

"It is of interest to note that the donation of 500 cc. of blood may have a variable effect on the menstrual cycle in women. There have been a few complaints of an excessive or prolonged period shortly following a donation; the majority of women who make any note of an irregularity report a delayed or scanty period. It has not been possible as yet to correlate this information with hemoglobin values existing at the time. . . .

"Anyone who has had wide experience in hospital or private practice is well aware of the forms which 'hysteria' may take, especially in individuals with hypochondriac tendencies. It might, therefore, be expected that in a project with such a high degree of emotional appeal, there might be many individuals who would attempt to attach a multitude of minor complaints to the fact that they had given a blood donation. Whether because of the high degree of self-selection automatically practiced by the donors or whether because of the cooperative impulse involved in donating blood, there have been few instances in which a justifiable reason has not existed for a donor's complaint."

A. W. F.

SCHNALL, M. D., AND HEFFERNAN, R. J.: *Intrasternal Infusions in Obstetrical Hemorrhage*. *Am. J. Surg.* 68: 44-48 (April) 1945.

"Precautions

"1. Strict asepsis should be maintained from the time the skin is prepared for procaine infiltration until after removal of the needle, when the site is again prepared with alcohol and iodine and a sterile dressing applied.

"2. Osteoclysis is contraindicated in cases with septicemia.

"3. One should guard against piercing the posterior sternal plate. The sternum in infants and children is

poorly developed and should not be used.

"4. If marrow cannot be aspirated, fluid must not be injected. The lower femur or tibia has been used satisfactorily and may then be used. In children only the latter sites should be selected.

"5. Not more than one puncture should be made in the manubrium unless twelve hours have elapsed. An unsuccessful puncture in the body of the sternum at one place may be repeated only at some distance from the first. Some of the fluid running through the second puncture may flow out of the first puncture if the pressure be great enough and the openings close together.

"6. Circulatory overloading is to be avoided as with intravenous administrations.

"7. Hypertonic and irritating solutions should not be used."

A. W. F.

FINN, W. F.: *Air Embolism in Obstetrics and Gynecology*. *Am. J. Surg.* 68: 100-102 (April) 1945.

"There are two types of embolism—the venous and the arterial. In the venous air embolism air enters the peripheral veins and flows by means of the vena cava to the right heart and thence to the pulmonary arteries. In arterial embolism the site of entry is the pulmonary vein whence the air passes from the left ventricle to the systemic circulation and the brain.

"There is no agreement as to the amount of air which constitutes a fatal dose. Rabbits will die after the rapid injection of 10 cc. of air into an ear vein. In 1937, Richardson, Coles and Hall, basing their inferences on experimental air embolisms produced in small animals, estimated that about 500 cc. of air would be required to kill a human being. Moreover, there

is no constancy in the amount required even in individuals of the same species.

"The prerequisites for the development of an air embolus are: (1) a vessel which is in a state of incomplete collapse, either because its wall is only partly opened, or because fascial attachments prevent its retraction, and (2) suction produced by negative venous pressure or else the introduction of air under positive pressure into the circulation.

"These conditions are satisfied during many therapeutic procedures. Among the most common are the establishment and maintenance of pneumothorax, pneumonectomy, lobectomy, thyroidectomy, radical breast amputation, puncture of the paranasal sinuses, fractures of the long bones, continuous intravenous injections, perirenal insufflation, introduction of air into a joint cavity or the bladder; and of more interest to obstetricians, the induction of abortion, manipulation of the pregnant and puerperal uterus and, lastly, tubal insufflation.

"The presence of air embolism is recognized by sudden shock, dyspnea, and cyanosis. If air is in the large veins, hissing sounds may be heard and bruits or churning noises are heard over the heart area. If air escapes into the arterial circulation, there is blindness. This is caused by air in the retinal vessels and may readily be seen by the ophthalmoscope. There may also be areas of skin blanching due to interference with the capillary circulation. Death may be instantaneous or may occur within several hours. About 15 to 50 per cent of the cases end fatally. If the patient survives the first fifteen minutes, the prognosis is good; if she survives the first hour, coma and paralysis clear.

"There is no uniformity of opinion as to the mode of death. The common theories state that the non-compressible air replaces the compressible

blood in the right heart, thus causing cardiac standstill. This alone, or obstruction in the pulmonary bed by air prevents the transfer of oxygenated blood from the right ventricle to the left auricle. Other theories postulate that coronary artery embolism is the cause of death, while others state that the ischemia of the vital brain centers produces the fatal result."

A. W. F.

NORRIS, J. F.: *A Mortality Study of 187 Deaths in 66,376 Live Births.* Am. J. Obst. & Gynec. 49: 554-566 (April) 1945.

"Anesthesia

"There is a total of eight cases in which the anesthesia was the cause of death. There was nothing of any particular or outstanding significance as far as age, parity, past medical or surgical or obstetric history is concerned. Only one patient was a private case.

"In two of these eight cases, open drop ether was the method of anesthesia, and in one it was used for sixty-five minutes, using a 2¼ pound can—perhaps too long and too much anesthesia. In the other, food regurgitated and asphyxiation occurred. This untoward result could not have been prevented because it is necessary often to anesthetize obstetric patients without much previous preparation of their gastro-intestinal tract. In the other case, gas oxygen ether with chloroform added was used. This undoubtedly is a poor combination and should not have been used. Whether this fatality would have occurred without the addition of chloroform, is difficult to say.

"There were five deaths in which spinal anesthesia was used. In one, a combination of 10 mg. of pontocaine and 100 mg. of novocain was used. In all others, 100 mg. of novocain was