Methicillin-sensitive *Staphylococcus aureus* Infection After Steroid Hip Injection

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**abstract**

Infection after intra-articular steroid injection of the hip is rare, occurring in <1 of 15,000 cases. Septic arthritis following intra-articular injection is even rarer. This is the only documented case of systemic septicemia following intra-articular injection.

The patient received an intra-articular steroid injection to the left hip under fluoroscopic guidance, which resulted in reduced pain and increased mobility. Two weeks after the injection, the patient noticed sharp pain in the left hip and groin and malaise. Over a 48-hour period, he became progressively ill and was hospitalized for severe groin and thigh pain, inability to extend his hip, and diaphoresis. He underwent aspiration of the hip, which revealed Gram-positive cocci in clusters.

At admission, the patient underwent incision and drainage of the left hip with removal of approximately 25 cc of fluid. The patient was started on intravenous vancomycin, then converted to nafcillin as the cultures and sensitivities revealed methicillin-sensitive *Staphylococcus aureus*. After 6 days of intravenous methicillin, the blood cultures were negative, and the patient was discharged. The patient's laboratory findings were normal, and cultures for aerobic anaerobic bacteria were negative. The patient underwent hip resurfacing and aggressive rehabilitation and was able to return to work. Thirty months after hip resurfacing, the patient had no evidence of infection, walked without a limp, had normal laboratory findings, and was pain free.
Infection after intra-articular steroid injection of the hip is rare, occurring in <1 in 15,000 cases. Septic arthritis after intra-articular injection is even rarer. This article presents the only known case of systemic septicemia following intra-articular injection. This case confirms that even simple procedures performed under sterile technique can create significant medical problems.

**CASE REPORT**

A 55-year-old orthopedic surgeon had a history of moderate degenerative osteoarthritis and palindromic rheumatism. He was previously treated with anti-inflammatory drugs, methotrexate, etanercept, and adalimumab. He had 2 previous intra-articular injections to his left hip, which provided pain relief for >1 year.

On October 4, 2008, the patient received an intra-articular steroid injection to the left hip under fluoroscopic guidance. This resulted in reduced pain and increased mobility. Two weeks after the injection, the patient noticed increasingly sharp pain in the left hip and groin and malaise. Over a 48-hour period, the patient became progressively ill, with increasing pain in his hip and groin area. The patient was hospitalized on October 20, 2008, for severe groin and thigh pain, inability to extend his hip, and diaphoresis. The patient underwent immediate aspiration of the hip, which revealed murky fluid with Gram-positive cocci in clusters.

Radiograph of the hip (Figure 1) revealed degenerative changes on the acetabular side with osteophyte formation, acetabular cysts, and joint space narrowing. No evidence of avascular necrosis existed.

At admission, the patient underwent incision and drainage of the left hip with removal of approximately 25 cc of fluid, and a peripherally inserted central catheter line was placed for infusion of intravenous antibiotics. The patient was started on intravenous vancomycin, then converted to nafcillin because the cultures and sensitivities revealed methicillin-sensitive *Staphylococcus aureus*. The patient had 3 positive blood cultures while on intravenous vancomycin. After 6 days of intravenous methicillin, the blood cultures were negative and the patient was discharged with instructions to remain nonweight bearing on the left side and to follow-up in 1 week. The patient underwent 6 weeks of intravenous nafcillin. His wound healed uneventfully, and in January 2009, he underwent repeat aspiration of the left hip. The patient’s white blood cell count, sedimentation rate, and C-reactive protein were normal. Cultures for aerobic anaerobic bacteria were negative. The patient underwent hip resurfacing on March 4, 2009 (Figures 2, 3), and he was able to return to work as an orthopedic surgeon on May 4, 2009, after an aggressive rehabilitation.

**DISCUSSION**

Infection after intra-articular steroid injection of the hip is rare, occurring in <1 in 15,000 cases. Septic arthritis after intra-articular injection is even rarer. This is the only documented case of systemic septicemia following intra-articular injection. This case shows that simple procedures performed under sterile technique can create significant medical problems.

Fortunately for this patient, treatment with aggressive debridement and appropriate antibiotic therapy was successful. After 30 months of follow-up after hip resurfacing, the patient has returned to work with no evidence of infection, walks without a limp, has normal laboratory findings, and is pain free. The patient will follow-up annually for a minimum of 5 years to rule out complications, including infection.
REFERENCES


