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بسم الله الرحمن الرحيم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها

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شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

COMPARATIVE STUDY BETWEEN DIFFERENT TYPES OF FLUIDS FOR RESUSCITATION OF ICU PATIENT WITH HYPOVOLEMIC SHOCK

Thesis

Submitted for Partial Fulfillment of
M.D. Degree in Anesthesiology

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Ain Shams University
2001

بسم الله الرحمن الرحيم

﴿قَالُوا سُبْحَانَكَ لاَ عِلْمَ لَنَا
إِلاَّ مَا عَلَّمْتَنَا إِنَّكَ أَنتَ
الْعَلِيمُ الْحَكِيمُ﴾

صدق الله العظيم

سورة البقرة / الآية {٣٢}

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Introduction:

Early and adequate resuscitation is essential for the survival of the severely hypovolemic shocked patient. Studies have shown that the duration of shock is the most important factor influencing the recovery from multiple trauma *(Baker et al., 1984)*.

Rapid resuscitation of blood volume is essential. Blood transfusion is given to increase oxygen carrying capacity and intravascular volume is not an indication for blood transfusion since volume can be augmented with administration of fluids that don't transmit infections, e.g. crystalloids and some colloids. Therefore, increase oxygen carrying capacity is the only real indication for blood transfusion *(Miller, 2000)*.

As with most clinical judgement, consideration of risk of blood transfusion versus its benefit is appropriate. Numerous of immediate complications are preventable when careful attention is directed to the details of transfusion.

The risks are classified into 3 main groups: metabolic effects, transmission of infection, and adverse effects attributable to immune mechanisms *(Bjaraker, 1991)*. Moreover, lack of compatible blood or blood components for infusion at accident sites has directed therapy towards the use of blood substitutes *(Kreimer and Messmer, 1988)*.

Crystalloids are the first line of therapy for the maintenance of plasma volume when colloid osmotic pressure is normal. Crystalloids can be used for resuscitation from hemorrhagic shock. Peripheral edema is one side effect of isotonic solutions when administered in large volume during the course of resuscitation.

Adverse cardiopulmonary effects do not usually occur in patients without preexisting cardiopulmonary disease *(McGough, 1991)*.

Kreimer and Messmer (1988) reported many experimental and clinical studies on the use of colloids, hypertonic saline 7.5%, 6% dextran in the primary resuscitation from traumatic hemorrhagic shock. These studies showed that small volume of hypertonic saline, especially 7.5%, alone or with added dextran resuscitate shocked patients.

McGough (1991) have reported the effectiveness of hypertonic saline (in different concentrations, the primary being 7.5%) to resuscitate shocked patients using fixed volume of fluid in a dose not exceeding 4 mL, i.e., 250 mL in an average adult patient.

Dubick and Wade (1994) reported an interest in the use of hypertonic saline solution (as plasma volume expanders) for the resuscitation of hemorrhagic hypotensive patients. Some studies have shown the efficacy of hypertonic saline with improved survival and reversal at many of the hemodynamic