

Septic arthritis

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A 6 m/o with a recent URI is brought to the ED with a 2 day history of subjective fever, decreased appetite, and fussiness with diaper changes. On physical examination she is laying with her right hip flexed, abducted, and externally rotated and is extremely tender to any movement. You suspect septic arthritis. Which imaging modality should initially be ordered?

- a. Ultrasound
- b. CT Scan
- c. Plain Radiograph
- d. MRI

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Correct answer: Plain Radiograph

- In the evaluation of a suspected septic arthritis, other causes of joint pain must be evaluated. Plain radiograph may identify fractures, foci of osteomyelitis, and other causes of osteoarticular pain and swelling. It is recommended to request AP pelvis and lateral frog leg view for comparison to unaffected side .

Other answer choices

○ Ultrasound

- > Ultrasound should be performed in children with suspected septic arthritis and can be used to guide aspiration. However, in this case of suspected septic arthritis, it is not as helpful as plain radiograph at ruling out other causes of hip pain, such as fracture.

○ CT Scan

- > CT scan is not routinely used in evaluation of septic arthritis

○ MRI

- > MRI is sensitive for early detection of joint fluid and may show joint erosion, tissue swelling, and abnormalities of adjacent bone; however it is not necessary in the initial evaluation of suspected septic arthritis

Which pathogen is the most common cause of septic arthritis, irrespective of age?

- a. Group A Streptococcus (*S. pyogenes*)
- b. *Staphylococcus aureus*
- c. *Neisseria gonorrhoea*
- d. *Streptococcus pneumoniae*

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Correct Answer: *Staphylococcus aureus*

Although suspected pathogens differ by age and medical history, *S. aureus* is the most common cause of septic arthritis and antimicrobial therapy should include coverage for *S. aureus*, even if a pathogen is not isolated (which occurs in ~25% of cases.)

Other answer choices:

- Group A Streptococcus (*S. pyogenes*)
 - > Should be suspected in patients with concurrent VZV infection
- *Neisseria gonorrhoea*
 - > Should be considered in sexually active adolescents; usually occurs with rash and fever
- *Streptococcus pneumoniae*
 - > Should be considered in children younger than 2y, and older than 2y with underlying medical condition

Other pathogens to consider

- ◉ Salmonella
 - > Patients with sickle cell anemia
- ◉ Pseudomonas
 - > Associated with puncture wound
- ◉ Gram negative bacteria
 - > Recent instrumentation of GI or GU tract
- ◉ Borrelia burgdorferi
 - > History of lyme disease, travel to endemic area, intermittent inflammatory arthritis

References

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- Behrman, R. Nelson Textbook of Pediatrics 17th edition. Philadelphia, PA: Saunders. 2004.