Case Report

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Nongonococcal tysonitis

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Abstract

Tyson's glands are sebaceous glands located on each side of the frenulum that communicate with the preputial sac, and their inflammation can be an infrequent complication of urethritis. We describe a rare case that presented with urethral discharge and parafrenular swelling with mucopurulent discharge a week after an unprotected sexual encounter. The patient was empirically treated with 500 mg of ceftriaxone intramuscularly and 100 mg of doxycycline every 12 h for 14 days with symptomatic resolution. The urethral swab culture and the urine polymerase chain reaction (PCR) were negative for *Neisseria gonorrhoeae* and *Chlamydia trachomatis*, therefore, and given the response to treatment, non-gonococcal tysonitis was diagnosed.

Keywords

Bacterial disease, Europe, location, diagnosis, other, homosexual, other, non-gonococcal urethritis, bacterial disease

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Introduction

Periurethral or parafrenular abscesses are an infrequent complication of urethritis. We describe a rare case that presented as a distal swelling of the penile shaft secondary to the inflammation of the parafrenular glands. In the present article, we aim to shed some light on the anatomy of Tyson's glands and their possible involvement in sexually transmitted infections.

Case report

A 37-year-old Caucasian homosexual cis-male attended our specialized centre to evaluate urethral discharge and distal penile swelling that started three days before. He reported an unprotected sexual encounter the previous week. No fever, malaise or other systemic symptoms were present. Physical examination revealed parafrenular swelling (Figure 1(a)) with mucopurulent discharge (Figure 1(b)). Microscopic examination of the glandular discharge showed abundant epithelial cells and white blood cells without evident diplococci. The patient was empirically treated with 500 mg of ceftriaxone intramuscularly and 100 mg of doxycycline every 12 h for 7 days. The latter was prolonged to 14 days, given persistent swelling (Figure 1(c)), with symptomatic resolution thereafter. The urethral swab culture and the urine polymerase chain reaction (PCR) were negative for *Neisseria gonorrhoeae* and *Chlamydia trachomatis*. A standard bacteriological swab undertaken to look for non-venereal infections presented negative results. The contacts reported by the patient could not be located and studied in our centre, so the partner notification data did not help us to shed more light on the diagnosis. Testing for *M. genitalium* was not undertaken due to a lack of availability at our centre. Given the clinical and microscopical findings and the response to treatment, nongonococcal tysonitis was diagnosed.

Discussion

Tyson's glands are sebaceous glands located on each side of the frenulum that communicate with the preputial sac.[1,2] Although most authors indicate that Tyson initially described small glands located in the balanopreputial sulcus, later referred to as pearly penile papules, Tyson's glands are currently considered to be those referred to in the previous sentence. Knowledge of these glands is essential to differentiate them from other penile lesions listed in Table 1.[3,4]

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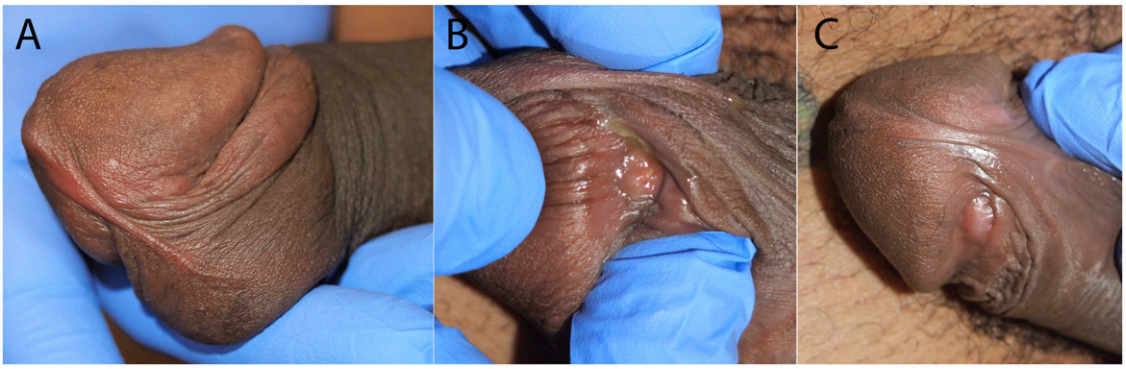

Figure 1. Clinical presentation. Panels A & B: Initial clinical presentation. An evident inflammation (presenting as an apparent fluctuating nodule) in the right paraphrenic area was seen (panel A), along with mucopurulent secretion near the orifice of the Tyson's gland (panel B). Panel C: Significant clinical improvement after 7 days. Moderate but palpable inflammation was observed in the area of Tyson's gland, leading to recommend an additional week of treatment with doxycycline.

Table 1. Differential diagnosis between pearly penile papules, Tyson glands and Fordyce spots.[3,4]

	Pearly penile papules or papillomatosis corona penis	Tyson's glands	Fordyce spots
Histological type	Fibrous and angiomatous proliferation	Ectopic sebaceous glands	Sebaceous glands
Location	Corona of the glans penis	Parafrenular	Along the shaft of the penis
Clinical appearance	Numerous, uniform, symmetrical and dome shaped	Openings on either side of the frenulum	Multiple yellowish papules

The inflammation of Tyson's glands is known as tysonitis and is an infrequent complication of urethritis due to the direct spread of the infection to parafrenular glands.[1,2,5] Clinically it presents with unilateral or bilateral tender swelling on either side of the frenulum.[2,6] The main cause of tysonitis is gonococcal infection but it can be caused by other bacteria such as *Escherichia coli*.[7] Due to its rarity and terminological differences about Tyson's glands there were only nine cases of gonococcal tysonitis described in the literature before 2000. Since then, one case of nonvenereal tysonitis was published in 2018. There was also a clinical study of 15 patients that were diagnosed with tysonitis between the years 2000 and 2020, all whom had been diagnosed with gonorrhea as well.[8] Of all these cases, 21 cases of gonococcal tysonitis were accompanied by urethritis, as our patient, although it can present in isolation.[1,2,6,7,9–11] The treatment of this entity is with antibiotics, leaving the possibility of drainage for those cases that do not improve.[1,2,6]

To conclude, we present the case of a male with nongonococcal tysonitis after unprotected sexual intercourse. We believe that the presentation of this case is relevant for several reasons: first, its apparent low frequency in daily clinical practice; second, to recall the existence of these glands; third, to recognize that it would have been preferable to make the isolations from the discharge of the inflamed gland itself, since it was not possible to confirm a microbiological diagnosis with the available tests. However, the late response to treatment and the improvement after the second week of treatment with doxycycline raises the suspicion of nongonococcal tysonitis.

Declaration of conflicting interests

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Ethical statement

Patient consent

Written informed consent for patient information and images to be published was provided by the patient.

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References

1. Subramanian S. Gonococcal urethritis with bilateral tysonitis and periurethral abscess. *Sex Transm Dis* 1981; 8: 77–78, DOI: 10.1097/00007435-198104000-00009.

2. el-Benhawi MO and el-Tonsy MH. Gonococcal urethritis with bilateral tysonitis. *Cutis* 1988; 41: 425–426.
3. Rane V and Read T. Penile appearance, lumps and bumps. *Aust Fam Physician* 2013; 42(5): 270–274.
4. Hyman AB and Brownstein MH. Tyson's "glands." Ectopic sebaceous glands and papillomatosis penis. *Arch Dermatol* 1969; 99: 31–36, DOI: 10.1001/archderm.99.1.31.
5. Shepherd R, Crossland A, Turo R, et al. Unusual presentation of a periurethral abscess following infection with Neisseria gonorrhoea. *BMJ Case Rep* 2022; 15: e246494, DOI: 10.1136/bcr-2021-246494.
6. Fiumara NJ. Gonococcal tysonitis. *Br J Vener Dis* 1977; 53: 145, DOI: 10.1136/sti.53.2.145.
7. Abdul Gaffoor PM. Gonococcal tysonitis. *Postgrad Med J* 1986; 62: 869–870, DOI: 10.1136/pgmj.62.731.869.
8. Fan W, Zhang Q, Wei M, et al. Gonococcal tysonitis, a rare local complication of gonorrhea: a clinical study of 15 cases. *Eur J Clin Microbiol Infect Dis* 2022; 41(5): 787–792. DOI: 10.1007/s10096-022-04434-3.
9. Burgess JA. Gonococcal Tysonitis without urethritis after prophylactic post-coital urination. *Br J Vener Dis* 1971; 47: 40–41, DOI: 10.1136/sti.47.1.40.
10. Gaffoor PM and Bayyari KH. Gonococcal tysonitis: an unusual penile infection. *Indian J Dermatol* 1989; 34: 90–91.
11. Sankaranantham M. Tysonitis- due to a possible non-venereal infection. *MOJ Public Health* 2018; 7: 323–324, DOI: 10.15406/mojph.2018.07.00261.