

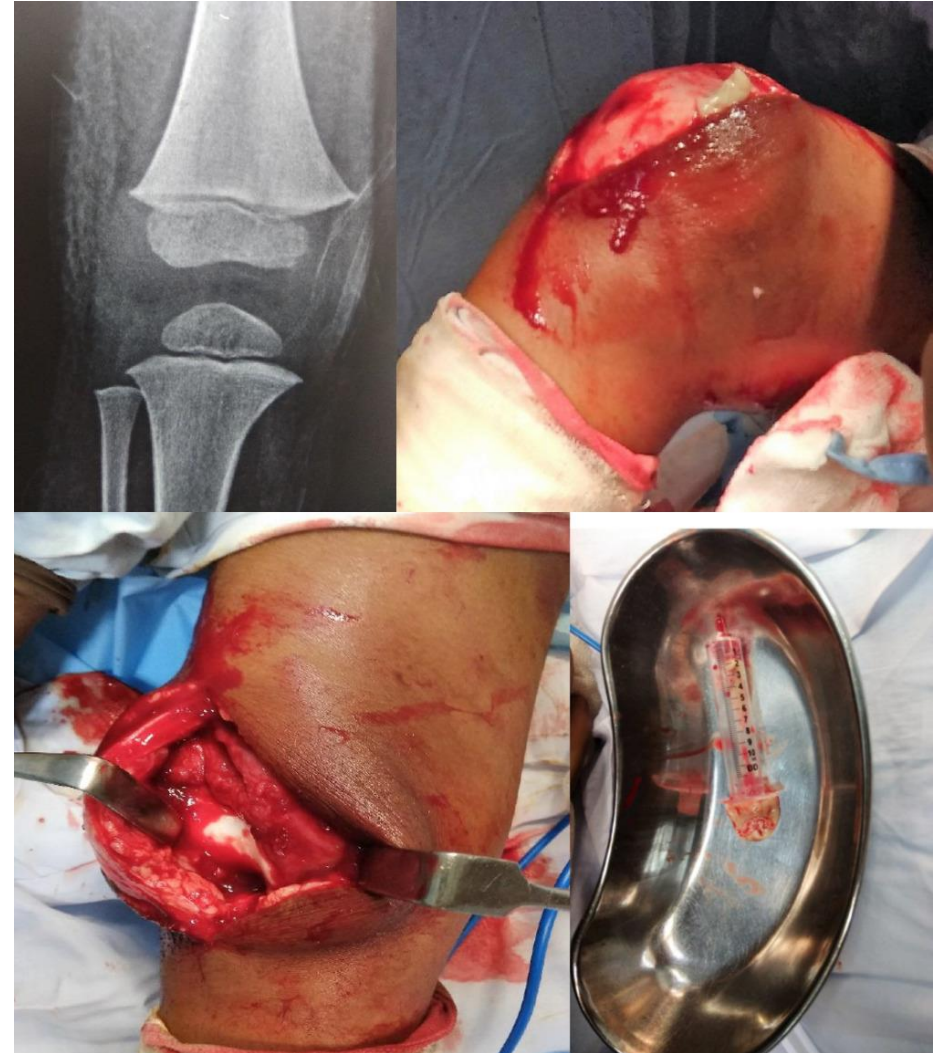
# Characteristics of musculoskeletal involvement in pediatric patients with disseminated sepsis in a tertiary care center.

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# Characteristics of musculoskeletal involvement in pediatric patients with disseminated sepsis in a tertiary care center.

- **Background:** Pediatric bone and joint infections account for one of the major causes of childhood morbidity.
- Disseminated sepsis being a systemic disorder with multisystem involvement, overshadows the timely recognition of bone and joint infections.
- Hence we did this cross-sectional study to evaluate the prevalence of septic arthritis and osteomyelitis in disseminated sepsis in children, the organisms implicated, and their antibiotic sensitivities.



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- **Methods:** We prospectively collected data from 1st July 2016 to 31st September 2017 of children aged less than 12 years with disseminated sepsis, i.e., patients with fever and two or more sites of focal infection of anatomically non-contiguous tissues.
- **Results:** 54 patients of disseminated disease were included, of which 25 patients (46.3 %) had osteoarticular infections.

AGE DISTRIBUTION	LESS THAN 1 YEAR		5
	1 TO 5 YEARS		6
	6 TO 10 YEARS		10
	MORE THAN 10 YEAR		4
OTHER ORGAN INVOLVEMENT	PLEUROPULMONARY		68%
	SOFT TISSUE DISEASE		64%
	VENOUS THROMBOSIS		24%
	PERICARDIAL		16%
MUSCULOSKELETAL INVOLVEMENT	OSTEOMYELITIS	FEMUR	7
		HUMERUS	3
		TIBIA	3
	SEPTIC ARTHRITIS	HIP	10
		KNEE	8
		SHOULDER	2
		ANKLE	1
		ELBOW	1
		WRIST	1

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- Septic arthritis was seen in 17 patients, and osteomyelitis was seen in 12 patients. The most common joint was hip (41.6%), and the most common bone involved was femur (53.8%).
- Considering both blood and aspirate cultures, MRSA was found in 20 patients, and MSSA alone was found in 12 patients. All *S. aureus* organisms were found sensitive to vancomycin and teicoplanin.
- The mean values of CRP, duration of stay and duration of intravenous antibiotic was higher in MRSA infected patients compared to MSSA patients

	MRSA	MSSA	Significance
Mean duration of stay in hospital (in days)	33.5	24.2	p<0.05
Mean duration of intravenous antibiotics (in weeks)	4.44	3.33	p<0.05
Mean initial CRP (mg/dl)	196	101	p<0.05
Mean initial ESR (in mm/hr)	49.7	39.5	p>0.05

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- **Discussion:** MRSA is a cause of severe osteoarticular infections with increased morbidity, and the need for proper empirical treatment is imminent in cases of disseminated disease. Vancomycin, along with aminoglycoside, can be the preferred choice of antibiotic in cases of disseminated disease with suspected osteoarticular infection, as all cases of *Staphylococcus aureus* were sensitive to vancomycin in our study
- **Conclusions:** Cases of osteoarticular involvement with MRSA were higher compared to MSSA among the cases of disseminated disease. A significant difference in overall CRP values over the course of time, intravenous antibiotic duration, and duration of stay were seen between MRSA and MSSA patients.