

lowing frequencies: 512-1024-2048. All other frequencies remained the same. This slight increase gave the child a hearing for the spoken voice on the left side of 24 inches. The right side still had a total loss of serviceable hearing.

F. A. S.

ANONYMOUS: *Anaesthetic Convulsions and Epilepsy*. *Lancet* 2: 444-445 (Sept. 30) 1944.

"Epilepsy may develop in patients with head injury, neurosyphilis or infantile hemiplegia, who also have a family history of the disease; and . . . [Brain] suggested that in these cases the acquired lesion precipitated the convulsions by activating an inherited predisposition. . . . The electro-encephalograph has enabled us to detect predisposition, and so has made it possible to distinguish constitutional from accidental factors when both are present. . . . To regard an inborn epileptic tendency as the primary cause of anaesthetic convulsions may be to simplify our ideas too much. The inborn tendency is already there, but the anaesthetic is no less essential; and possibly even the two together would not have induced convulsions if the blood-sugar had not fallen from pre-operative starvation. . . . To oversimplify the problem tends to disguise the fact that the complex aetiology matters in prevention and treatment. We must be careful that the remarkable achievements of electro-encephalography do not blind us to that vision of the patient as a whole which we inherit from the great clinicians."

J. C. M. C.

ASRATYAN, E. A.: *A New Method for the Treatment of Traumatic Shock*. *Am. Rev. Soviet Med.* 2: 37-43 (Oct.) 1944.

"The present communication is based on a series of experiments under-

taken to investigate the shock syndrome. The experiments were directed along the following lines: 1) functional restoration of uncoordinated and asthenic nerve centers; 2) restitution of altered hemodynamics (atonic arterioles, diminished blood volume, hypotension), of disturbed capillary permeability and blood chemistry (oligemia, hypercalcemia, anoxemia, and acidosis); and 3) the neutralization and elimination of toxic histolysed, bacterial, and metabolic substances. To accomplish the first objective, that of restoring asthenic nerve centers, it was decided to follow the observations of Pavlov and to emphasize increased physiologic rest, by inducing sleep. . . . The literature contains many reports on the effective use of alcohol, opiates, bromides, and other sedatives in the treatment of shock. Their efficacy has been attributed both to their analgesic and hypnotic action. They have been found more satisfactory than total anesthesia or hypnosis by the use of chloroform, ether, barbiturates, soporifics, chloralose, or magnesium sulfate, which did not produce uniformly good results in the prophylaxis and therapy of traumatic shock. These drugs have, therefore, fallen into disuse despite positive clinical evidence in some cases. . . . It is obvious then that a more suitable drug must be sought for the treatment of acute shock. . . .

"Toward this end, hypnotics, bromides, and ordinary Ringer's solution were compounded in various concentrations and administered in varying doses. This anti-shock solution is made from crystalline substances, adjusted for synergistic action. At present the mixture of NaCl, 14 grams; CaCl₂, 2.5 grams; NaHCO₃, 1 gram; NaBr 1.2 grams; glucose, 20-24 grams; a hypnotic in an amount depending upon the type used: 40-45 cc. of distilled alcohol; and 1,000 cc. of dis-

tilled water. This solution, like many others, is hypertonic. It is about three times as hypertonic as Ringer's solution. It is designed to remain longer in the vascular bed, to restore tissue fluids and erythrocytes to the blood stream, to increase thirst, to hasten water and salt metabolism, and to stimulate renal function. When the solution is given by the intravenous-drip method, no unfavorable reaction occurs. . . . Experimental and clinical work conducted with various hypnotics in our laboratories indicates that the best hypnotic for the solution is hedonal. Our work confirmed the experiments of Kravkov and others who found in hedonal a very valuable hypnotic for exhausted and anemic patients, since it has no adverse effect on either the cardiovascular or other systems. Its value is further enhanced because it is oxidized in the body. For our purposes the optimal therapeutic dose is 0.01-0.15 gram per kilogram of body weight or one-tenth the amount advocated by Kravkov for hedonal narcosis. This dose is not injurious to the medullary centers. . . . Laboratory experiments were conducted by inducing profound shock in animals. The hind legs of the animals were struck from 100 to 1,000 blows with a hammer or a metal rod, depending upon the number of blows required to produce traumatic shock. Occasionally both trauma and exsanguination by removing 10-30 percent of the blood were used. . . .

"Intravenous administration of our solution produced entirely different results. About 80 percent of the animals were brought out of profound shock. . . . Administration of our solution produced the following clinical signs. Soon after its introduction, there was a gradual continuous rise in blood and pulse pressure, which did not, however, reach normal levels. Circulation and respiration improved

and hemoconcentration diminished; the blood became bright red and its coagulability increased. The sensory and motor responses of the animals were activated. About 10 minutes after the infusion, the animals gradually relaxed and then fell asleep. Pulse and respiration became normal. Upon awakening 1-2 hours after treatment, they drank avidly, stood, walked, and ran like normal animals. Blood pressure and body temperature were normal, but gradually rose 1-2° C., remained above normal for about two or three days, and then returned to normal. In March 1942, our solution was first administered to shock patients in the emergency hospitals of Tashkent. During July, August, and September, it was tried in various mobile field hospitals at the front lines. Data have thus far been collected on 110 treated cases of profound, torpid shock with a marked hypotension of 60 mm. Hg or lower. The preliminary evidence indicates that the therapeutic effect of our solution in human beings was decidedly greater than in animals. This may be explained by the fact that the experimental animals were in more profound shock than that encountered in human beings and, therefore, required stronger restorative measures. . . .

"Only two of the 110 cases treated with our solution in 10 medical installations in the forward area did not respond favorably. This was probably due to the poor quality of the distilled water used for the solution. In 11 cases, the patients had been given whole blood, plasma, and other anti-shock solutions with no effect. After administration of our solution recovery was prompt. In a few cases of excessive hemorrhage, when anemia was present, the patients were also given blood transfusions 4-10 hours after they had recovered from shock by our solution. In cases with moder-

ate blood loss and free of other complications, cures were effected when treated with our solutions. Excessive hemorrhage, however, reduced the number of cures but there is reason to believe that added blood and plasma transfusions would increase recovery. In general, three to five minutes after the infusion was begun, the pulse became perceptible, and soon became steady and rhythmic. Blood and pulse pressure rose quickly, reaching normal levels toward the end of the infusion, an increase usually of 50-60 mm. Pallor gradually disappeared, the pupils contracted, and respiration returned to normal rate, rhythm, and amplitude. Sensitivity and motor activity were restored. Usually the patients began to be aware of their surroundings, to stir, and to complain of pain. They talked willingly about their wounds but when assured, felt better, and were calm. Within 20 minutes they gradually became somnolent and fell into normal sleep lasting from two to four hours, during which blood pressure sometimes fell 10-15 mm. and the pulse became somewhat indistinct. Both the pulse and the blood pressure returned to normal as soon as the patients awoke. It was significant that thirst increased abruptly 10-15 minutes after the infusion; patients continually drank water until they fell asleep, but awoke momentarily at intervals to drink. Most patients lost this thirst several hours after they finally awoke while others drank more than 2-3 liters within 4-5 hours. Diuresis increased. In most cases, improvement progressed and many of the young patients were hungry on awakening. The prompt 1-2° C. rise in temperature during the infusion is indicative of improvement in oxidative processes and metabolism in cases with hypothermia (34-35° C.). As a rule, the temperature during the first two days after recovery from shock rises

1-2° C. above normal and then gradually subsides. . . . Patients at the battalion mobile field hospital could be followed for only 3-7 days after which they were evacuated to divisional field hospitals, but in Tashkent, they were followed for 1-3 months. In all cases, recovery was uneventful. Patients observed for a longer period showed no ill-effects."

J. C. M. C.

GINSBURG, E. M.: *Pathogenesis and Treatment of Lobar Pneumonia*. Am. Rev. Soviet Med. 2: 28-36 (Oct.) 1944.

"Neither the underlying etiology nor the pathogenesis of lobar pneumonia have yet been determined. . . . The role of the nervous system in pneumonia and other diseases has been repeatedly emphasized in the medical literature and has been proven experimentally in the work of A. D. Spersansky and his colleagues. . . . His investigations led him to conclude that a relationship exists between lobar pneumonia and nerve changes in the basal ganglia of the brain and the cervical and thoracic segments of the spinal cord. He then tried to affect these nerves by acting upon other closely related nerves. . . . Within six years, 385 cases, divided into four groups, were treated by this method: 169 cases between 1935 and the beginning of 1939; 72 cases transferred from another hospital in the spring and fall of 1939; 49 cases in Karelian military hospitals during the Finnish campaign; and 95 cases in the V. I. E. M. Djerzhinski branch hospital between December, 1940 and June, 1941. In this last group, the majority of the cases were very severe and were complicated by jaundice, meningitis, or nephritis. The results obtained in treating the four groups by the Spersansky method were compared with those obtained by palliative and sul-