Gumma of the testis and penis

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SUMMARY The case is described of a patient suffering from gummata of the testes and of the penis, and asymptomatic neurosyphilis. The diagnosis was made on the clinical findings and the strongly positive serological tests for syphilis. It was further supported by the response to penicillin.

Introduction

Gumma of the testis is now rarely seen but it has been well described (Power and Murphy, 1914; Harrison, 1918; Stokes *et al.*, 1945; King and Nicol, 1975). It occurs as one or more localised lesions, or in a diffuse infiltrative form. Middle-aged patients are most often affected. The onset is usually painless and insidious but occasionally it is acute. The testis slowly enlarges without pain, and may give rise to the so-called 'billiard ball' testis. The gumma is easily felt if it is situated on the surface of the testis, but if deep, the testicle may be enlarged and firm. A hydrocele may develop later. The swelling is oval with a smooth surface and the affected testis feels heavy.

In the diffuse type, the testis is only slightly enlarged but has a characteristic wooden hardness owing to diffuse fibrosis and there is a loss of normal sensation. The epididymis is only rarely involved.

Gummata are usually multiple and associated with interstitial orchitis. They generally grow slowly to a maximum and then regress. The diagnosis is usually made on the clinical findings, together with strongly positive results to serological tests for syphilis, and confirmed by the response to treatment. Biopsy shows an obliterative endarteritis with a perivascular cuffing of lymphocytes and plasma cells. Progressive fibrous scarring follows, leading to tubular atrophy and sterility if the condition is bilateral (Robbins, 1968).

Gumma of the testis needs to be differentiated from neoplasm, tuberculous epididymitis, gonococcal or non-specific epididymitis, and the orchitis of mumps. There have been few reports of it during

the last 30 years. Marill *et al.* (1969) reported only five cases of gumma of the testis in a study of the records of 2797 cases of syphilis occurring during the period 1949-60. Catterall *et al.* (1957) reported five cases of gumma of the penis and noted that only 11 other cases had been reported during the previous 40 years.

Case report

A 37-year-old married man from Ghana attended the Whitechapel Clinic of The London Hospital on 1 November 1975, complaining of painless penile sores that had been present for two weeks. He had been married for 14 years and had three children; he denied extramarital intercourse. He had had intramuscular injections when aged 10 years for what was said to be yaws. He had been in the United Kingdom for four years and gave no history suggesting early acquired syphilis or congenital syphilis.

EXAMINATION

The urethral meatus was surrounded by an indurated non-tender ulcer, 1 cm in diameter (Fig. 1). There were two small superficial ulcers on the right side of the distal third of the shaft, and one papule on the glans penis (Fig. 2). The inguinal lymph nodes were not enlarged. The scrotal sac was slightly swollen. The left testis was enlarged, very firm, heavy, and slightly tender. The upper third of the right testis was also firm, enlarged, and smooth. The epididymes were normal. Atrophic 'tissue-paper' scars were present on the legs. There were no other abnormal physical signs.

INVESTIGATIONS

Repeated darkfield examination of the ulcers for *Treponema pallidum* gave negative results. Culture of a swab from the meatal ulcer yielded a heavy growth of *Staphylococcus saprophyticus*. Cultures

Fig. 1

Fig. 2

of urethral and meatal swabs for *Neisseria gonorrhoeae*, *Trichomonas vaginalis*, *Candida albicans*, and herpes virus gave negative results. An MSU was examined: the centrifuged deposit was normal, culture gave no growth. Haemoglobin 11.4 g/dl, erythrocyte sedimentation rate (ESR) 105 mm/h (Westergren), white blood count $11.7 \times 10^9/l$ (neutrophils 47%, lymphocytes 51%, eosinophils 2%), red blood count $4.78 \times 10^{12}/l$, mean cell volume 91 fl, mean cell haemoglobin 23.9 pg, mean cell haemoglobin concentration 26.1 g/dl. The blood urea and electrolytes, serum creatinine, liver function tests, x-ray of chest, long bones and pelvis, were all normal.

Serological tests for syphilis

Reiter protein complement-fixation test (RPCFT) positive, Venereal Diseases Research Laboratory (VDRL) test positive, 1:64, rapid plasma reagin (RPR) test positive, absorbed fluorescent treponemal antibody (FTA) test positive, *T. pallidum* haemagglutinin assays (TPHA) positive.

Cerebrospinal fluid

Cell count $1/mm^3$, protein 100 g/l, Pandy negative, Lange normal, RPCFT negative, VDRL negative, FTA-ABS and TPHA tests were positive.

The patient's wife was examined. She had no clinical evidence of treponemal or other sexually transmitted infection. The serological tests for syphilis in her case, including the FTA-ABS, gave negative results.

Treatment and follow-up

Procaine penicillin, 1.2 megaunits intramuscularly, daily, was started on 11 November 1975, and continued for 17 days. One week after starting the treatment the penile ulcers were healing well. A week later the meatal ulcer had completely healed leaving a slightly depressed scar. The testicular swelling gradually decreased but the testicles remained firm. Two months after treatment the testicles were equal in size, but a month later the left was smaller than the right. Testicular sensation was much diminished in both sides. The effect of treatment on the serological tests, ESR, and haemoglobin is shown in the Table.

A sperm count on 19 January 1976 showed ten million spermatozoa/ml with predominant normal forms, but only 30% were motile.

COMMENT

The very high ESR and the strongly positive result of the VDRL test support the clinical diagnosis of gummata. The response to treatment further confirmed the diagnosis. The destructive effects of the

Table Results of serological tests, haemoglobin, and ESR before and after treatment

Date	RPCFT	VDRL	CWR	FTA (ABS)	TPHA	ESR mm/h (Westergren)	Hb g/dl
7.11.75	Positive	Positive 1/64	Positive	Positive	Positive	105	11.6
28.11.75	—	—	—	—	—	80	12.6
5.12.75	Positive	Positive 1/32	Positive	Positive	Positive	42	13.3
2.1.76	Positive	Positive 1/32	Positive	IgG positive IgM negative	Positive	60	14.2
30.1.76	Positive	Positive 1/32	Positive		Positive	54	14.4
27.2.76	Positive	Positive 1/16	Positive		Positive	67	13.3
9.4.76	—	—	—		—	50	14.7

gummata are shown by the depressed scar at the meatus, the shrinkage of the left testis, the bilateral loss of testicular sensation, and the low sperm count.

This patient had probably had yaws because, as well as the history of treatment, he had multiple atrophic scars on his legs. Cross immunity is thought to occur between yaws and syphilis, but in the case of this patient it was insufficient to prevent the development of late syphilis. Possibly the immunity was inhibited by the treatment for yaws.

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References

- Catterall, R. D., Collins, C. D., and Redmond, A. (1957). Gumma of the penis. *British Journal of Venereal Diseases*, 33, 160–164.
- Harrison, L. W. (1918). *The Diagnosis and Treatment of Venereal Diseases in General Practice*, pp. 63–64. Oxford University Press: London.
- King, A., and Nicol, C. S. (1975). *Venereal Diseases*, 3rd edition, pp. 60–63. Baillière, Tindall, and Cassell: London.
- Marill, F. G., Marill, R. M., and Sayag, J. (1969). Remarks apropos of five cases of syphilis of the testes. *Bulletin de la Société française de dermatologie et de syphiligraphie*, 77, 241–245.
- Power, D. A., and Murphy, J. K. (1914). *A System of Syphilis*, volume 2, 2nd edition, pp. 146–159. Oxford University Press: London.
- Robbins, S. L. (1968). *Pathology*, 3rd edition, p. 1085. Saunders: Philadelphia.
- Stokes, J. H., Beerman, H., and Ingraham, N. R. (1945). *Modern Clinical Syphilology*, 3rd edition, pp. 1181–1183. Saunders: Philadelphia.