British Journal of Plastic Surgery (1980), 33, 83–86
0007-1226/80/00160083$02.00
© 1980 The Trustees of British Association of Plastic Surgeons

POST-CIRCUMCISION VULVAL ADHESIONS IN NIGERIANS

By LAWRENCE M. IREGBULEM, F.R.C.S., F.R.C.S.E.
Plastic Unit, Federal Orthopaedic and Plastic Hospital, P.M.B. 1294, Enugu, Nigeria

In Europe and North America, vulval adhesions usually present as a congenital abnormality or as a result of a mild inflammatory process. In Nigeria, most vulval adhesions are a sequel of female circumcision, a practice that is widespread among the rural inhabitants who form about 80-90 per cent of the population. The operation is attended by many complications, of which the commonest is probably local sepsis producing vulval adhesions of varying severity. This paper presents my experience in dealing with such patients over a 3-year period.

MATERIALS AND CLINICAL FEATURES

Between January 1975 and January 1978, 15 patients with obliterative lesions of the female external genitalia were referred to the Plastic Unit of the Federal Orthopaedic and Plastic Hospital, Enugu. Of these, 10 had vulval adhesions, 2 had postburn introital stenosis, 1 had an imperforate hymen, and 2 were hermaphrodites with vaginal aplasia (Table 1). The degree of vulval adhesion among the 10 patients varied. In 5 patients the adhesion was complete, with no access whatever to the vaginal cavity (Fig. 1). Four patients presented with partial adhesions at the anterior or posterior margin of the introitus; in the remaining patient the adhesions were multiple with several "skip" areas. Among those patients with partial adhesions, 2 had an epidermoid cyst of variable size in the region of the clitoridal stump (Fig. 2).

TABLE I

Obliterative conditions of the female external genitalia

Condition	No.
Vulval Adhesions	10
Post Burn Introital Stenosis	2
Imperforate Hymen	1
Vaginal Aplasia (Hermaphroditism)	2
Total	5

The ages of the patients ranged from 3 to 20 years (Table 2). Those who presented in adolescence or thereafter admitted seeking medical help to avoid being teased at

TABLE II

Age of presentation of patients with postcircumcision vulval adhesions

No. of Patients	Age at Presentation
2	2
2	3
1	4
2	15
2	18
1	20
Total 10	

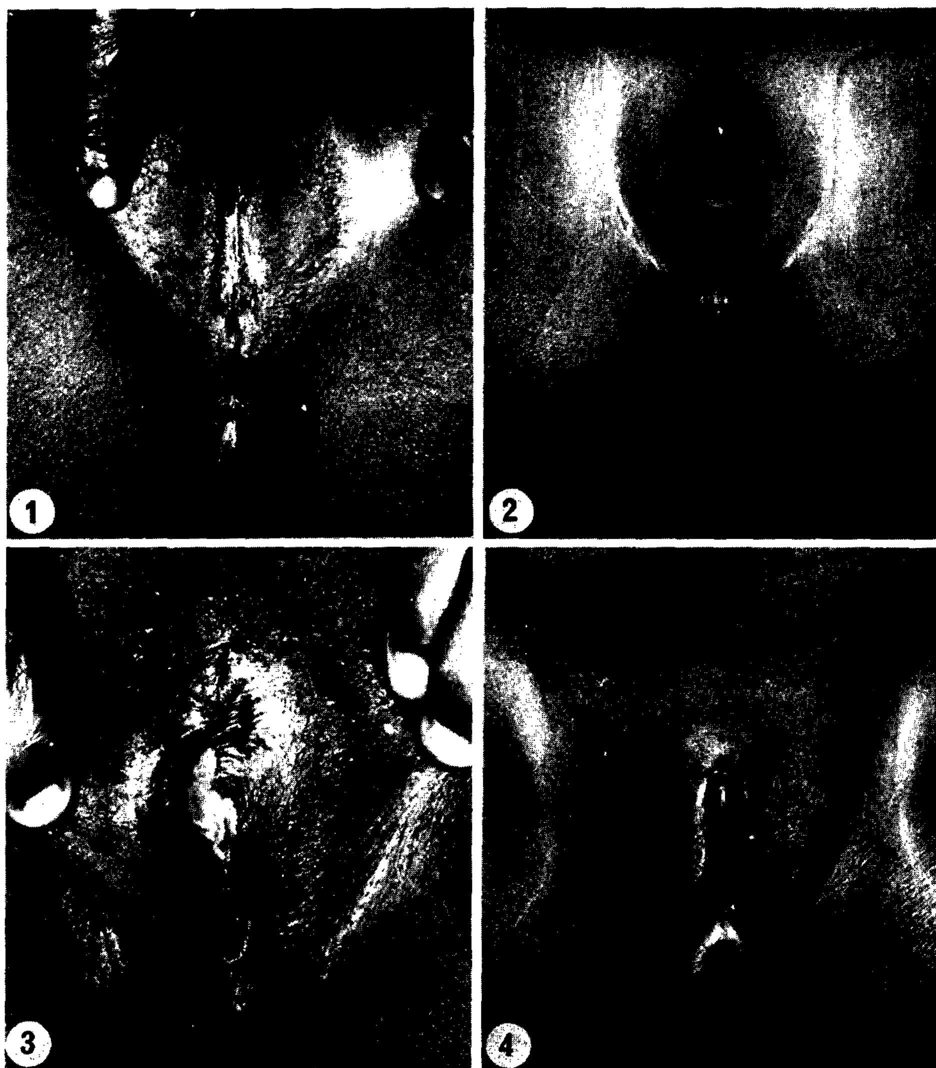

FIG. 1. Complete vulval adhesion in a girl aged 15.

FIG. 2. Epidermoid cyst of the vulva in a girl aged 4.

FIG. 3. Postcircumcision vulval adhesion causing infertility in a 20-year-old girl. Note the central dimple from futile attempts at intercourse.

FIG. 4. Typical postoperative result following division of the adhesions and reconstruction of the clitoris.

school, or as a prelude to marriage. One girl, aged 20, was a married woman referred after 2 years of childless marriage because her husband complained that vaginal penetration was inadequate (Fig. 3).

DIAGNOSIS

The diagnosis presents little difficulty. Most parents volunteer the information that although the child was normal at birth, a persistent serous or frankly purulent discharge followed clitoridectomy and partial vulvectomy.

The patient's phenotype is undisputably female. Some residual stigmata of female circumcision are invariably present. The clitoris is replaced by a tiny stump of scarred tissue surrounded by an area of depigmentation which may extend to the residual lips of the vulva. An epidermoid cyst may arise from the region of the clitoridal stump. Onuigbo (1976) found the vulva to be the most common site of such cysts among the Igbos of Nigeria and regards them as traumatic implantation dermoid cysts following ritual circumcision. On digital palpation, a "hollow sensation" may be felt by the examining forefinger. If regular intercourse had taken place, the centre of the adhesion may be dimpled.

Vaginograms were rarely successful in young children and this investigation was soon abandoned.

Laboratory confirmation of the true gender of these patients was always sought. This included a buccal smear for chromatin bodies, chromosome analysis on peripheral blood, and a 24-hour urine estimation of 17-ketosteroids.

An important differential diagnosis is female hermaphroditism which may be overlooked by the casual observer particularly when an epidermoid cyst simulating hypertrophy of the clitoris co-exists with a complete vulval adhesion which simulates the male scrotum.

Operative Technique

Unlike the congenital variety, postclitoridectomy vulval adhesions cannot be separated by blunt dissection. The densely adherent, heavily scarred tissues can only be separated by sharp dissection. Under gas and oxygen anaesthesia, the patient is placed in the lithotomy position, cleaned, towelled and catheterised with a suitable self-retaining Foley catheter. A small quantity (3 ml) of Methylene blue is injected into the vaginal cavity through the membrane which is also infiltrated with 3 ml of a solution of 1 per cent xylocaine in 1:200,000 adrenaline.

A longitudinal incision 1 cm below the catheter is preferred. Alternatively, where the adhesions are incomplete, the incision begins at the proximal end of the membrane. Once the injected dye is encountered in the vaginal cavity, the flat end of a Macdonald dissector is introduced and used as a guide to complete the incision. The cervix should now be readily palpable. Bleeding is minimal and the free border of the vaginal mucosa is sutured to the adjacent vulval skin with interrupted 5/0 chromic catgut. A pack of sofratulle gauze is placed lightly in the cavity to prevent recurrent adhesion and changed every 24 hours. The catheter is retained for 7 days to prevent vulval soiling and a suitable urinary antibiotic is administered systemically for the same period.

Epidermoid cysts, when present, are dealt with by simple enucleation. Redundant skin is trimmed and may be sutured in such a way as to simulate the clitoris, if the patient so desires (Fig. 4).

Histological confirmation of the diagnosis of epidermoid cyst was obtained in every case.

Results

No recurrence of adhesions or cysts has been noted in any of the patients. Follow up has ranged from 1 to 3 years. It was gratifying to note that the one patient who was referred because of marital problems conceived within 3 months of her operation.

Discussion

The origin of the ancient practice of female circumcision is disputed although most

scholars regard the Egyptians or the Israelis as the most likely source. Certainly, female circumcision was recorded by Strabo in his travels through upper Egypt in 25-24 B.C. In Nigeria, the main reasons adduced to justify female circumcision are:

(*a*) it is believed to aid chastity by the reduction or abolition of clitoral sensitivity;
(*b*) it is a religious rite;
(*c*) it facilitates genital hygiene.

The operation is a crude procedure which involves en-bloc removal of the clitoris and labia minora. Traditionally, the operator is an elderly woman whose armamentarium consists of a razor, warm water, various antiseptic and haemostatic concoctions whose ingredients are a jealously guarded secret.

Most children are circumcised within the first 8 days of life, although in some parts of the country the operation may be delayed until adulthood to form part of pubertal or marriage rites, or even as late as the first pregnancy (Basden, 1966). A procedure as crude as this is fraught with danger. In addition to local sepsis, haemorrhage and urinary infection are common. External urethral stenosis, intra-vaginal calculi (Onuigbo and Twomey, 1974), and tetanus (Eronini, E. A., Personal communication, 1978) have been reported and abortion has been known to follow clitoridectomy performed in early or midterm pregnancy.

There is evidence, however, that this ancient practice is on the decline. In a recent survey, I found that of 100 adult women of menopausal age interviewed in a rural community at Ifakala, only 10 kilometres from an urban state capital, *all* without exception had been circumcised. By contrast, of 100 female members of the nursing staff of the Federal Orthopaedic and Plastic Hospital aged between 25-30 years, who were interviewed, 63 (63 per cent) admitted to having been circumcised. Again whereas *all* the rural women without exception had subjected their female children to the same ritual, not a single nurse had done so. It is therefore possible, at least theoretically, that as the pace of education and urbanisation increases, the demand for ritual circumcision will fall with a consequent reduction in the incidence of its complications. Be that as it may, the ease of modern travel makes it probable that some patients with post-circumcision vulval lesions will be seen abroad where ignorance of the condition may lead to misdiagnosis and unnecessary expensive laboratory investigations.

I am grateful to the Nursing Staff of the Federal Orthopaedic and Plastic Hospital for their participation in the survey and to the members of the Medical Illustration Unit of the University of Nigeria Teaching Hospital, Enugu, for their excellent photographs.

REFERENCES

Basden, G. T. (1966). "Niger Ibos", p. 176. London: Frank Cass & Co.

Eronini, E. A. (1978). Personal communication.

Onuigbo, W. I. B. (1976). Vulval epidermoid cysts in the Igbos of Nigeria. *Archives of Dermatology*, **112**, 1405.

Onuigbo, W. I. B. and Twomey, D. (1974). Primary stone associated with circumcision. *Obstetrics and Gynecology*, **44**, 769.

Strabo: quoted in the New Caxton Encyclopaedia, 1969, Volume 5, p. 1404. London: Thames Publishing Co.