Prepatellar Bursitis

Prepatellar bursitis is an inflammation of the prepatellar bursa in front of the kneecap that can be caused by repeated trauma on the flexed knee (e.g., sports injuries, pressure from excessive kneeling). It is also know as Housemaid's knee. Manifestations include pain and erythema. A minority of the cases can be complicated by septic bursitis from staphylococcus aureus. Aspiration can be done in patients with acute bursitis to rule out infectious causes or gout. NSAIDs are used to manage symptoms, and antibiotics should be added if an infectious etiology is suspected.



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Etiologies

Repetitive Trauma on Flexed Knee
Trauma-spike on Flexed Knee
The prepatellar bursa is a potential space in the knee anterior to the patella. Its function is to enhance the gliding of tissue over the patella and prevent irritation or tears. Repetitive trauma and chronic stress on flexed knee can result in the inflammation of the prepatellar bursa.

"Housemaid's Knee"
House Tattoo on Knee
Prepatellar bursitis is also known as housemaid's knee because it commonly occurs in people who spend long periods of time kneeling.

Symptoms

Pain
Pain-bolt
Inflammation that results from the compromised function of the prepatellar bursa promotes the release of cytokines that increase tissue degradation and heighten sensitivity to pain.

Erythema
Redness
Vasodilation, recruitment of inflammatory cells, and increased capillary permeability are critical features of inflammation. These changes result in erythema and swelling of the anterior knee in patients with prepatellar bursitis.

Complications

Septic Bursitis
Sepsis-snake
Prepatellar bursitis can be septic (bacterial infection) or aseptic (trauma/wear-and-tear induced inflammation). Prepatellar bursitis should always be differentiated from septic arthritis of the joint, as swelling, pain, and erythema are common in both of these conditions.

Staphylococcus aureus
Staff of Oreos
Staphylococcus aureus is the most commonly cultured organism in patients with septic prepatellar bursitis.

Diagnosis

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Aspiration

Ass-Pirate

Bursal fluid aspiration can be done in patients with acute bursitis or protracted inflammation to rule out infectious causes or gout. This allows analysis of the fluid itself for white blood cells, pathogens or crystals.

Management

NSAIDs

N-sad

If there are no crystals, and the gram stain is negative, patients with severe symptoms can be treated with nonsteroidal anti-inflammatory drugs. These medications decrease the inflammation and reduce the severity of swelling and pain.

Antibiotics

ABX-guy

Empiric treatment should be started in patients with a high suspicion of septic bursitis or septic arthritis after the arthrocentesis is done, and the regimen can be modified once the results of gram-stain and cultures come back. Oral doxycycline, clindamycin, or trimethoprim-sulfamethoxazole can be used in patients with primarily localized symptoms. Patients with a high risk of methicillin-resistant S. aureus (MRSA) infection should receive empiric therapy with IV vancomycin or daptomycin.

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