VII. 7. EVALUATION OF SANGUINEOUS AND CRYSTALLOID CARDIOPLEGIC SOLUTIONS DURING TOTAL HEART-LUNG BYPASS IN DOGS

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Twenty-four mongrel dogs were subjected to sanguineous and crystalloid cardioplegia for a period of thirty minutes at 20°C and 25°C systemic hypothermia during cardiopulmonary bypass. Cardioplegic solutions were administered at 4°C to induce cardioplegia. Study of physiological functions of the myocardium revealed that the cardiac function returned to normal sinus rhythm without any loss, when blood cardioplegic solution was used at both the hypothermic temperatures. The time taken for cardioplegia and cardiac electrical quiescence was achieved earlier at a systemic temperature of 20°C. The animals in the sanguineous group revealed better functional return and revival of cardiac musculature in terms of lesser applications of defibrillator, lesser requirement of inotropic support and early cardiac contraction. The experimental study revealed that sanguineous cardioplegic solution at a systemic temperature of 20°C was found to afford better protection of the myocardium during an arrest period of 30 minutes.