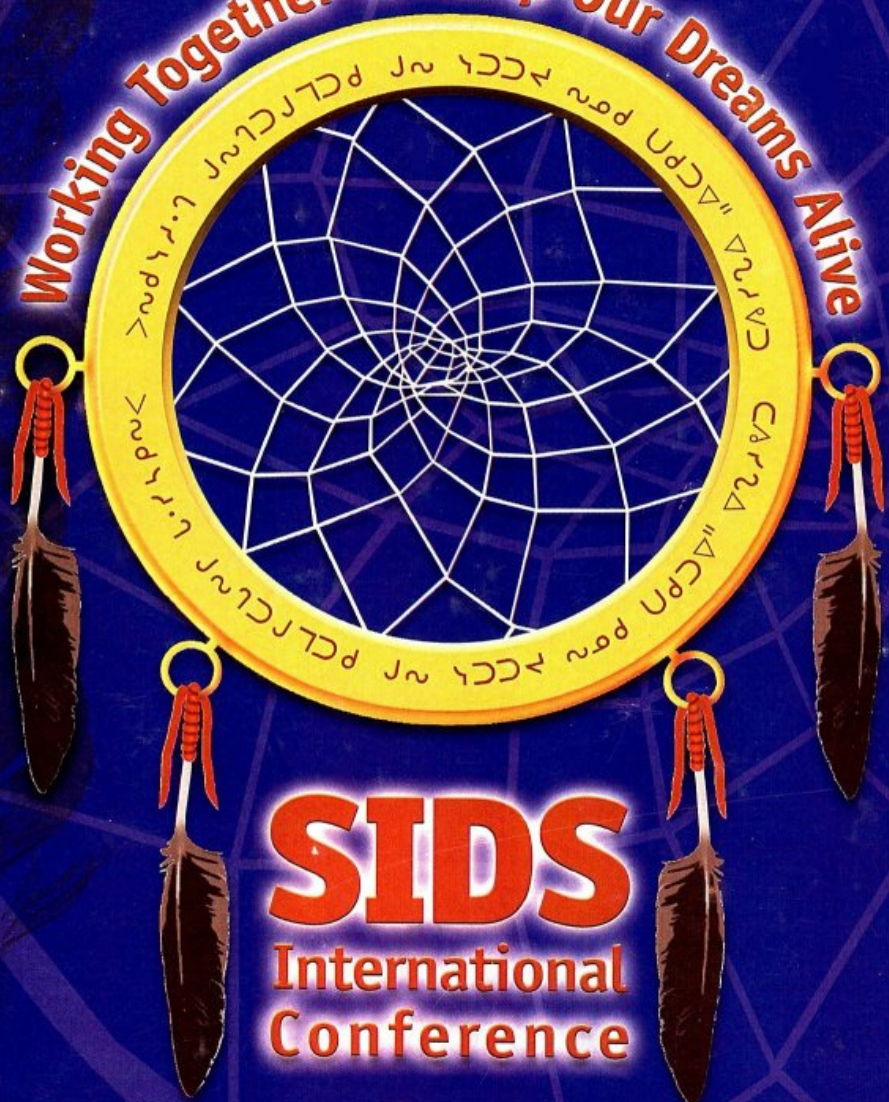


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032 Crib Death: Cardiac Sampling and Study of the Conduction System

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Crib death represents a great enigma, one of the main open issues in the social-medical and scientific setting of modern medicine. The aim of the present work is to describe the anatomo-pathological techniques to study the heart and particularly the conducting tissue in every case of crib death. At autopsy, the heart is removed taking care in severing the great vessels close to the pericardial reflections. The heart size and weight should be compared with the normal values. After the presence of gross cardiac malformations are excluded, the origin of the coronary arteries should be carefully inspected. The major epicardial coronary arteries and branches are excised transversely to their longitudinal axis. To examine the cardiac conduction system, two blocks for paraffin embedding are prepared. The first block contains the junction of superior vena cava and right atrium encompassing the entire area of the sinus node. The main visual reference for removal is the Sulcus-Crista Terminalis. Two longitudinal cuts are driven, parallel to the sulcus-crista line, through the atrial wall, with a medial prolongation on the right side to encompass the anterior aspect of inlet of the superior vena cava; on the left side, one has to section very medially the sinus intercavum and prolong the cut on the superior vena cava wall. Of the two transverse cuts, the superior one is oriented to the removal, as much as possible of the cava funnel. The inferior cut removes, more or less distally, the fan of the pectinate muscles that radiate from the Crista Terminalis. The second block contains the atrio-ventricular node, His bundle down to bifurcation and bundle branches, with two centimeters of attached septum above and below. Holding the already opened heart so as to expose the interventricular septum against a fairly intense light source, one clearly spots the transparent area of the *pars membranacea* and pins it between thumb and index finger. Thereupon, one proceeds to excise the interventricular septum together with the central fibrous body, the lowermost part of the atrial septum and the adjacent segments of the AV fibrous annuli. The serial section is a must in conduction system investigation, since it allows a further tridimensional reconstruction of the examined conducting tissue. The sinus node block is cut serially sectioned in a plane parallel to the crista terminalis. The atrio-ventricular junctional block is serially sectioned in a plane parallel to the two atrioventricular valve rings. Intercalated section every 20-40 μ m interval for the sinus node block and 40-60 μ m interval for the atrio-ventricular block, collecting 3 sections of 8 μ m each at individual levels, were performed. For each level two sections of 8 μ m were saved and stained alternately with hematoxylin-eosin and trichromic Heidenhain (azan). All intervening sections were kept and stained as deemed necessary. For each heart, the average number of histological sections stained and examined is about 200.