Factors that Guide Cessation of Antibiotic Course in Native Pyogenic Spinal Infections, and Recommended Follow-Up

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Why is this topic Important

- Pyogenic spinal infections can be severe if left insufficiently treated.
- At the same time, antibiotic stewardship is very important to slow emergence of resistant bacteria strains.
- Therefore, proper duration of antibiotic therapy is paramount to success in treating these spinal infections.
- Expert consensus needs to be established regarding the factors that may best indicate when to stop treatment.

Literature Review/Process

- 660 articles retrieved
  - 139 duplicates removed
- 521 articles screened
  - 497 articles excluded
- 24 publications reviewed for potential inclusion
  - 9 did not meet inclusion criteria
- 15 publications included

Findings from Literature

- 6-8 weeks of antibiotic therapy is most advocated for in the literature. However, one study notes that 6 weeks is not inferior to a 12 week course, concluding that 6 weeks may often be sufficient.
- 8+ week duration is recommended for high risk patients with MRSA or undrained paravertebral/psoas abscess.
- Inflammatory markers may be used to determine cessation, with ESR appearing the most useful. Of note, it is the downward trend, not the absolute value of the ESR, that is most important for determining when to stop antibiotic therapy.
- CRP downtrends more quickly than ESR, and was not as consistent with infection eradication as ESR.

Findings from Literature (cont.)

- Imaging is another tool to utilize, but not first-line. MRI does not have any utility beyond diagnosis, but ^{18}F-FDG PET/CT scan shows promise for determining adequate treatment response of the infection.
- Resolution of clinical signs and symptoms, along with the above indicators, is another sign that therapy may be stopped.
- Literature is generally inconclusive regarding follow-up after resolution. However, one study advocates for close follow-up to one year for patients at high risk of recurrence (neurological deficits, age $\geq$ 65, epidural/paravertebral abscess).

Question:

What are the factors that decide cessation of antibiotic course in native pyogenic spinal infections?

Response:

- Patients with at least 6 weeks of antibiotic therapy with clinical symptomatic improvement and reduced serum inflammatory markers can be considered for cessation of antibiotic therapy.

- Vote:

Agree – 87.9%, Disagree – 3.0%, Abstain – 9.1% (Strong Consensus)

Question:

Do patients with healed infection require periodic follow-up?

Response:

- Patients at high risk of recurrence should be closely monitored for a minimum of one year.

❖ Vote:

Agree – 100%, Disagree – 0%, Abstain – 0%
(Unanimous Consensus)