

# *Mycobacterium chelonae*: a rare cause of subcutaneous nodules in a patient on long term corticosteroids

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Date accepted for publication 8 January 2008

## Abstract

Subcutaneous nodules are a common clinical finding. Common causes include rheumatoid nodules, gouty tophi, neurofibromatosis type 1, Madelung's disease (benign symmetric lipomatosis), Dercum's disease (adiposis dolorosa) and tuberous xanthomas. Other causes include: hibernoma, lipoblastoma, angioliipoma, liposarcoma, glomus tumour, leiomyoma, eccrine spiradenoma, neuroma, granular cell tumour and cysts (epidermal, pilar, sebaceous, dermoid). We present a rare cause of subcutaneous nodules in a patient on long term corticosteroids.

## Keywords

Subcutaneous nodules; *Mycobacterium chelonae*; corticosteroids.

## Case report

A 58-year-old white male presented complaining of a one-month history painful lumps over both his forearms. His past medical history included chronic obstructive pulmonary disease (COPD), osteoarthritis of both knees and osteoporosis secondary to corticosteroid use. He had been taking 10 mg prednisolone daily for the past decade.

Examination revealed multiple tender subcutaneous nodules, measuring 1-2 cm in diameter, over the extensor regions of both forearms (Fig. 1). An olecranon bursitis was also present.

Initial investigations revealed a normal CRP, ESR and uric acid (urate). His (latex agglutination) rheumatoid factor was negative. Further studies revealed a normal lipid profile; however his IgG was low at 3.4 g/l (normal range 5.5 to 16.5 g/l) and he had a neutrophilia contributing to a raised white count of 15,100/mm<sup>3</sup>. The left olecranon bursa was aspirated revealing amber fluid with a few mononuclear cells but no crystals. There was no bacterial growth on culture.

A biopsy of a nodule showed non-specific granulomatous inflammation and was negative for acid fast bacilli. Culture of the nodal biopsy grew *Mycobacterium chelonae* on culture.

He has responded well to clarithromycin and ciprofloxacin; the nodules and the olecranon bursae started to regress but took nearly 4 months before they disappeared.



**Fig. 1.** Multiple subcutaneous nodules measuring 1-2 cm (circled) on the extensor surface of the left forearm. Multiple bruises are seen due to the oral prednisolone.

## Discussion

*Mycobacterium chelonae* (and *Mycobacterium fortuitum*) are classified as Runyon group IV rapidly growing bacteria. They have been found worldwide in sewage, natural water and treated water.

They are a cause of cutaneous infection, especially following trauma or surgery. In immunocompromised patients, especially those on long term corticosteroids, reports of disease include disseminated disease with pustular and nodular cutaneous lesions, localised pulmonary disease with adenopathy, osteomyelitis, and lymphadenitis<sup>[1]</sup>. Our patient has been on oral corticosteroids for 10 years and has a low IgG level as a result.

Severe immunodeficiency states may occur with HIV infection or following oncological chemotherapy and opportunistic infections are at the forefront of the physicians mind. Milder immunodeficiency states can occur with very common clinical scenarios such as diabetes or, as described here, with chronic corticosteroid use. This case serves to illustrate that, in even mildly immunocompromised patients, rare infections should be considered within the differential diagnosis of subcutaneous nodules<sup>[2]</sup>.

## Teaching point

Patients on long term oral corticosteroids may develop an infection with *Mycobacterium chelonae* in the skin presenting with subcutaneous nodules. Culture of material from the nodule (aspirate or biopsy) is necessary for diagnosis, and treatment with appropriate antibiotics leads to resolution of the lesions.

## References

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