

USE OF ULTRASONIC DOPPLER'S METHOD IN EVALUATION OF LOW PERIPHERAL FLOW STATE.

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30 children hospitalized with overt symptoms of shock in course of burns, sepsis, perforations of bowels and others were examined. Clinical state of those children was evaluated and hourly diuresis, systemic blood pressure, blood-gases analysis, haemoglobine, haematocrit, red cells count and oxygen consumption were measured. Velocity and direction of blood flow in iliac artery were recorded. It was found out that in shock state marked changes in velocity and direction of blood flow in iliac artery were observed. Changes were seen in both systolic and reverse phase. The velocity of the systolic flow phase decreased but velocity and duration of the reverse flow increased. The diastolic flow phase usually disappeared. The pattern of blood flow has also changed depending upon the severity of shock. Experimental investigations were performed on 15 mongrel dogs under general barbiturate anesthesia with spontaneous respiration. Experimental decrease of peripheral flow was obtained by exsanguination of blood to mean blood pressure of 40 mm Hg. Taken volume of blood/heparinized/ with some additional volume of Ringer solution was subsequently retransfused to the same animal. Velocity of blood in femoral artery, blood flow in femoral artery and in common carotid artery, systemic blood pressure, cardiac output were measured. Systemic and local vascular resistance were calculated. In all dogs decrease in systemic blood pressure, cardiac output and peripheral blood flow was corresponding with increasing of its duration. Relative velocity of the systolic and diastolic phase decreased. Diastolic phase often disappeared. Also index of shock markedly decreased. Experimental investigations were compatible with clinical observations.