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Diagnosis at first sight

Atypical urethritis and proctitis in a heterosexual couple

Urethritis y proctitis atípica en pareja heterosexual



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Case report

This was a 26-year-old male, who attended a specialised clinic for sexually transmitted infections (STI) in the Community of Madrid. He reported whitish urethral discharge for the previous two days and mild dysuria. He had no relevant previous medical history. On examination, a small amount of urethral exudate was observed. No inguinal lymphadenopathy or ulcerative genital lesions. When asked about his sexual history, he reported having sex with a woman in the previous three months, involving oro-genital, vaginal and anal sex without a condom. A urethral swab was taken for urgent Gram staining, culture for *Neisseria gonorrhoeae* (NG) in PolyViteX VCAT3[®] agar medium (bioMérieux, Marcy-L'Etoile, France) and multiplex real-time PCR for detection of sexually transmitted pathogens using Allplex[™] STI Essential Assay Q (MH, UU) (Seegene, Seoul, Republic of Korea). In the Gram stain, at 1,000× magnification, more than two polymorphonuclear cells per field and no microorganisms were observed. The patient was told of the importance of speaking to his usual sexual partner for a study of contacts and an appointment was made for a week later. The next day his partner came in to the clinic. She was a 27-year-old woman with no relevant previous medical history. She reported a ten-day history of rectal tenesmus and pain during anal intercourse, which she attributed to traumatic origin. She practiced oro-genital, vaginal and anal sex without a condom. Samples of exudate were taken from the pharynx, vagina/cervix and rectum for Gram staining (vagina/cervix) and NG culture and PCR for STI. On physical examination, after insertion of the rectal speculum, signs of acute proctitis were identified (Fig. 1). Examinations of the vagina and cervix and of the pharynx were normal. The patient was given an appointment for a week later for results and provision of treatment.

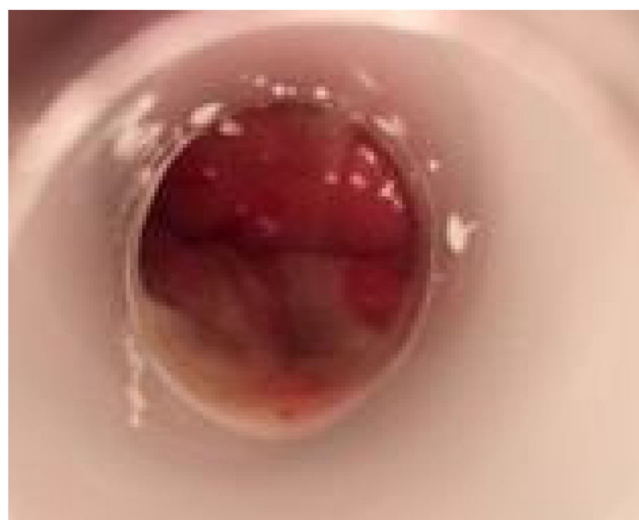


Figure 1. Acute proctitis: purulent discharge inside the rectum and slight oedema of the rectal mucosa.

Progress

In the culture of the urethral sample, translucent colonies were observed after 48 h of incubation at 37 °C in an atmosphere of 5% CO₂. The API NH[®] biochemical identification test (bioMérieux, Marcy-L'Etoile, France) was positive for *Neisseria meningitidis*. This was then verified using the spectrometric technique (MALDI-TOF MS[®], Bruker Daltonics), with the result of *N. meningitidis* (score: 2.37). The PCR for STI pathogens was negative. The woman's pharyngeal and rectal exudate samples were positive for *N. meningitidis*, while the vagina/cervix exudate sample was negative. All the other results were negative. The strains isolated from the urethral and rectal exudates were sent to the National Centre for Microbiology for confirmation of identification and characterisation. Both strains were characterised as non-agglutinable *N. meningitidis* serogroup, genosubtype PorA VR1:19; VR2:15. The sensitivity pattern was identical, with minimum inhibitory concentration (MIC) of ceftriaxone and ciprofloxacin being <0.016 and 0.003 µg/mL,

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respectively. Both patients were administered a 1-g intramuscular dose of ceftriaxone, with clinical resolution a week after treatment.

Discussion

N. meningitidis is an uncommon cause of anorectal and urogenital infections, with sporadic cases being described in both males and females.¹ However, outbreaks of invasive meningococcal infection have been described in men who have sex with men (MSM) due to hypervirulent strains, mainly serogroup C, adapted to the anaerobic environments in the rectal and urogenital mucosa.^{2–4} The oropharynx is the usual habitat of meningococcus, so the main route of transmission for the development of urogenital infections is oral sex, although transmission through anal intercourse has also been observed.⁵ Cases of urethritis caused by *N. meningitidis* are widely reported in the literature, and were recently associated with specific clusters with tropism for the urethral mucosa,^{6,7} some of them carriers of genetic determinants of *N. gonorrhoeae*.⁸ Rectal meningococcal infection is less well known, due to its low detection rate in symptomatic patients,⁹ although some recent studies have reported anorectal colonisation and sexual transmission of meningococci in MSM⁵ and the finding, mainly in the anogenital region, of molecular clusters of *N. meningitidis*.¹⁰ Meningococcal proctitis may therefore be underdiagnosed, particularly in cases where the symptoms are similar to gonococcal proctitis and tests are negative for the main aetiological agents of STI.⁹ Although the condition is rare, due to the high percentage of cases which are asymptomatic or only have mild symptoms, our report highlights the need for both adequate detection of this microorganism in anogenital samples and taking a thorough history to determine the patient's sexual practices.

Conflicts of interest

None.

The authors declare that they have the informed consent of the patients for the publication of images and of the article for scientific purposes.

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