Our experience with M. marinum cutaneous infections in three patients receiving anti TNFα

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Background
- TNFα inhibitors are a well-known risk factor for active tuberculosis but less is known about the link between TNFα inhibitors and other mycobacterial diseases, particularly M. marinum.
- With the increase in use of TNFα inhibitors, and the trend toward more outdoors activities that include aquatic environment exposure, focus should be on better understanding of the link between use of TNFα inhibitors and the development of severe M. marinum infection that might require earlier diagnosis and more aggressive antibiotic therapy.

Methods
- We describe our experience with three cases of aggressive cutaneous M. marinum infection in patients taking anti-TNFα that presented to Abington Memorial Hospital in Pennsylvania between 2014 and 2017.

Results
- Mean time to diagnosis in our patients was 5.3 weeks, significantly shorter than what was reported earlier in a CDC report (17 months versus 3.5 months Johnson et al. 2015).
- A skin biopsy was done on all three of our patients, facilitating the diagnosis.
- Two of our three patients resolved their anti-TNFα treatment once their lesions cleared.

Table 1. Characteristics and outcomes of cases M. marinum infections treated at AMH between 2014 and 2017

<table>
<thead>
<tr>
<th>Age, gender, diagnosis</th>
<th>Anti TNFα, duration and indication</th>
<th>Exposure</th>
<th>Delay in diagnosis</th>
<th>Treatment</th>
<th>Progression</th>
</tr>
</thead>
<tbody>
<tr>
<td>67 yrs F Cellulitis/lymphangitis</td>
<td>Etanercept, 5 years, PA</td>
<td>Municipal pool</td>
<td>2 weeks</td>
<td>Clarithromycin + ciprofloxacin</td>
<td>Cleared in 2 months</td>
</tr>
<tr>
<td>54 yrs M cellulitis</td>
<td>Infliximab, 7 years, UC</td>
<td>Salt water fish tank</td>
<td>10 weeks</td>
<td>Clarithromycin + ciprofloxacin</td>
<td>Cleared in 3 weeks</td>
</tr>
<tr>
<td>67 yrs F Cellulitis/lymphangitis</td>
<td>Adalimumab, 8 months, PA</td>
<td>Burn site injury</td>
<td>4 weeks</td>
<td>Clarithromycin + rifampin</td>
<td>Cleared in 1 month</td>
</tr>
</tbody>
</table>

Conclusion
- TNFα is not only linked to active TB, but also associated with other mycobacterial diseases including M. marinum.
- Diagnosis of each of our patients was done much earlier than the average (17 months as reported by CDC).
- Early diagnosis relies probably on involvement of infectious diseases specialists early in the course of the illness and the readiness in sampling of the lesions.
- The challenge to the clinicians remain in the safety and the timing of resuming anti TNFα treatment after M. marinum infection.

References