Mycobacterium fortuitum causing granulomatous hepatitis post-ERCP: A case report

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66yo Caucasian female

> PC: Intermittent biliary abdominal pain
> PMHx
  • Laparoscopic cholecystectomy
> Elective endoscopic retrograde cholangiopancreatography (ERCP)
  • Sphincter of Oddi dysfunction
66yo Caucasian female

- Fever, abdominal pain, jaundice
- Transaminitis
  - ALT 1073 U/L
  - AST 1264 U/L
- Serology
  - Hepatitis A previous exposure
  - Hepatitis B no evidence of infection/immunity
  - Hepatitis C not detected
  - HIV not detected
- Blood cultures obtained
Magnetic resonance cholangiopancreatography (MRCP)
Blood culture

> D5 flagged positive
  - Gram: no bacteria seen

> D7 Choc and HBA tiny colonies
  - Gram: Gram-positive bacilli

> D8
  - ‘bitty’ Gram-positive bacilli
  - ZN weakly positive
  - Mod-ZN positive
  - MALDI-TOF: *Mycobacterium fortuitum*

> D15
  - Susceptibility results available

> D23
  - 16S confirms *M fortuitum*
## Blood culture susceptibilities

<table>
<thead>
<tr>
<th>Drug</th>
<th>MIC</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trimethoprim/Sulfamethoxazole</td>
<td>$\leq 0.25/7.75$</td>
<td>Sensitive</td>
</tr>
<tr>
<td>Ciprofloxacin</td>
<td>$\leq 0.12$</td>
<td>Sensitive</td>
</tr>
<tr>
<td>Moxifloxacin</td>
<td>$\leq 0.25$</td>
<td>Sensitive</td>
</tr>
<tr>
<td>Amikacin</td>
<td>$\leq 1$</td>
<td>Sensitive</td>
</tr>
<tr>
<td>Imipenem</td>
<td>4</td>
<td>Sensitive</td>
</tr>
<tr>
<td>Cefoxitin</td>
<td>64</td>
<td>Intermediate</td>
</tr>
<tr>
<td>Linezolid</td>
<td>16</td>
<td>Intermediate</td>
</tr>
<tr>
<td>Doxycycline</td>
<td>$\geq 16$</td>
<td>Resistant</td>
</tr>
<tr>
<td>Clarithromycin</td>
<td>$\geq 16$</td>
<td>Resistant</td>
</tr>
<tr>
<td>Cefepime</td>
<td>$\geq 32$</td>
<td>Resistant</td>
</tr>
<tr>
<td>Minocycline</td>
<td>$\geq 8$</td>
<td>Resistant</td>
</tr>
<tr>
<td>Tobramycin</td>
<td>16</td>
<td>Resistant</td>
</tr>
</tbody>
</table>
CT Abdomen with contrast
Histology: liver biopsy
Differential Diagnoses

- Foreign body infection
- Liver abscess
- Malignancy
- Inoculation at ERCP
Treatment

> Induction – 6 weeks
  • Amikacin, Ciprofloxacin & Trimethoprim/ Sulfamethoxazole
    → transaminitis

> Re-induction – 4 weeks
  • Amikacin, Ciprofloxacin & Imipenem

> Consolidation – 10 months
  • Ciprofloxacin & Linezolid
    → thrombocytopenia
  • Ciprofloxacin & Minocycline
Mycobacterium fortuitum
Endoscope maintenance

> Reprocessing
  • Cleaning
  • High-level disinfection
  • Microbiological surveillance

> Flushings and/or brushings received

> Incubate
  • HBA & MAC 35°C for 2 days
  • HBA 28°C for 7 days
ERCP-associated infections

- Inadequate disinfection
- Failure to rinse channels
- Contamination of water
- Contamination of disinfecting machine
Summary

> *Mycobacterium fortuitum* bacteraemia causing granulomatous hepatitis
  • Single risk factor – Elective ERCP

> Treatment adverse effects
  • Trimethoprim/Sulfamethoxazole → transaminitis
  • Linezolid → thrombocytopaenia
  • Amikacin → high frequency hearing loss
References


Infection Control in Endoscopy. Gastrointestinal Society of Australia. 2010
References


Acknowledgements

> Dr Narin Bak
  • Infectious Diseases Physician, Royal Adelaide Hospital

> Dr Matthew Roberts
  • Infectious Diseases Registrar, Royal Adelaide Hospital

> Dr Ivan Bastian
  • Clinical Microbiologist, SA Pathology
SA PATHOLOGY

For our patients and our population