

Fish tank granuloma – a hobby hazard!

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Fish tank granuloma is a cutaneous mycobacteriosis caused by inoculation of *Mycobacterium marinum* which elicits a nodular granulomatous reaction. This disease occurs mainly in individuals in contact with fish tanks and in swimmers who bathe in swimming pools, beaches, lakes and rivers with contaminated water¹. This organism can be isolated in diseased fish and from water even when chlorination appears to be sufficient.

Increasingly the source of infections has been tropical fish tanks and the vast majority of them were fish fanciers who kept an aquarium of fish tanks at home.

Mycobacterium marinum is only pathogenic on abraded skin and traumatic inoculation of the organism results in a chronic granuloma. We report three cases of fish tank granuloma presented within a period of one year.

Case 1

A nine year old boy presented with a non itchy erythematous lesion of three months duration on his left forearm. Initially it had started as a red papule which increased to 2x2.5 cm in size over two to three months. It had been treated with topical steroids as for a discoid eczema with a poor response. On questioning the patient's mother revealed that they had a fish tank with more than 100 fish. Her son was in the habit of spotting dead fish and squeezing them and throwing them out of the tank frequently. This boy was a left handed person (Figure 1).

On examination he was afebrile and did not

have any regional lymphadenopathy. A punch biopsy of the lesion was obtained and was sent for histology. It showed a non caseating epithelioid granuloma with Langhans giant cells.



Figure 1

Case 2

A 45 year old man presented with a non itchy plaque lesion of one months duration on his right middle finger. Though it had been treated with topical steroids the plaque increased in size and developed another similar lesion on the same finger. On questioning he admitted owning a fish tank which he used to clean once in every two weeks. Four months back he had lacerated the back of his right middle finger while cleaning this tank. Three months later he developed a reddish purple lesion of 1.5x2 cm at the site of injury and a similar lesion of 1x1 cm just below that. He was a right handed person. One examination he was afebrile and there was no evidence of lymphadenopathy. Skin biopsy was performed and was compatible with a fish tank granuloma.

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Case 3

A 40 year old man presented with a non itchy erythematous verrucous nodule of three months duration on his left index finger. He works in an aquarium and handles fish and clean the tanks quite frequently. He is a right handed person. Punch biopsy of his lesion was performed which showed a non caseating granuloma.

Discussion

Since the lesions of fish tank granuloma does not always give characteristic clinical appearance the presumptive diagnosis should be based on the history. Exposure to contaminated water in fish tanks or handling diseased fish should evoke suspicion in patients presenting with granulomatous lesions². The affected sites vary with the mode of inoculation. In those handling fish tanks or who clean fish the dominant hand is more commonly affected as in our patients. In swimmers the lesions are commonly on elbows and knees.

Fish tank granuloma can present as verrucous lesions or cutaneous lymphatic type. The verrucous type should be differentiated from warts and tuberculosis and other cutaneous lymphatic type should be distinguished from sporotrichosis, other mycoses, tuberculosis and cat-scratch disease.

The microscopic findings are those of a granulomatous reaction without caseation which will help to exclude tuberculosis³. Very early lesions may show only a low grade inflammatory reac-

tion. A positive culture can be obtained in about 70% of cases. All our patients were treated with cotrimoxazole for six weeks with a good clinical response and the lesions disappeared within two to three months of commencing therapy. If left untreated synovitis, osteitis, and arthritis of the underlying joint may develop.

Raring fish is a common hobby practised throughout the country. This hobby attracts not only adults but also children as well. Fish fanciers are seldom aware of the risk of *Mycobacterium* infections as a result of handling the diseased fish or by cleaning the fish tanks.

As abraded skin will be a site for portal entry for this pathogen, simple measures such as using gloves or covering of cuts and grazes could considerably reduce the incidence of infection.

As soon as a public source of infection is identified the public health authorities should be notified.

These three cases demonstrate the importance of clinical suspicion of a fish tank granuloma which will help the clinician to recognise this hobby hazard at it's early stages.

References

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