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ANALYSIS OF THE COMPLICATIONS IN 296 PATIENTS WITH PERMANENT PACEMAKER IMPLANTATION

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Objectives To analyse of the complications caused by permanent pacemaker implantation

Methods The number of all patients receiving a permanent pacemaker in the inclusive period January 1995 to July 2011 were 297 in our hospital. These patients with an age range of 31–85 years (The mean age of patients was 60 ± 10.5 years.) were paced. Of these 205 were males (age range 52–95 years). Of these 91 were wenmen. In 287 brady arrhythmias (bradyarrhythmia) patients, there were 174 patients with sick sinus syndrome (sinus bradycardia, sinus pause, sinoatrial block, bradycardia-tachycardia syndrome), 108 patients with Atrioventricular block (complete heart block, Mobitz type 2 block), 15 patients with three branch block and 71 patients with binodal disease. There were 10 patients with heart failure for Dilated cardiomyopathy, three patients with vessel pneumogastric syncope, one patients with Carotid sinus syndrome and one patients with long Q-T syndrome. The method of permanent pacemaker implantation followed WANG-fangzheng introduction. Electrode values request: atrial pacing threshold low 1.0 V, P

wave amplitude high 2.5 mV ventricular pacing threshold low 1.0 V, R wave amplitude high 2.5 mV, The range of impedance is 300–1000 Ω . VVI pacemakers were implanted in 173 patients, AAI pacemakers were implanted in 28 patients, DDD pacemakers were implanted in 81 patients, DDDR pacemakers were implanted in two patients, CRT pacemakers were implanted in two patients.

Results All operations of implanting permanent pacemaker succeeded and the bradycardia symptom of all patients disappeared. In this study, pacing threshold is 0.2–1.3 V (the mean was 0.45 ± 0.10 V), The impedance was 350–1280 Ω (the mean was 690 ± 103 Ω), P wave amplitude was 3.9–8.5 mV (the mean was 5.0 ± 3.0 mV), R wave amplitude was 5.6 ± 14.5 mV (the mean was 8.5 ± 3.6 mV). There were four patients with haematoma of the pocket of pacemaker. By the treatment of pumping, squeezing and treading with sandbag, the haematoma disappeared. The Skin incision of one patient did not healed after 1 month due to a suture. After the suture was taken out, the Skin incision healed and did not find infection of the pocket of pacemaker. There was one patients with prolapse of the pocket of pacemaker, one patients with long-dated diabrosis. Adams-Stokes syndrome occurred in one patient's operation, the patient highly depended on pacemaker. Electrocardiograph recorded sinus pause when the patient occurred twitched. After Cardiopulmonary resuscitation, heartbeat of the patient returned. Pacemaker syndrome occurred in two patients with VVI Pacemaker. The related symptom disappeared after turning pacing frequency to 50 hpm. Electrode of in one patient's heart right ear dislocated and Back to normal by banning activities of the sufferer. Pacing threshold in one patient increased, the related symptom disappeared after adjusting output voltage. Muscles in left breast area of one patient jumped, the related symptom disappeared after adjusting output voltage. one patient happened sudden death when working due to unexplained reason. There were no reported incidences of haemothorax, pneumothorax, Arteriovenous fistula, infection of the pocket of pacemaker, electrode fracture, Electrode shift and death in this study.

Conclusions Skilled operation method can obviously reduced incidences of complications of permanent pacemaker. Permanent pacemaker insertion can be effective and safe, and the rate of complications was low.