

Evaluation of Technetium-99m Ciprofloxacin (Infecton) in the Imaging of Infection

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Abstract

Introduction: The aim of this study was to evaluate the usefulness of technetium-99m (Tc-99m) ciprofloxacin in imaging inflammation/infection. The ciprofloxacin for labelling, as a kit, was obtained from St Bartholomew's Hospital in London. **Materials and Methods:** Patients were injected intravenously with Tc-99m ciprofloxacin and imaging was done at 10 minutes, 4 hours and 24 hours if necessary. Tomographic images (SPECT) were obtained in a few patients. Ninety-six patients were studied using Tc-99m ciprofloxacin. Forty-eight patients had bone scans and 22 had Tc-99m IgG scans. Eight patients were imaged using Tc-99m HMPAO labelled white blood cell, and bacteriological culture results were available in 24 patients. Organisms cultured included *Acinetobacter baumannii*, *Streptococcus*, *Staphylococcus aureus*, *Pseudomonas*, *Klebsiella*, *Blastococidia*, *Methicillin-resistant S. aureus*, *Salmonella* and *Candida*. **Results:** Findings were evaluated against microbiology, alternative imaging modalities and clinical outcome. There were 47 true positives, 33 true negatives, 5 false positives and 11 false negatives, giving a sensitivity of 81% and specificity of 87%. The positive and negative predictive values were 90% and 75%, respectively. There were no side effects and the scan was particularly useful in the evaluation of painful joint prosthesis to exclude infection. Repeat studies on 8 patients given antibiotics over a long period were very useful in deciding on termination of the antibiotic treatment.

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