

Accordingly, in 1963, Lafayette filed IND 1-161, which was an IND exemption for human trials of Pantopaque II, a new product that was under development.

This new dye was devised because of the common practice of using large volumes of dye. Pantopaque II contained 15% iodine rather than 30% in the original product. NDA 16-377 was applied for regarding Pantopaque II.

Also in 1963 Howland and Curry ([\[1\]](#)) published the results of their dog study looking at blood as a potentiating agent for the damage caused by myelographic dye.

The authors noted:

“American authors...usually favor as complete removal as possible, whereas British workers frequently recommend that the contrast material be left undisturbed.”

They found that **Pantopaque alone caused a chronic inflammatory response**, with reactive changes around encysted oil droplets.

In the presence of blood, large areas of inflammatory induration of the arachnoid membrane were seen in the cervical region with many smaller areas over the spinal cord and base of the brain, which were all associated with the presence of oily material.

[\[1\]](#) Howland, Curry and Butler, *Radiology* 1963 Pantopaque Arachnoiditis: Experimental Study of blood as a Potentiating Agent.

