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In vitro study of the antimicrobial effects of radiological contrast agents used in arthrography.

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Aspiration arthrography using an iodinated contrast medium is a useful tool for the investigation of septic or aseptic loosening of arthroplasties and of septic arthritis. Previously, the contrast media have been thought to cause false negative results in cultures when present in aspirated samples of synovial fluid, probably because free iodine is bactericidal, but reports have been inconclusive. We examined the influence of the older, high osmolar contrast agents and the low osmolar media used currently on the growth of ten different micro-organisms capable of causing deep infection around a prosthesis. Five media were tested, using a disc diffusion technique and a time-killing curve method in which high and low inocula of micro-organisms were incubated in undiluted media. The only bactericidal effects were found with low inocula of *Escherichia coli* and *Pseudomonas aeruginosa* in ioxithalamate, one of the older ionic media. The low and iso-osmolar iodinated contrast media used currently do not impede culture. Future study must assess other causes of false negative cultures of synovial fluid and new developments in enhancing microbial recovery from aspirated samples.

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