GONORRHOEA IN THE MEDIAN RAPHE OF THE PENIS*  
CASE REPORT AND A SURVEY OF THE LITERATURE  

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Few case reports of gonorrhoea of the penoscrotal raphe have been published in Great Britain. The incidence of ducts in the raphe—whether infected or not—has rarely been discussed, and their origin and histology have received scant attention.  

Case Report  

A taxi driver aged 22, who had been married for 4 years, reported at the Swansea V.D. Clinic on June 15, 1959. There was no history of previous V.D.  

Extramarital intercourse had occurred on June 1, a urethral discharge was noted on June 7, and on June 13 a mark was noticed on the penis which had not been seen before.  

Examination (June 15). There was a purulent urethral discharge and a discoloured streak (2½" long)—continuous but not uniform—in part of the penile raphe. Smears from pus expressed from a tiny sinus in the streak and from the urethra showed typical intracellular gonococci. When seen again on June 29 the patient said the discharge had stopped on the day after the first attendance and treatment; the proximal end of the streak showed two openings but no pus could be expressed. No urethral discharge was present. On July 15 and 27 much pus was obtained from the small sinus at the distal end of the streak and gonococci were found in it. There was no urethral discharge and the urine was clear on both occasions. Fresh purulent discharge from both urethra and streak was seen on September 16 and gonococci were found in smears from both sites (Fig. 1, opposite).  

The patient was not seen again until December 30, 1959, when the discharge had recurred after recent marital intercourse. He had an inflammatory phimosis and—for the first time—the streak was tender. For a few days the patient was treated with saline only; on January 12, 1960, gonococci were cultured from the urethral discharge but not from the scanty sinus secretion. On no occasion was urine seen to escape from the streak. On February 15 circumcision and excision of the whole tract was carried out by Mr. J. Glyn Bowen.  

Eventually, on February 25, the patient's wife attended. Cultures from urethra and cervix were positive for gonococci, and it appeared that she rather than the duct had caused the recurrences in the patient.  

Pathology (Report by Dr. O. G. Williams).—"Material consists of a rather corrugated strip of skin 2½" long and approximately ½" wide. Longitudinal section of the tissue shows a sinus track opening at one end (the frenal end) on the skin surface and coursing rather irregularly beneath the epidermis. Owing to tissue shrinkage the track appears rather irregularly in the serial sections, and it is not certain, therefore, whether there is one common track or several discrete tracks ranged separately in longitudinal fashion; there is, however, only one skin opening demonstrable. The sinus tissue is lined by stratified epithelium, transitional for the most part, but with areas of definite squamous cell formation (intercellular bridges seen with phosphotungstic acid—haematoxylin stain). Around the track is a well marked lymphocytic and plasma cell infiltrate" (Figs 2 to 4, see p. 211).  

Discussion  

The following questions arise and the answers have been sought in the literature:  

(1) Is gonorrhoea of the ducts in the median raphe as uncommon as the literature suggests?  
(2) What is the incidence of the uninfected, usually unnoticed, ducts?  
(3) What are the views as to their formation?  
(4) What is their histology?  
(5) Why does the urethra escape infection so often?  
(6) Why does gonococcal infection of the scrotal raphe appear to be even more uncommon than that of the penile raphe?  

Survey of the Literature  

(a) Infected Ducts.—63 cases of gonococcal infection of the penoscrotal raphe have been traced in the literature (Pick, 1889; Jadassohn, 1894; Reichmann, 1899; Möller, 1904; Stieda, 1905; Gutmann, 1910; Hensel, 1910; Lenartowicz, 1913;
FIG. 1.—Infected duct in the raphe after "relapse".
GONORRHOEA IN THE MEDIAN RAPHE OF THE PENIS

FIG. 2.—Epithelium-lined tract and skin, undersurface of penis × 3.

FIG. 3.—Stratified epithelium lining epithelial tract and inflammatory cells × 160.

FIG. 4.—Detail × 375.
In 33 additional cases the infected lesions described were near the raphe or fraenum (Ödmansson, 1885; Touton, 1889; Jadassohn, 1890; Touton, 1892; Jadassohn, 1894; Röna, 1897; Pezzoli, 1900; Lanz, 1901; Bruhns, 1904; Gutmann, 1910; Hübner, 1913; Milian, 1919; Mühlpfordt, 1924; Szathmáry, 1927; Bise, 1937; Kroll and Cohart, 1944; Marmell, 1952; Hirschmann, 1952; Byers and Bradley, 1953)*.

Another eight case histories deal with gonococcal ulcers (Tschernejugow, 1910; Szathmáry, 1927; Lowry and Franks, 1943; Harkness, 1945*) and cysts (Gutmann, 1914; Okawa, 1929; Gougerot and others, 1933*) within the raphe.

In only three instances was the scrotal raphe exclusively involved and in five the condition extended into it.

In 46 of the 63 certain cases, the urethra was expressly said to be free from infection, whereas fourteen had concurrent gonococcal urethritis.

Clinically, the lesion was usually non-tender; in fact, the patient was often quite unaware of it. The danger of auto-infection was stressed by many authors, and—as the urethra so frequently escaped—a surgical cure for this kind of gonorrhoea was recommended by Rupel (1933).

The lesion was seen in cases in which the raphe was very tortuous (Möller, 1904), or Y-shaped (Hensel, 1910), or made two S-curves (Stieda, 1905). The name “ductus raphaealis” was coined by Möller (1904).

29 papers refer to the histological appearances; 21 of which indicate that the canal was lined exclusively or predominantly by squamous epithelium.

* In some instances several cases described by the same author fall into different categories in the above survey. The relevant papers have been indicated on each occasion.

† Over half of them appeared before 1914.
questions on the origin and incidence of the potentially infected ducts are discussed.

The photomicrographs were prepared by the Department of Medical Illustration, Cardiff Royal Infirmary, and the colour photographs by Mr. Tal L. Jones, Pontardulais, Glam.

REFERENCES

—- (1926). Ibid., 33, 469.

Röna, P. (1897). Ibid., 39, 27.

ADDENDUM

Herbut (1952), who discussed the embryological and pathological implications of the raphal structures, saw a teratoid cyst of the perineal raphe lined by stratified squamous epithelium.

Thompson (1959) described a non-gonococcal sinus tract in the penile raphe and showed a lacrimal probe in situ; the tract was lined by stratified squamous epithelium. Liang (1960) excised a cyst and a canal of the genito-perineal raphe and found multiple stratified squamous epithelium. The author has recently seen a patient at Cardiff Royal Infirmary Dermatological Clinic (Dr. Hodgson) with a very prominent perineal raphe. A tender nodule could be felt in it 4 in. from the anus. This had troubled the patient for 4 years and caused him to seek medical advice. At the site of the nodule the raphe appeared to end abruptly and was invisible for a further 1½ in., after which it reappeared and continued in a normal fashion. Biopsy failed to show the presence of a canal.

Gonorrhée du raphé médian du pénis
Observation d’un cas et analyse de la littérature

Résumé

L’auteur passe en revue la littérature sur les infections gonococciques et les anomalies structurales du raphé pénoscrotal médian. Il décrit un cas récent et discute l’origine et l’incidence de ces canicules et leurs infections.