Circinate balanitis as the presenting symptom of sexually-acquired reactive arthritis:

a case report

INTRODUCTION

The clinical triad of urethritis, arthritis, and conjunctivitis, commonly referred to as Reiter's syndrome, though more recently and appropriately called sexually-acquired reactive arthritis (SARA), rarely presents in clinic as such a neat, definitive diagnosis.¹ Indeed it would appear that the majority of cases of SARA are incomplete; less than one-third of patients will present with the classically-described triad.² SARA is not fully understood. However, two features correlate with the development of reactive arthritis: genetic factors and infections, most notably *Chlamydia*,³ but also *Salmonella*, *Yersinia*, and *Shigella*.⁴ Patients who are HLA-B27 positive are predisposed to developing the condition and in some cases recurrence in the absence of reinfection.⁵ As a pentad the condition includes circinate balanitis and keratoderma blennorrhagicum as characteristic lesions.⁶ Circinate balanitis macroscopically presents as shallow erosions, geographical in distribution with a flaky edge⁷ or, particularly in circumcised men, as maculopapular hyperkeratotic plaques that may mimic psoriasis.⁸ Lone circinate balanitis and chlamydial infection has been reported in the past.⁹ This current case report describes a patient who presented with circinate balanitis and dysuria who later developed other symptoms of SARA.

CASE REPORT

A 24-year-old heterosexual male attended our genitourinary (GU) medicine clinic as a self-referral complaining of dysuria and lesions on the penis. Otherwise he was asymptomatic. In the past year the patient had sex with two female partners, 2 and 3 months previously; most recently with a casual female partner (vaginal sex) and the other with an ex-partner (vaginal and oral sex), both from the UK. Condom use was inconsistent. There was no significant past medical history. The patient was first

examined by a nurse who diagnosed ulcers over the glans penis. As she suspected herpes simplex virus (HSV) she took a swab for HSV PCR. However as this swab was painless she started to doubt the diagnosis. She asked the consultant to take a look and he suspected a case of circinate balanitis. A urethral swab was examined under the microscope and showed evidence of urethritis with >10 pus cells per high-power field. A provisional diagnosis of chlamydia complicated by SARA was made. The patient was treated with 100mg doxycycline orally, twice daily, for 2 weeks. Chlamydia PCR was positive. All other tests (HIV, syphilis, and gonorrhoea) were negative. In the time between the first appointment and the follow-up the patient developed arthritis. The patient telephoned his GP who suspected side effects of doxycycline and advised him to stop treatment. At follow-up the circinate balanitis had resolved but the patient had developed conjunctivitis in addition to arthritis. As he was still complaining of arthritis, particularly in his right hip, knee, and ankle on ascending and descending stairs, the patient was referred to a consultant rheumatologist. Blood tests showed that the patient was HLA-B27 positive and also weakly positive for anti-citrullinated protein antibodies (10.3, normal range 0–6.9) and IgM anticardiolipin antibody (10.1, normal range 0–9.9). Rheumatoid factor was negative and C-reactive protein/erythrocyte sedimentation rate was within normal range. The patient was started on anti-inflammatory treatment (naproxen 500mg twice daily). Physiotherapy and an appointment at an injection clinic were also arranged, as 1 month after the initial diagnosis the patient was still experiencing significant knee pain and occasional swelling.

DISCUSSION

The patient described above presented with two features of SARA (dysuria and circinate balanitis) and later developed another two

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Figure 1. Circinate balanitis image showing circumferential coalescing lesions with inflammation and erythema.

Figure 2. Chronic inflammatory dermal and neutrophilic infiltrate of the epidermis with microabscess formation. Keratinocytes show vacuolisation.

manifestations (conjunctivitis and arthritis). Recognition of both circinate balanitis and urethritis enabled treatment of this patient with a course of doxycycline and appropriate referral to a rheumatologist for arthritis assessment and management. This case highlights a rare situation where SARA presented with circinate balanitis as the predominant feature. Recognition of circinate balanitis as a presenting feature of SARA may be important, particularly as in some patients diagnosed with *Chlamydia trachomatis* infection it may be the only sign. If a clinician makes a diagnosis of asymptomatic urethritis in the presence of circinate balanitis it may be argued that a prompt referral to a rheumatologist is warranted. One argument against this may be that not all individuals who present with circinate balanitis will go on to develop SARA.⁹ Some patients, particularly with chlamydia-induced SARA will, however, go on to develop chronic or recurrent arthritis; the majority of whom, like our patient, will be HLA-B27 positive.¹⁰ Routine HLA-B27 genetic testing of patients presenting with circinate balanitis could help predict future prognosis, however it may prove

expensive and beyond the expertise of GPs and genitourinary medicine physicians. One clear recommendation which can be drawn from this particular case report however is that all clinicians who treat skin conditions (GPs, genitourinary medicine physicians, and dermatologists) should be aware of circinate balanitis, know what it looks like macroscopically, how to manage it, and what its presence may indicate.

Patient consent

The patient has consented to the publication of this article and its images.

Provenance

Freely submitted; externally peer reviewed.

Competing interests

The authors have declared no competing interests.

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