

Methicillin Susceptible *Staphylococcus aureus* is the Predominant Organism in Septic Bursitis with the Majority Involving the Olecranon Bursa: A Study of 65 Cases



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Background

Bursae are fluid filled structures between mobile parts of the musculoskeletal system to reduce friction by lubrication [1]. Of the many bursae in the human body, the most frequently infected are the olecranon and pre-patellar bursae. In reported studies of septic bursitis, there is a strong male preponderance and a relationship to occupational or recreational activities in over half the cases with a mean age of around 50 years and the most frequent offending organism being *Staphylococcus aureus*[1,2]. The frequency of methicillin resistance is not well documented. We present clinical findings in 65 cases of staphylococcal septic bursitis. As far as we are aware, this is the largest series published compared to 20-44 in prior reports [3,4,5] with a higher incidence of olecranon bursitis.

Materials & Methods

We analyzed approximately 7000 *Staphylococcus aureus* cultures reported by the laboratory in 10 hospitals of our network, 9 in Pennsylvania and 1 in adjacent Warren county New Jersey for a period of 3 years ending in October 2019 and found **65 cases** of septic bursitis.

There were **55 males** and 10 females.

We reviewed the clinical findings, recreational and occupational history, laboratory data, antibiotic susceptibilities and treatment.

Distribution of Septic Bursitis

Olecranon septic bursitis	42/65	64.6%
Pre-patellar septic bursitis	17/65	26.1%
Subacromial septic bursitis	4/65	6.2%
Infra-patellar septic bursitis	1/65	1.5%
Suprapatellar septic bursitis	1/65	1.5%

Age and Sex Distribution in Septic Bursitis

Male	55	84.6%
Female	10	15.4%
Age range 23-93	Mean age	61.2

Methicillin Susceptibility in Septic Bursitis

Methicillin susceptible <i>Staphylococcus aureus</i> (MSSA)	52/65	80%
Methicillin resistant <i>Staphylococcus aureus</i> (MRSA)	13/65	20%

Distribution of Methicillin Resistance

Site	Methicillin susceptible	Methicillin resistant
Olecranon	34	8
Pre-patellar	13	4
Sub-acromial	3	1
Supra-patellar	1	
Infra-patellar	1	

Occupational Associations

Roofer
Floor worker
Construction worker

Majority had no occupational or recreational history recorded in the chart

Treatment

The majority were successfully treated with

Antibiotics
+
Drainage

Summary

Olecranon bursa was the most common site involved [64.6%].
Males [84.6%] significantly outnumbered females [15.4%].
Majority [80%] were caused by MSSA.
Mean age around 61 was higher than previous reports [50].
Elbows and knees accounted for 61/65 [92.4%] infections.
Avoidance of activities that result in friction or repeated trauma to elbows and knees should help prevent septic bursitis.

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