Case report: cobblestone

Split median raphe: a cause of concern?

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A 23 year old married man presented to the STD clinic with a complaint of gradual splitting of median raphe. He had had a slight split in the median raphe of the prepuce since childhood. However, during the past 5–6 years, the splitting had started in other parts of raphe covering the penis and scrotum. It was asymptomatic and patient was leading a normal sexual and reproductive life. He was father of two normal children (one male and one female). His wife had no symptoms.

The patient was anxious about this development and had a fear of penile split. Examination revealed median raphe on the shaft of penis was splitting into two (fig 1). The area in between the borders of the split was covered with normal looking skin. The median raphe on the scrotum was also broad and split at places in the same manner.

A skin biopsy from the area in between the two split parts of median raphe revealed a normal epithelial covering. Ultrasonographic examination revealed normal scrotal contents. The patient was reassured about the trivial nature of the condition and advised to come for regular follow up.

Usually the congenital/developmental anomaly confined only to the median raphe, seen in STD/GUM clinics is a median raphe cyst.¹ These cysts are due to tegumentary formation that arises as a result of “tissue trapping” during midline fusion of ectoderm.² When such cysts are elongated, they are known as raphe canal. A literature search, however, failed to reveal a case of isolated split of median raphe.

During the development of external genitalia in the male fetus, in the fourth month, the labioscrotal folds fuse at the midline to form the scrotum and the urethral folds also fuse to enclose the penile urethra.³ The genitoperineal raphe presumably represents the superficial effects of the midline fusion of ectoderm along these areas.¹ The split of median raphe was probably due to the defective fusion of ectoderm.

We do not know whether this trivial anomaly represents a milder form of other relatively more common developmental anomalies resulting from incomplete fusion of the urethral or labioscrotal folds like hypospadias or bifid scrotum.⁴

The generally accepted explanation given above for the closure of the urethral groove has been questioned recently. An alternative mechanism has been proposed in which the penile urethra is enclosed by an anterior growth of perineal mesoderm with little involvement of genital folds.³

The median raphe split with otherwise intact urethral/scrotal covering in our patient supports the later hypothesis. We presume that the anterior growth of perineal mesoderm was unaffected while the fusion of labioscrotal folds was defective resulting in the split of the median raphe with no functional abnormality.

The area between the split parts of median raphe was found to be covered with normal skin. Probably the process of split was so gradual as to allow the process of re-epithelialisation simultaneously. We believe that the commencement of sexual activities in adult age also facilitated the split in other areas.

Contributors: Both authors were jointly involved in clinical study of the patient and writing of the manuscript.

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Figure 1 Split penile median raphe. Note also broadening and split of scrotal median raphe.

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Accepted for publication
12 October 2000