Background: Infection associated with permanently implanted devices causes serious complications in patients. Frequency of infection was higher in patients with an implantable cardioverter defibrillator (ICD) or cardiac resynchronization therapy defibrillator (CRT-D) device than in patients with pacemakers. Methods: We retrospectively investigated the frequency and features of infection associated with implanted devices in 154 patients who underwent new device implantation or generator or lead replacement at our institute between January 2007 and December 2010. Results: A total of 133 new device implantations and 21 generator or lead replacements were performed. Infection associated with implanted devices was reported in 5 patients (3.23%); the infection was diagnosed within 1 month in 2 patients and at late phase in 3 patients. In 2 patients, staphylococcal species were detected by blood or local tissue culture. The operation time was longer (346.0 ± 129.9 vs. 146.1 ± 60.5 min, p < 0.0001) and the ratio of CRT-D implantation was higher (%CRT-D: 80.0% vs. 24.8%, p = 0.0111) in patients with infection than in patients without infection. Baseline characteristics, underlying diseases, new implantation or replacement, and antibiotic therapies were similar in patients with and without infection. Conclusions: An effort should be made to shorten the operation time of device implantation, particularly in the case of CRT-D implantation. Keywords: device infection, ICD, CRTD