

Tozinameran

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***Streptococcus gordonii* septic arthritis of the glenohumeral joint following inadvertent vaccine injection in the glenohumeral joint: case report**

A 68-year-old woman developed *Streptococcus gordonii* septic arthritis (SA) of the glenohumeral joint following inadvertent tozinameran injection in the glenohumeral joint, while receiving it for the immunization against COVID-19.

The woman presented in January 2021 for left shoulder pain. Her medical history was significant for hypertension, hyperlipidaemia, recurrent uncomplicated diverticulitis and iatrogenic hypothyroidism after resection of a benign thyroid tumour. She was a non-smoker and denied any recreational drug use. She reported a progressive shoulder pain for 7 days following vaccination with left deltoid IM tozinameran [BioNTech mRNA vaccine; *dose not stated*] against COVID-19. She experienced localised swelling with tenderness and pain site, which progressed to severe diffuse left shoulder pain with reduced range of motion (ROM) at the shoulder. Following admission, oral temperature was found to be 37.3°C. Physical examination showed a tender, fluctuant mass of deltoid with warmth and glenohumeral joint tenderness. Passive ROM of the left shoulder was limited to 30° flexion, 40° a rotation and 40° internal rotation. Her left hand was warm and well perfused without rashes or lesions of the fingers. Thereafter, investigations showed increased ESR and CRP with a A1c haemoglobin of 5.7%. Plain X-ray of the left shoulder showed changes at the acromioclavicular joint. MRI of the left shoulder revealed a large glenohumeral joint effusion with synovitis. Additionally, there was multifocal rotator cuff tendinosis with tearing of the supraspinatus, subscapularis and transverse. She was then suspected to have septic arthritis.

Therefore, orthopaedic surgery was performed and bedside arthrocentesis demonstrated yellow fluid. The woman was then started receiving treatment with vancomycin and cefepime along with analgesia with paracetamol [acetaminophen] and celecoxib. Additionally, a significant purulence of the bursal soft tissue and the glenohumeral joint deep to the subscapularis tendon was observed, which indicated septic bursitis. Thus, copious irrigation and subtotal bursectomy were done. Postoperatively, she continued to receive vancomycin and ceftriaxone. Subsequently, intraoperative joint cultures grew *streptococcus gordonii* sensitive to benzylpenicillin and fluoroquinolones. Thus, *Streptococcus gordonii* septic arthritis of the glenohumeral joint was diagnosed due to inadvertent tozinameran injection in the glenohumeral joint. She continued to receive only ceftriaxone therapy along with inpatient physical therapy. After 5 days, blood cultures were found to be negative. Synovial fluid culture from initial joint aspiration demonstrated viridans streptococcus. She was then discharged on ceftriaxone followed by levofloxacin after surgery. She was then followed-up and continued on outpatient physical therapy. At follow-up visit after 2 days of discharge, she was doing well. Thereafter an MRI demonstrated a decrease of effusion with improving oedema and synovitis; however, without complete resolution. Due to concern for residual infection, levofloxacin was continued further. A subsequent MRI showed persistence of ill-defined fluid, oedema and synovial enhancement subacromial bursa, suggesting active infectious bursitis. Eventually, she was diagnosed with post-infectious adhesive capsulitis. Therefore, she started receiving unspecified non-steroidal anti-inflammatory medications and manipulative physical therapy.