Impact of different types of implanted pacemaker on endpoints in patients with sick sinus syndrome in follow-up study

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Topic(s):
Arrhythmias, General – Epidemiology, Prognosis, Outcome

Citation:
Sick sinus syndrome (SSS) morbidity increases with age, is associated with coronary heart disease, may cause sudden deaths and leads to pacemaker implantation. It was shown that different types of pacemakers may unequally impact on the life quality and even mortality rate in SSS patients in FU period.

Objectives was to investigate survival and surgical complications in patients with SSS and implanted pacemaker in FU period in dependence from SSS variant and pacemaker type.

Materials. A register of patients with SSS (n=610, 69.2±1.48) has been set and analyzed for mortality and surgical complications depending upon SSS variant, type of electric pacemaker in the FU period (39.7±0.8 months).

Results. Most unfavorable SSS variant was sinoatrial node (SA) block of III grade + SA arrest (mortality 16.9 %) and favorable – bradycardia (11.4 %). Maximal deaths ratio was observed in ventricular pacemakers VVI group (24.6%, Fig. 1), less – in dual-chamber pacemakers DDD (11.7 %) and minimal – in atrial AAI (5.5%, p=0.049). VVI implantations increased mortality risk in 1.39 times and AAI – decreased in 0.711. Sinus rhythm after pacemaker’s implantation was most favorable (9.2%), mortality increased in electric pacemaker rhythm (13.2 %) and most unfavorable was in tachy-brady syndrome (20.0%). Among the complications most often was pacemaker syndrome (1.6%), pacemaker dysfunction (1.5%) and pacemaker pressure ulcers (1.3%). In DDD stimulation complications were found in 9.3% of cases, in AAI - in 8.76% and with and in VVI - 9.87% (p>0.05). In AAI pacemaker’s implantation dysfunction was more frequent (46.0 %), in DDD - pacemaker syndrome and pressure ulcers (both 22.0 %), and in VVI – pacemaker pressure ulcers (20.0 %).

Conclusions. Long term FU mortality analysis from mortality point of view showed most unfavorable SA arrest + SA blockage III SSS variant; patients with implanted AAI pacemakers showed better life expectancy over then DDD and especially VVI; no statistical difference was found between surgical complications depending on pacemaker type.
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