

Gonococcal penile ulcer

S. HAIM AND D. MERZBACH

From the Departments of Dermatology and of Bacteriology, Rambam Government Hospital, Haifa, Israel

Gonococcal infections other than urethritis have been rare since the advent of antibiotics (Burckhardt, 1955; Gisslén, Hellgren, and Starck, 1961), but interest has recently been shown in the existence of extraurethral gonococcal infections (Björnberg and Gisslén, 1965; Fred, Eiband, Martincheck, and Yow, 1965; O'Sullivan, 1964; Cowan, 1969).

In this paper we present a case of acute penile ulcer. Morphologically, it is suggestive of Ducrey's ulcer, whereas bacteriologically it seems to be due to a gonococcal infection.

Case report

A 23-year-old unmarried man was referred because of a progressive painful penile ulceration and regional lymphadenitis of 2 weeks' duration. He said that the ulcer had appeared 2 days after intercourse. It had started as a papule at a place which had been scratched by the nails of his sexual partner. He had had painful micturition unaccompanied by urethral discharge 3 months before admission to hospital, and this was said to have passed after treatment with oral penicillin. No bacteriological examination had been made.

Examination

The patient was in apparent good general condition with a temperature of 37.4°C. The prepuce was oedematous and on its left margin starting from the fraenum there was an oval ulcer measuring 3 × 4 cm. Its walls were circular, steep, and abrupt. The base was erosive, moist with seropurulent secretion, and covered with a pultaceous and sloughy deposit. In the left inguinal region was a markedly enlarged lymph gland, which was hard, tender, and attached to the overlying thin and erythematous skin (Figure). There was no discharge from the urethra. The prostate was normal in size and shape.

Laboratory investigations

The erythrocyte sedimentation rate was 21 mm. 1st hour. A complete blood picture, chemistry of the blood, antistreptolysin O-titre, chest x-ray, stools, and urine were normal. Test for C-reactive protein, serological tests for syphilis, and intradermal tests with antigen of



FIGURE Oval erosive ulcer on prepuce. Note swelling and inflamed skin in left inguinal region

Frei and cat-scratch disease were negative. No *Treponema pallidum* were detected in a darkfield examination of the ulcer. Smears from the aspirated serous fluid from the affected gland and from the necrotic material at the base of the ulcer failed to reveal *Haemophilus ducreyi*. On the other hand, in both specimens, numerous bacteria were found including Gram-negative diplococci morphologically identical with the gonococcus. A growth of these diplococci was obtained on culturing the same materials on Thayer-Martin VCN medium. Because of the simultaneous growth on the same medium of the other easily grown micro-organisms, such as *E. coli*, *Klebsiella*, and *Staphylococcus coagulase negative*, we were unable to obtain pure colonies of the diplococcus for further biochemical identification.

The patient was treated with daily injections of 1 million units procaine penicillin G in aqueous suspension for 10 days. The symptoms disappeared slowly, taking about 6 days from the start of treatment. Serological tests for syphilis were performed one month later and were again negative.

Unfortunately the patient was not cooperative and the contact could not be traced.

Discussion

The interpretation of the cultural and microscopical findings of an ulcer is sometimes difficult. One does not know whether the micro-organisms found are part of the pathogenic process or are merely secondary invaders (Wilkinson, 1963). However, we feel justified in concluding that in this case the ulcer was due to a gonococcal infection. Among the micro-organisms which were found, the gonococcus was the only one which is not normally found in a septic flora; it was the most virulent and was demonstrated in the ulcer as well as in the associated inflamed lymph gland.

The gonococcus can infect the skin in two ways. The first, as in the gonococcal dermatitis syndrome, is ascribed to microbial embolization accompanying a transient gonococcaemia (Kvorning, 1963; Ackerman, Miller, and Shapiro, 1965). The second is by direct contact with gonococcal secretions. As mentioned, the ulcer in our patient developed shortly after a sexual exposure. Hence, it was most probably produced by direct infection through contact with secretions from the sexual partner. Such primary cutaneous infection after sexual contact is a rare venereal disease (Byers and Bradley, 1953). The skin has long been regarded as a formidable barrier to *N. gonorrhoeae*. These micro-organisms are sensitive to different physical and chemical agents and are rapidly killed by the cellular and humoral defence mechanisms in the skin (Danielsson and Michaëlsson, 1966). In this case a scratch on the penile skin before coitus permitted the infection to enter the dermal tissues.

Summary

A case of acute penile ulcer associated with inflammatory regional lymphadenitis is described. The ulcer is thought to have resulted from gonococcal infection of the skin contracted directly during sexual intercourse.

References

- ACKERMAN, A. B., MILLER, R. C., and SHAPIRO, L. (1965) *Arch. Derm. (Chicago)*, **91**, 227
- BJÖRNBERG, A., and GISSLÉN, H. (1965) *Nord. Med.*, **73**, 338
- BURCKHARDT, W. (1955). 'Atlas und Praktikum der Dermatologie und Venerologie'. Urban and Schwarzenberg, Berlin
- BYERS, J. L., and BRADLEY, D. F. (1953) *Arch. Derm. (Chicago)*, **68**, 503
- COWAN, L. (1969) *Brit. J. vener. Dis.*, **45**, 228
- DANIELSSON, D., and MICHAËLSSON, G. (1966) *Acta dermat.-venereol. (Stockh.)*, **46**, 257
- FRED, H. L., EIBAND, J. M., MARTINCHECK, L. A., and YOW, E. M. (1965) *Arch. intern. Med.*, **115**, 191
- GISSLÉN, H., HELLGREN, L., and STARCK, V. C. (1961) *Bull. Wld Hlth Org.*, **24**, 367
- KVORNING, S. A. (1963) *Dan. med. Bull.*, **10**, 188
- O'SULLIVAN, E. P. (1964) *Brit. med. J.*, **1**, 1508
- WILKINSON, D. S. (1963) *Brit. J. Derm.*, **75**, 16

Un cas d'ulcération gonococcique de la verge

SOMMAIRE

On décrit un cas d'ulcération aigüe de la verge accompagnée d'une lymphadénite inflammatoire régionale. On pense que l'ulcération a résulté d'une infection gonococcique de la peau, contractée directement pendant un rapport sexuel.