THE USE OF SODIUM DIACETRIZOATE* IN CEREBRAL ANGIOGRAPHY

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Since a method of visualization of the cerebral vasculature by contrast media was introduced by Moniz, investigators have searched for a substance that would afford good contrast with a minimum of complications. The sarcogenic and histopathologic effects of thorium dioxide (Thorotrast) have restricted its use in angiography, although it is still used to a limited degree because it affords good contrast with practically no irritating effect on the injected vessels.

After the introduction of iodoptyracet (Diodrast) in 1939, it was used extensively in the performance of cerebral angiography. Complications have been reported extensively, both clinically and experimentally. Alterations of the blood-brain barrier caused by the toxic action of this substance have been attributed to the concentration and volume used. Recent writers have emphasized the need for limiting the amounts and rapidity of the contrast injection. These principles also have been applied by those advocates of Trirol (Urokon) as a contrast agent. Sutherland and associates recommended the use of a 25 per cent solution of Diodrast, stating that complications resulting therefrom were definitely fewer than those that follow the commonly used strength of 35 per cent. With a solution of 25 per cent they found no difficulty in visualizing the finer branches of the carotid or basilar tree, admitting, however, that the contrast attained was less striking than that achieved with 35 per cent strength. We have used this weaker solution of Diodrast but have been disappointed in the degree of contrast obtained with it. Hence, we have ceased to use it, assuming a possibly greater risk of complication in favor of better diagnostic visualization.

Recently, we have used a new contrast medium, sodium diacetrizoate, or Hypaque Sodium (sodium 3,5-diacetamido-2,4,6-tri-iodobenzoate), in a solution of 50 per cent, with which we have achieved excellent contrast and distinctness of individual vessels with the use of injections of only 3 to 5

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cc. (Fig. 1). This synthetic compound contains 59.87 per cent iodine, with a pH range between 7.0 and 7.5. Thus far we have made 50 angiograms with the aid of this new substance, without serious complications. The ages of the patients ranged from 6 through 68 years. The diagnostic problems have included a variety of disorders, from brain tumor to occlusion of a major