

Fusobacterium Necrophorum causing Liver Abscesses in a Healthy Teenager

Background

Fusobacterium necrophorum

	Comments
Microbiology	Gram negative bacillus, anaerobic, Oral flora (primarily) , GI tract, female GU tract
Clinical setting	Lemierre's syndrome , pharyngitis, peritonsillar abscess, hepatic abscess, brain abscess, sinusitis
Susceptibility	4-23% produce beta-lactamase Low MIC: penicillin, metronidazole, clindamycin Resistant to macrolide (e.g., azithromycin) , aminoglycosides

- Infections due to *Fusobacterium Necrophorum* primarily affect the head and neck in the paediatric population.
- It is the most common pathogen in Lemierre's syndrome.
- *Fusobacterium necrophorum* causing liver abscesses is rare and only a few cases have been reported.

Case report

History:

- A 14 year old boy, previously fit and healthy, presented with acute onset severe right sided abdominal pain, dysuria and rigors. He had no significant medical history however he had a recent diagnosis of infectious mononucleosis two weeks prior along with light growth beta haemolytic strep on a throat swab. He had received treated with an oral antibiotics for this by his GP.

Physical Exam:

- He was pale, tachycardic and had severe right flank pain and rebound tenderness. He appeared shocked, requiring IVF bolus resuscitation.

Initial investigations:

- Bloods revealed high inflammatory markers - **WCC 30** (neutrophil predominance) and **CRP 450**. ALT was mildly elevated and Prothrombin Time prolonged. Chest Xray showed bilateral atelectasis with some patchy changes.
- CT Abdomen was performed the following morning revealing a large hepatic abscess.
- After 24 hours his blood cultures grew *Fusobacterium Necrophorum*.

Clinical Course:

- He proceeded for IR drainage of the abscess after a period of IV antibiotics failed to improve his clinical condition
- After initial improvement following drainage, he deteriorated again with increasing inflammatory markers, worsening pain and ongoing temperatures.
- He received doses of Vitamin K for coagulopathy, required PCA analgesia for severe pain, needed thromboprophylaxis and NG feeding for a period.
- He proceeded for CT Neck and TAP due to the concern re extra hepatic foci given ongoing fevers post drainage. Imaging revealed two drainable hepatic collections and he underwent repeat IR drainage.
- He was transferred to a tertiary paediatric unit at this stage for further management but no further intervention was required.
- 16S RNA from abscess sample was later resulted also positive for *F. Necrophorum*
- After prolonged anti-microbial therapy he achieved complete remission and remains well today.
- An immune work up including oxidative burst test for chronic granulomatous disease showed no abnormalities



CT Neck Thorax
Abdomen and Pelvis
– prior to second IR
drainage

Conclusion

- *Fusobacterium Necrophorum* infection is a virulent and invasive bacteria that can cause significant morbidity in an immunocompetent host.
- Liver abscesses in the paediatric population are rare but cause significant morbidity.

References:

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