

Clin Orthop Relat Res. 2009 Jun 17. [Epub ahead of print]

Sensitivity of Erythrocyte Sedimentation Rate and C-reactive Protein in Childhood Bone and Joint Infections.

Pääkkönen M, Kallio MJ, Kallio PE, Peltola H.

In addition to the examination of clinical signs, several laboratory markers have been measured for diagnostics and monitoring of pediatric septic bone and joint infections. Traditionally erythrocyte sedimentation rate (ESR) and leukocyte cell count have been used, whereas C-reactive protein (CRP) has gained in popularity. We monitored 265 children at ages 3 months to 15 years with culture-positive osteoarticular infections with a predetermined series of ESR, CRP, and leukocyte count measurements. On admission, ESR exceeded 20 mm/hour in 94% and CRP exceeded 20 mg/L in 95% of the cases, the mean (+/- standard error of the mean) being 51 +/- 2 mm/hour and 87 +/- 4 mg/L, respectively. ESR normalized in 24 days and CRP in 10 days. Elevated CRP gave a slightly better sensitivity in diagnostics than ESR, but best sensitivity was gained with the combined use of ESR and CRP (98%). Elevated ESR or CRP was seen in all cases during the first 3 days. Measuring ESR and CRP on admission can help the clinician rule out an acute osteoarticular infection. CRP normalizes faster than ESR, providing a clear advantage in monitoring recovery. Level of Evidence: Level II, diagnostic study. See Guidelines for Authors for a complete description of levels of evidence.

PMID: 19533263 [PubMed - as supplied by publisher]