This is especially evident when the iliofemoral segment is suddenly occluded and is surrounded by a phlebitic exudate. A paravertebral block of the lumbar sympathetic will relieve the pain and much of the edema and restore the arterial pulsations, which are frequently diminished. They may even be absent and give rise to the diagnosis of arterial embolism. . . .

"Criticism of the Method: The method can be readily acquired with little practice and seems harmless. It will not protect the patient from an embolus, nor can it protect him from residual edema if the extent of the thrombus is too great. Whether it would localize a plantar vein or calf muscle thrombosis by releasing venous spasm proximal to the clot is not certain, but phlebograms have been reported demonstrating the release of venous spasm following sympathetic block.

"Sympathetic block may be useful many years following an iliofemoral thrombosis. It is then capable of relieving a chronic causalgialike pain with edema which originates in the phlebitic reaction around the occluded vein. Stripping such a vein has been useful, but one or two sympathetic blocks may be equally effective. . . .

"Paravertebral Block.—We have used this paravertebral block occasionally since the report of Leriche, and more extensively since the reports of Ochsner and De Bakey. If the block is done early in the painful iliofemoral type (Group 3) it may hasten convalescence and disappearance of edema. However, with papaverine, heat to the abdomen, and high (eight to ten inch) elevation of the foot of the bed, our results are not much inferior to that obtained by paravertebral sympathetic block. We now limit the use of the method to patients whose arteries are in noticeable vessel spasm, whose toes are cold and blue, and who suffer great pain. Most patients, however, exhibit warm toes, large oscillations, and other evidence of inflammatory hyperemia. The results of paravertebral block in the late edemas, with neuritic pains aggravated by weather changes, are often striking. One or two injections combined with elastic support have relieved patients from long-drawn-out discomfort."

A. W. F.


"Contraindications

"On the basis of our experiences we feel that the following conditions constitute definite contraindications to the use of dicumarol: (1) the presence of definite renal insufficiency; (2) the presence of definite hepatic insufficiency or hepatogenous jaundice, particularly if associated with prothrombin deficiency; (3) subacute bacterial endocarditis; (4) purpura of any type; (5) blood dyscrasia with tendency to bleed, and (6) recent operation on the brain or spinal cord. Dicumarol should be given cautiously to patients who have (1) ulcerative lesions, open wounds, or potentially bleeding surfaces; (2) vomiting due to gastric or intestinal obstruction; (3) continuous or repeated gastric or intestinal drainage, or (4) dietary or nutritional deficiency. If an operation is contemplated, ample time should be available for return of prothrombin to normal if dicumarol is administered before the operation. If emergency operation is necessary on a patient who has prothrombin deficiency owing to dicumarol, large doses
of menadione bisulphite and blood transfusions should be given to combat the prothrombin deficiency before the operation is begun.

"Dicumarol is effective when administered orally. A satisfactory preparation for parenteral administration has not been developed.

"Effective levels are not reached for twenty-four to forty-eight hours and sometimes for a considerably longer time.

"If, because of hemorrhage or abnormally high prothrombin times, it is advisable to lower the prothrombin time, this usually can be accomplished by the transfusion of 500 c.c. of fresh citrated blood (bank blood may be ineffective). It may be necessary to transfuse blood several times over a period of two or three days, since there is a tendency for the prothrombin time to increase again after two to six hours have elapsed. The effect of blood transfused for such a purpose apparently is due simply to a replacement of prothrombin, and blood which has been stored for more than twenty-four hours in the ice box may have lost much of its prothrombin."

A. W. F.


"Gelatin for intravenous use is prepared by hydrolysis, enzymatic or chemical; if certain well defined precautions are observed in its preparation, a product of rather unusual uniformity as regards viscosity and molecular homogeneity can be obtained.

"The molecular weight of gelatin varies according to the amount of degradation it has suffered in its preparation. Whereas serum albumin has a molecular weight of about 69,000, that of 'lightly degraded' gelatin is around 35,000, and 'heavily degraded,' about 20,000.

"The effectiveness of any plasma substitute in the treatment of shock naturally depends to a large extent on the time it remains in the blood stream, and this is dependent on molecular size.

"Gelatin has been given to 67 patients in moderate or severe shock due to various causes.

"Advantages"

"(A) One of the chief advantages in gelatin for the management of shock will be its ready availability when it can be supplied in large amounts.

"(B) When large scale production of gelatin solutions can be attained these solutions should be much less expensive than plasma, either desiccated or frozen.

"(C) Intelligent use of gelatin infusions in centers where plasma banks can be operated, improves greatly the available supply of plasma.

"(D) From our experience, it is apparent that gelatin is especially indicated during the first 48 hours, since most infused fluid (plasm or gelatin) is lost into the burned area during this period. This results in a large saving of plasma.

"(E) Foreign Protein Reaction.—With our first supply of gelatin . . . we saw two moderately severe reactions. . . . Since we have been supplied with gelatin solutions free of the preservative phenyl mercuric borate, there has been no instance of foreign protein reaction. . . . Also, we now see practically no venous thrombosis at the site of injection.

"Disadvantages"

"(C) It can no longer be doubted that one of the greatest needs of a shocked patient is for a greater volume of circulating red blood cells. Therefore, gelatin solutions (as well as plasma) are at a disadvantage when