group contained a larger number with uncomplicated labor and delivery than the other groups. Yet in the spinal anesthesia group the neonatal mortality was 29 per thousand live births and in the group with no anesthesia and with tumultuous labor the neonatal mortality was 34.9 per thousand live births even after all infants under 3 pounds in this latter group were excluded. Because of the unexpected high combined stillbirth and neonatal mortality in the spinal anesthesia group of 74.2 per thousand live births, this group was examined more minutely. . . . In the full term infants this combined stillbirth and neonatal mortality of 47.7 per thousand live births compared unfavorably with the 15.0 in the caudal group. Also in the premature group the combined stillbirth and neonatal mortality of 220 per thousand live premature infants compared unfavorably with the 174 in the caudal group. The combined neonatal and stillbirth rate in the group with no anesthesia was 25.2 for full term infants and 377 for premature infants weighing 3 pounds or more at birth. These high rates make us seriously question the safety of those methods which withhold pain relief during labor and delivery. . . . In this paper we have presented the stillbirth and neonatal mortality rates in the various anesthetic groups. We are not drawing any further conclusions at this time.” 5 references.

J. C. M. C.


Pentothal sodium-procaine hydrochloride combined in a single solution was administered intravenously to over 500 cases. The mixture was used for extra sedation during spinal anesthesia; to guard against cardiac arrhythmias during general anesthesia, particularly during cyclopropane anesthesia; in combination with gas; alone as an analgesic in cases where no relaxation was required; and in the relief of postoperative pain. The author’s personal observations and impressions were reported.

The preparation of the solution to be used at operation was as follows: 1 to 2 Gm. of pentothal sodium and 0.5 to 1 Gm. of procaine hydrochloride were added to a liter of 5 per cent glucose in normal saline. A 1 per cent solution of procaine in normal saline was used when the dilute solution was not sufficient to prevent arrhythmias. The maximum amount of pentothal used at an operation was usually 2 Gm. If more sedation was required, other measures were used.

The preparation of the solution used for postoperative pain was as follows: 0.5 Gm. of pentothal sodium and 0.5 to 1 Gm. of procaine hydrochloride were added to a liter of fluid.

The dilute solution of pentothal-procaine was found to improve and, frequently, to prevent cardiac arrhythmias during general anesthesia. When cyclopropane was used, less gas was required to maintain anesthesia. Postoperative pain was relieved in most cases and less opiate was necessary when procaine had been used. There were no ill effects to the patient. 11 references.

R. C. T.


In a series of 285 cesarean sections curare was used as an adjunct to various anesthetic agents in an effort to decrease the amount of the anesthetic drug necessary. In 201 of these cases
it was used in combination with cyclo-
propane and ether; in 43, with cyclo-
propane; in 37 cases, in combination
with other agents. Amounts of curare
up to 200 units do not produce unde-
sirable effects upon the baby, and the
incidence and degree of fetal depres-
sion with curare-cyclopropane anesthe-
sia have been less than with cyclopro-
pane or ether anesthesia. There are no
unusual effects on the mother. There
is no increase in uterine hemorrhage.
Shock is not aggravated. While curare
is used routinely for the average pa-
tient undergoing cesarean section, spi-
nal and regional anesthetics are em-
ployed where they are believed to offer
a definite advantage to the patient. 1
reference.

H. L. P.

SIMEONE, F. A.: Blood and Plasma in
Surgical Emergencies. Rhode Is-

In 1864 during the war between the
States 18 ounces of blood were used
compared to the 70,000 pints of blood
and an equal number of units of plasma
administered during one year of World
War II.

In the clinical state known as
"shock" there is a discrepancy be-
tween the capacity of the arterial tree
and the volume of blood available to
fill it effectively. There is an absolute
or relative oligemia.

Greatest blood loss occurs in peri-
pheral wounds, next thoracic wounds, and
finally abdominal wounds on the av-
verage. Manifestations of shock are
closely correlated with the amount of
blood lost, and all, rather than a sin-
gle sign or symptom, must be used in
evaluating the degree.

The systolic, diastolic, and pulse
pressures showed a progressive drop
with increasing blood loss and are of
more value than changes in the pulse.

Hyperglycemia was shown to be cor-
related both with the degree of shock
and with the amount of blood lost and
further proved that kidney function is
depressed in relation to the degree of
shock.

When blood is lost, hemoilution re-
results from withdrawing fluid from the
tissues into the circulation, while in the
crush syndrome and severe burns there
is hemoconcentration. Therefore, logi-
cally, in shock whole blood is prefera-
ble. After a certain amount of blood
has been lost, the plasma concentra-
tion of magnesium, an intracellular ca-
tion, rises, suggesting that the intra-
cellular compartment has been tapped
for fluid, and it is logical to assume
that serious functional and structural
derangements of the vital organs may
be produced.

Preoperative blood can be consid-
ered adequate when the blood pressure
is over 80 mm. of mercury systolic, the
pulse rate is dropping, the skin is
warming, and circulation is returning
in it. When a patient in shock fails to
respond to the administration of blood,
the cause will usually be found in con-
tinued hidden bleeding, continued peri-
toneal irritation, bronchial obstruction
with atelectasis, fat embolism, clos-
tridial myositis, and even cerebral ma-
laria. The existence of a state of "ir-
reversible shock" is debatable.

Plasma, although of great value, is
an incomplete substitute for whole
blood and should be used only when
the latter is not available.

The oligemia of severe burns result-
ing in shock is due to plasma loss,
rather than whole blood loss. The
composition of fluid lost in burns ap-
proaches that of plasma except for a
lower concentration of protein. Burns
involving less than 10 per cent of the
body surface are of little importance,
but with extensive burns up to 6 liters
of fluid may be lost in forty-eight
hours. If the burn is less than 50 per
cent of the body surface area, the vol-