glutinogen. This constitutes an incidence of reactions due to the Rh factor of 0.1 per cent in the 5,386 blood transfusions. . . . Sensitization to the Rh factor was attributed to multiple transfusions in four instances; pregnancies were responsible in the other two. There was one fatality. . . .

"No patient in this series developed isoimmunity with less than four transfusions. . . .

"From the analysis of transfusion reactions and the case histories of patients showing isoimmunity, it is evident that transfusion reactions due to sensitivity, to the Rh factor cannot be differentiated by clinical symptoms and signs from those due to other causes. . . .

"There are many obstacles which present difficulty in the search for incompatibilities to the Rh factor in a blood transfusion service. The first is the lack of adequate sources of Rh-typing sera. . . . The problem is still further complicated by the demonstration by Wiener of at least three anti-sera which are required to determine with certainty that cells from any source are Rh negative.

"There is a disturbing lack of adequate methods of demonstrating anti-Rh antibodies in the laboratory. . . . Where isoimmunity to the Rh factor probably exists, no agglutinin can be demonstrated in many instances by the methods now in use. . . .

"The time required for incubation of cell-serum suspensions for the demonstration of the anti-Rh agglutinin (from thirty to sixty minutes) imposes a serious delay if the transfusion is required as emergency treatment. In view of the incidence of isoimmunity to the Rh factor presented in this paper, it is the practice of staff members of the Blood Transfusion Service to forego the incubation of cell suspensions preliminary to urgent transfusions. The delay is considered more dangerous than the possibility of a reaction from Rh-incompatible blood."

A. W. F.


"SERUM versus PLASMA

"The writers wish to emphasize at this point that we hold no brief for either one of these blood substitutes as opposed to the other. We believe that each has a place in the treatment of patients and that the blood bank of the future will dispense both substances. Personal experience with the use of dried and liquid pooled plasma on similar types of patients has been had, and it is fair to say that plasma and serum are equally efficacious clinically. They can be used interchangeably without noticeable difference. The chemical similarity and like origin of each makes it at once illogical to assume striking differences between them. It is true, however, that each possesses certain advantages which the other does not.

"A comparison of 157 transfusions of liquid serum with 157 of liquid plasma and 71 transfusions of dried serum with an equal number of dried plasma reveals a significant difference in reaction rate—24.6 per cent for serum and 5.3 per cent for plasma (Table III).

"ADVANTAGES

Plasma:

1. Lower incidence of reactions.
2. Greater yield (2-4 per cent†).
3. Contains fibrinogen and prothrombin.
4. More easily prepared as a by-product of a blood bank. Blood can be used as blood, or later processed into plasma.
ABSTRACTS

Serum:
1. Greater protein content; pools contain 7 grams per cent compared to 5 grams per cent for plasma.
2. Obviates expense and trouble of citrate.
3. Can be filtered; hence, bacterial sterility can be assured.
4. Liquid serum remains clear; plasma (unless recalculated) precipitates out fibrin.
5. Drying is easier without presence of citrate...

"Serum and plasma are equally efficacious and the reactions each causes are rarely severe; the choice between them becomes largely a question of convenience and practicability of preparation and administration.

"Serum is now being prepared at the Presbyterian Hospital Blood Bank to meet the need of supportive therapy in patients with low plasma proteins and low calcium. Massive replacement with serum rather than with citrated plasma theoretically is safer in such states, particularly in infants."

A. W. F.


"Acute stoppage of the heart is a surgical emergency demanding immediate action if complete recovery is to be obtained. A preconceived plan of therapy avoids delay and confusion.

"The percentage of complete recovery in resuscitation of the heart will vary in direct ratio to the time interval between cardiac stoppage and the production of an adequate circulation by massage.

"The maintenance of a free and adequate artificial respiratory exchange during the course of resuscitation of the heart is essential.

"The cases of cardiac stoppage, capable of complete resuscitation, are those resulting from asphyxia, reflex vagal inhibition, cardiac trauma, cardiac toxins (drugs, anesthetics), acute cardiac dilatation, hemorrhage and vasomotor paralysis with resulting circulatory insufficiency, and electrocution.

"The indiscriminate use of the intracardiac injection of epinephrine or other sympathomimetic drugs is condemned.

"Sympathomimetic drugs should not be administered during the course of cyclopropane anesthesia.

"Procaine hydrochloride (2 per cent) administered prior to, or simultaneous with, the intracardiac injection of epinephrine lessens the possibility of ventricular fibrillation occurring.

"The topical application of procaine (5 per cent), metycaaine (10 per cent), or cocaine (4 per cent) may also be used to the surface of the heart; the injection of the 2 per cent solution into the chambers of the heart and electrical countershock are the most efficient methods in the treatment of ventricular fibrillation.

"The transthoracic approach is the method of choice in the performance of cardiac massage. Exposure of the heart is obtained through a transverse incision in the left third or fourth interspace, the adjacent costal cartilages sectioned, and the corresponding ribs widely retracted.

"Manual massage of the heart is the most effective means of initiating cardiac contractions. If uniform success is to be obtained, massage must be performed within three minutes following cessation of the heart beat."

A. W. F.