

medical sciences

Gathered at the meeting of the American Society for the Surgery of Trauma, Montreal

BURNS

Fluid for treatment improved

Development of a better intravenous solution for the treatment of major burns is reported by Drs. H. Harlan Stone and Donald W. Rhame of Atlanta's Emory University School of Medicine.

Because of the frequent necessity to alter the specific type of intravenous fluid administered to victims of major burns during phases of resuscitation, they set out to develop a universal burn solution.

The new solution has been given in the last six months to 50 patients with burns involving 15 to 90 percent of the body surface. The results suggest that so far it has proved superior to all other methods previously employed. One liter of fluid contains 500 milliliters of normal saline water, 230 milliliters of five percent glucose in distilled water, 20 milliliters of sodium bicarbonate solution, and 250 milliliters of plasma or serum albumin. The volume given is determined primarily by urinary output, with the goal being 20 to 60 milliliters of urine per hour.

VASCULAR SURGERY

Neck artery repairs

An optimistic view of surgical repair of injured major arteries in the neck is taken by Drs. Robert J. Freeark, David Monson and Jack D. Saletta of the University of Illinois. They concede that such trauma is difficult to recognize and challenging to repair.

But, reviewing experience with 30 patients over the past three years who sustained injuries to carotid or vertebral arteries, they stress "the generally favorable outcome of these injuries without using special techniques to support the cerebral circulation."

Identification of arterial injury prior to and during surgical exploration is not the sole problem, they note. The inability of cerebral tissue to withstand even brief periods of total lack of blood raises additional considerations, but the consequences of temporary or permanent interruption of a carotid or vertebral artery in trauma victims are not well established. Knowledge of the result of vascular repair or ligation usually must await recovery from anesthesia and a period of observation lasting several weeks.

VISCERA

Blunt wounds; early operation

Basing his conclusions on 20 years' work at the Toronto General Hospital, Dr. E. Bruce Tovee reports that injury of the abdomen by a blunt instrument "continues to tax the ingenuity and diagnostic skill of even the most experienced physician."

The viscera of 175 patients were examined following such injuries. Diagnosis was confirmed either by operation or by autopsy. Dr. Tovee suggests that an accurate, early diagnosis is often impossible and that these patients require frequent re-evaluation for signs of peritonitis or

shock. Early surgical intervention is preferable to a precise, pre-operative diagnosis. "With these concepts in mind, physicians are less likely to follow a course of elephantine inactivity," he says.

FROSTBITE

Tissue loss predictable

Final tissue loss from frostbite can be predicted from a knowledge of the temperature reached and the duration of unprotected exposure, conclude Drs. D. M. Knize, R. C. A. Weatherley-White, B.C. Paton and J. C. Owens of the University of Colorado School of Medicine, Denver.

The case histories of 75 frostbitten patients were reviewed for type of dress, contact with metal or water, duration of exposure, tissue loss and treatment administered.

In spite of differences in treatment, if exposure was long enough and cold enough, no treatment totally prevents tissue loss.

There was no correlation between alcohol intake or predisposing disease and extent of final injury, the study shows.

SEAT BELTS

Safety measures hurt but save

Automobile seat belts can harm their wearers while saving their lives. Drs. James S. Williams and John R. Kirkpatrick of the University of Rochester School of Medicine and Dentistry, Rochester, N.Y., review 66 cases in which auto accident victims had been injured by a safety belt. In most cases the patients were facing forward in a vehicle going more than 20 miles an hour.

Where prompt surgery was applied, nearly half the patients survived with very little morbidity, except two who died of extensive injuries. Perforation of the intestinal area was a common injury. Delays in operating came from diagnostic difficulties, and caused considerable morbidity, but no deaths. Morbidity was not permanent. Seven victims did not respond to resuscitation or died instantly.

Most of the victims would have been killed outright if they had not been wearing a belt, the researchers say.

AUTO INJURIES

Quick treatment could cut deaths

Motor accident mortality can be cut by one in five with skilled resuscitation and proper equipment at the site and in transit to the hospital, according to a study by Dr. Charles Frey and colleagues at the University of Michigan Medical Center, Ann Arbor. They examined the records of 159 patients fatally injured in motor vehicle accidents in one Michigan county between 1962 and 1967.

The study concludes that 32 patients, about 20 percent, could have survived with such care.

9 november 1968/vol. 94/science news/475