# SEXUALLY ACQUIRED REACTIVE ARTHRITIS (SARA)

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## Key Points

Anyone found to have an acutely swollen/red/hot joint or a red eye must be discussed with the GUM Doctor of the Day to ensure we do not miss septic arthritis or uveitis

STIs in association with reactive arthritis are treated with standard courses of antibiotics

Management of extra-genital manifestations will be undertaken by the relevant specialist service (eg rheumatology, ophthalmology)

## Definition:

**Reactive arthritis (ReA)** is a sterile inflammation of a joint triggered by an infection at a distant site, either a gastrointestinal infection (e.g. *Salmonella*, *Shigella*, *Campylobacter*), or a sexually transmitted infection (STI), when it is termed "sexually acquired reactive arthritis" (SARA).

The classical triad presentation of urethritis, arthritis and conjunctivitis was formerly termed "Reiter's syndrome", a term no longer used since Hans Reiter was a Nazi war criminal.

**Gonoccocal septic arthritis** is a different entity caused by direct joint invasion and requires urgent acute medical assessment.

## Pathogenesis

The precise mechanisms linking STIs and SARA is not well understood, and it is it not clear why some individuals develop SARA as a result of an STI and others do not.

Objective signs of SARA are seen in 0.8-4.0% of cases of urethritis and cervicitis.

## Causes:

STIs with a link to SARA include:

- *Chlamydia trachomatis* (including LGV serovars) – this is the STI with the strongest association with SARA
- *Neisseria gonorrhoeae* – this can cause SARA or septic arthritis
- *Shigella* infection– commonly transmitted via sexual contact in the UK

Mycoplasma genitalium, Ureaplasma urealyticum have only circumstantial evidence linking them to ReA

Remember HIV can present with arthralgia; secondary syphilis can cause periosteitis bone pain.

ReA is seen with enteric infections (Campylobacter, salmonella, yersinia), and can follow Strep pyogenes throat infection, Chlamydia pneumoniae lung infection, and COVID-19 among others.

## Risk Factors:

SARA is up to 10x more common in men than in women.

SARA may be 50x more common in people with the HLA-B27 haplotype. People with this marker are also more likely to have other seronegative spondylarthropathies (e.g. ankylosing spondylitis, psoriatic arthritis or inflammatory bowel disease associated arthritis).

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## Clinical Approach

Anyone at risk of STI experiencing joint pain or swelling should have a full medical and rheumatological history taken and undergo a targeted musculoskeletal examination.

Symptoms and signs likely to suggest ReA include:

- Asymmetrical **oligo-arthritis** affecting between one and five joints most commonly involving the knees, ankle, feet
- Swelling, tenderness, **morning stiffness**, night-time pain
- **Achilles tendonitis** and/or **plantar fasciitis**
- Swollen fingers or toes (**dactylitis**)
- Lower back pain (**sacroiliitis**)
- **Circinate balanitis** or vulvitis ; rash on the soles of the feet (keratoderma blennorrhagica)
- **Conjunctivitis** or red eye

Enquire about recent diarrhoeal illness. Establish impact of current symptoms on activities of daily living and assess likely analgesic requirements.

## Investigations

There are no specific tests or diagnostic criteria for SARA: diagnosis is reached by pattern recognition.

Record temperature, pulse, blood pressure if any systemic symptoms or malaise.

Take routine STI samples from relevant anatomic sites including gonorrhoea culture where possible.

Offer HIV, syphilis, hepatitis B and C screening.

**Other tests to consider in Sandyford:**

- Stool culture if current diarrhoeal illness
- UE and urinalysis to check renal function and exclude glomerulonephritis
- Inflammatory markers: FBC, CRP

**Further investigations which may be part of an acute hospital work up**

- Microbiology: blood cultures, stool cultures, synovial fluid aspirate for cell count, gram stain crystals and culture (to exclude septic arthritis and gout)
- Radiology: X-rays of affected joints, US of affected joints/tendons, MRI of sacroiliac joints and spine
- Others: HLA-B27 gene testing, ECG, ECHO, Synovial biopsy, CXR,
- Exclusion tests for other rheumatological diseases (e.g. anti-CCP, autoantibodies, urate, RF, ANA, ACE)

## Management:

### General considerations

Any patient found to have an acutely swollen/red/hot joint or red eye should be discussed with GU Doctor of the Day.

Acute medical referral may be required if the patient is systemically unwell, unable to care for themselves, or to rule out septic arthritis. If patient needs acute review, phone the 1st on medical registrar in the appropriate hospital. (QEUH switchboard: 0141 201 1100; GRI switchboard: 0141 211 4000; RAH switchboard: 0141 887 9111; IRH switchboard: 01475 633 777).

All patients should be given a detailed explanation of the diagnosis including written information.

### Genital infection

- STIs are treated with the standard course of antibiotics for the identified infection.

### Joint and tendon symptoms

- Rest : this may require hospital admission
- NSAIDs are the mainstay of treatment and should be started in Sandyford (with appropriate cautions) pending rheumatological review.
- For those not requiring hospital admission, send an urgent SCI gateway referral to the Rheumatology team at the patient's local hospital; or call the Rheumatology team for advice (switchboard numbers as above). Second line treatments under the care of the rheumatologists may include intra-articular or systemic corticosteroids, sulphasalazine, methotrexate, azathioprine and infliximab.
- **Pregnancy and breast-feeding require special attention regarding therapeutic decisions – refer to appropriate specialist and liaise with the Obstetrics team.**

### Skin and mucous membrane symptoms

- No treatment is required for mild symptoms
- Those with moderate/severe symptoms should be referred via Gateway to dermatology who may consider keratinolytic agents, vitamin D3 analogues, salicylic acid ointments, retinoids and topical steroids.

### Eye symptoms

- Refer urgently to ophthalmology for slit-lamp examination: treatment of uveitis is likely to include corticosteroid eye drops and mydriatics to avoid cataract formation. (Gartnavel General Hospital, Glasgow, Eye Dept – 0141 301 7847 direct booking to emergency clinic (Mon-Sat 0830-1700)
- Eye problems in the Clyde area should be sent to Ophthalmology out patients at the RAH between 9am and 5pm. Out of hours, refer to A&E. RAH: 0141 887 9111 (switchboard number)
- In Inverclyde, people with ophthalmic should go at all times to A&E from where the appropriate ophthalmologist will be contacted.

## Partner Notification and Look Back Period:

Dependent on the genital infection diagnosed – see guidelines for the relevant infection.

## Prognosis and Follow up:

Dependent on the genital infection identified.

Extragenital manifestations should be followed up under the relevant specialist rather than complex GUM clinic.

Most cases will resolve over the course of several months. Around half of patients can have relapsing/remitting symptoms.

Patients should be advised to avoid potentially 'triggering infections' in the future such as gastro-intestinal infections or further STIs. Therefore, safer sexual practice and the importance of food hygiene should be discussed.

## References:

BASHH United Kingdom National Guideline on the Management of Sexually Acquired Reactive Arthritis 2021 https://www.bashhguidelines.org/media/1293/sara-2021.pdf [Accessed 19/06/2023]

NHS Inform patient information Reactive arthritis | NHS inform [accessed 19/06/2023]

Tips on examining musculoskeletal system: Clinical findings in patients (versusarthritis.org)

Versus arthritis pages: Reactive arthritis | Causes, symptoms, treatments (versusarthritis.org)