

Adrenalin in Medicine

3—Treatment of Shock and Collapse

THE therapeutic importance of Adrenalin in shock and collapse is suggested by their most obvious and constant phenomenon—a loss in blood pressure.

The cause and essential nature of shock and collapse have not been satisfactorily explained by any of the theories that have been advanced, but all observers are agreed that the most striking characteristic of these conditions is that the peripheral arteries and capillaries are depleted of blood and that the veins, especially those of the splanchnic region, are congested. All the other symptoms—the cardiac, respiratory and nervous manifestations—are secondary to this rude impairment of the circulation.

The term collapse usually designates a profound degree of shock induced by functional inhibition or depression of the vasomotor center resulting from some cause other than physical injury, such as cardiac or respiratory failure.

Treatment aims to raise the blood pressure by increasing peripheral resistance. As a rapidly acting medical agent for the certain accomplishment of this object Adrenalin is without a peer. In cases of ordinary shock it is best administered by intravenous infusion of high dilutions in

saline solution. Five drops of the 1:1000 Adrenalin Chloride Solution to an ounce of normal salt solution dilutes the Adrenalin to approximately 1:100,000, which is the proper strength to employ intravenously. A slow, steady and continuous stream should be maintained by feeding the solution from a buret to which is attached a stop-cock for the regulation of the rate of flow.

In those cases marked by extremely profound and dangerous shock or collapse the intravenous method may prove too slow or ineffective. Recourse should then be had to the procedure described by Crile and called centripetal arterial transfusion. Briefly it consists in the insertion into an artery of a cannula directed *toward* the heart. Into the rubber tubing which is attached to the cannula 15 to 30 minims of Adrenalin 1:1000 is injected as soon as the saline infusion begins.

The effect of this is to bring the Adrenalin immediately into contact with the larger arteries and the heart. Sometimes, even in apparent death, the heart will resume its contractions, thereby distributing the Adrenalin through the arterial system and accomplishing the object of this heroic measure—resuscitation and elevation of the blood pressure.



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