairobi Kenya	Prof. John Pickford WEDC, Loughborough University of Tech. Leicestershire, LE 11 3TU UK or Dr. Paul Syagga, Director, HRDU, Nairobi, University P.O.Box 30197 Nairobi, Kenya.