

## DEVICE THERAPY

### Antibiotics prevent cardiac-device-related infections

A team of researchers from Brazil and the US have published data from the first randomized, controlled trial to demonstrate a benefit for antibiotic prophylaxis in patients who undergo cardiac device implantation. Stephan Danik, one of the lead authors, points out that until now there were very few data to support the use of antibiotics in this setting.

The investigators enrolled patients undergoing implantation of a cardiac resynchronization device, cardioverter-defibrillator, or pacemaker at the Heart Institute of São Paulo, Brazil between 1 July 2003 and 31 October 2005. They randomly assigned 314 patients to intravenous cefazolin and 335 patients to intravenous saline immediately before the implantation procedure. During follow-up, 2 patients in the cefazolin group and 11 in the placebo group developed infection. The benefit of antibiotic prophylaxis was such that the trial was terminated before

the target of 1,000 patients was reached. All infections were identified within 33 days of the procedure, and were well controlled with antibiotics and extraction of the device system when necessary. There were no cases of infective endocarditis and none of the patients died as a result of postoperative infection.

This trial shows that “antibiotics should always be given before pacemakers or defibrillators are implanted”, says Dr Danik. The researchers are now interested in conducting a randomized study to investigate whether routine use of antibiotics after device implantation provides any additional advantage.

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**Original article** de Oliveira, J. C. *et al.* Efficacy of antibiotic prophylaxis before the implantation of pacemakers and cardioverter-defibrillators: results of a large, prospective, randomized, double-blinded, placebo-controlled trial. *Circ. Arrhythmia Electrophysiol.* 2, 29–34 (2009).