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BRAZILIAN EXPERIENCE WITH THE EUROPEAN PACEMAKER REGISTRATION SYSTEM

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A continuous increase in the number of implanted pacemakers (PM), large amount of technical and medical data resulting from follow-up and the need for a "common" nomenclature for the physicians associated to the Latin American Society for Cardiac Pacing (SOLAEC) led us to develop a computerized PM management system with the data stored according to the European Pacemaker Registration Card. From January 1980 to October 1987 the data of 433 PM implants were stored according to the system. Pre-implant arrhythmia was: 04-07: 45 pts (10,4%); 08-10: 284 pts (65,5%); 19-20: 12 pts (2,8%); 22-27: 51 pts (11,8%); others: 41 pts (9,5%). Aetiology was: 04: 319 pts (73,3%); 07: 28 pts (6,5%); 09: 13 pts (3,0%); Chagas, 13: 12 pts (2,8%); other: 61 pts (14,0%). Since Chagas disease has a prominent incidence in Latin America we had introduced it as an additional item in Aetiology.

The data included information regarding patients PM and follow-up. With the aid of an statistic module, frequency distribution charts and actuarial analysis may be obtained.

The European Pacemaker Registration System helped us to organize data pertinent to PM patients and may be represent the nomenclature to be used in computerized pacemaker management systems in Latin America.

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ELECTROPHYSIOLOGICAL PARAMETERS IN SUBJECTS WITH VENTRICULAR PREEXCITATION: SYMPTOMATIC VERSUS ASYMPTOMATIC PTS.

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We compared electrophysiological parameters of 54 symptomatic pts with ventricular preexcitation (Group A) versus 39 asymptomatic preexcited pts (Group B).

Mean age in Group A was 37,4 yrs; 28 pts were studied for high risk or severe symptoms (atrial or ventricular fibrillation; syncopal attacks; heart failure), 26 pts with recurrences of supraventricular tachycardia (SVT) for setting out a rational therapy. Mean age in Group B was: 19,3 yrs; electrophysiological study was performed to evaluate the risk for sport activity.

Mean atrial effective refractory period was 224 ± 31 ms in Group A and 219 ± 43 ms in Group B (p= NS); mean anterograde effective refractory period of the anomalous pathway was 270 ± 58 ms in Group A and 289 ± 95 ms in Group B (p= NS); mean shortest preexcited RR interval during spontaneous or induced atrial fibrillation was 275 ± 100 ms in Group A and 265 ± 75 ms in Group B (p= NS); SVT was inducible with a low aggressive protocol in 95% of pts in Group A, with a medium aggressive protocol in 15% of pts in Group B (p<0,001).

In conclusion basic electrophysiological parameters in symptomatic and asymptomatic pts with ventricular preexcitation are not significantly different, the ease of induction of SVT on the contrary is a marker of a worst condition associated with the anomalous pathway and probably identifies not only the subjects with symptoms but also those who are prone to develop them.

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CARDIAC PACING IN CHILDREN

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From 1972 to 1986, permanent cardiac pacemakers (PM) were implanted in 49 children (less than 16 years old) with symptomatic bradyarrhythmia. Sixteen patients had congenital complete heart block of whom two had associated congenital heart disease. Twenty eight patients developed heart block following cardiac surgery and three others presented supraventricular tachy-bradyarrhythmias in the late post-operative period. Two patients developed heart block due to cardiomyopathy.

Pacing mode was VVI in 46 patients and DDD in 3. Epicardial leads were used in 43 implants and endocardial leads in 6 implants. Multi-programable pulse generators were implanted in most patients. There were three late deaths (6,1%) related to tachyarrhythmia or heart failure (2 patients), and 4 late deaths (8,7%) due to cardiac surgery, sepsis, hepatitis and heart failure. Thirty patients with recent follow-up are in satisfactory clinical conditions. The long term follow-up of surgically related heart block revealed a higher mortality and impaired clinical condition when compared with congenital heart block.

PM is an adequate treatment for children with symptomatic bradyarrhythmia; endocardial leads, although used in small number of patients, offered better results in long term

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EPICARDIAL - ENDOCARDIAL A-V SEQUENTIAL PACING : A GOOD ALTERNATIVE FOR "OLD" AND "NEW" LEADS.

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Some patients with VVI pacemakers having chronic, stable, epicardial leads may, at a given moment of their life, require restoration of their lost A-V synchronism due to the pacing mode used. Others, requiring pacing for the first time with a physiological device, may have complex congenital cardiac pathies which will make very difficult the insertion of atrial or ventricular leads.

A technique using the endocardium of the right atrial appendage connected to the epicardium of either ventricles (the previously paced or the left ventricle for new leads) is presented. Conventional endocardial atrial J lead and epicardial screw-in ventricular electrodes (Medtronic Inc.) were used. Three (3) patients had pacemaker syndrome and one (1) had tricuspid atresia complicated with symptomatic 3er. degree A-V block. In all, subclavian vein puncture with introducers was used. Two (2) had subxyphoid approach and two (2) left anterolateral thoracotomy for right and left ventricular exposure, respectively. During the follow-up period (11 to 62 months) the leads are functioning properly (defined as = normal sensing and pacing of the pulse generator connected to them) when controlled by continuous Holter recordings. However, chest X rays has shown "twisting" and "anteriorization" in two (2) patients without interfering its functional capability after 36 and 62 months post implant.

It is concluded that Epicardial-Endocardial approach, when indicated, represents a simple, rapid and relatively atraumatic technique for the establishment of A-V sequential pacing and preserves chronic, stable threshold ventricular leads. Abnormal appearance with time of the atrial J lead at the X rays, although "it doesn't look nice", doesn't mean malfunctioning by itself.