In the presence of positive culture in tissue or blood, should one antibiotic or combination of antibiotics be started?

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Spinal infections can be classified into two major groups:

- Those acquired through hematogenous dissemination, such as pyogenic spondylodiscitis,
- Those related to surgical procedures, which may involve implanted materials.

Monotherapy Versus Combined therapy

- Isolated reports suggest that antibiotic monotherapy may be effective.
- The medical literature does not yet provide robust evidence.
- Monotherapy with agents such as first-generation cephalosporins or vancomycin may be an option.
- Infections associated with implants present a greater therapeutic challenge where combination therapy is strongly recommended

Litreature Analysis

3199 articles identified on Rayyan platform

- 797 duplicate articles removed

2776 articles screened for eligibility

- 2609 excluded

47 articles reviewed for potential inclusion

- 29 did not meet inclusion criteria

14 publications included

Evidence based recommendations: Infections Without Implants

- When a causative pathogen is identified and is susceptible, monotherapy may be considered in patients without severe symptoms.
- For Staphylococcus aureus, cefazolin or oxacillin are the drugs of choice, while vancomycin or daptomycin should be used in cases of methicillin resistance [3].

Evidence based recommendations: Implant-Associated Infections

- Combination therapy is recommended, with rifampin being an essential component when Staphylococcus spp. is involved [5].
- The combination of rifampicin with fluoroquinolones has shown good results, but other options include rifampicin combined with daptomycin or linezolid [6].
- Implant removal should be considered in cases where infection cannot be controlled solely with antibiotics and debridement [7].

Duration of Therapy

- For infections without implants, six weeks of intravenous antibiotics are often sufficient
- Implant-associated infections may require prolonged oral therapy (3 to 6 months) [4].

Question:

In the presence of positive culture in tissue or blood, should one antibiotic or combination of antibiotics be started?

Response:

The decision between monotherapy and combination therapy in the treatment of spinal infections should be individualized based on pathogen.

❖ **Vote:**

Agree – 94.3%, Disagree – 0%, Abstain – 5.7%
(Unanimous Consensus)