DIAGNOSTICS IN A SURGEON'S POCKET THE HISTORY OF TELEPAQUE AND ORAL CHOLECYSTOGRAMS

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Introduction: Prior to the 1930s, surgeons relied on a profound knowledge of biliary symptomology in order to appropriately diagnosis biliary diseases. The introduction of cholecystography occurred in the 1930-40s; administration of intravenous iodine dyes or oral contrasts in patients suspected of biliary disease followed by serial abdominal x-rays. This test visualized the gallbladder and biliary structures to provide additional aid in diagnosing diseases of the right upper quadrant. Many patients suffered side effects from these compounds or suffered from poor uptake and weak visualization of the gallbladder due to poor or variable absorption. In 1952, iopanoic acid, "Telepaque" , was introduced as a revolutionary oral contrast that worked better than prior compounds to help visualize biliary structures. This presentation will detail the history of this compound with the diagnosis of biliary and gallbladder disorders.

Figure 1,2: Earliest Images of telepaque cholangiograms.

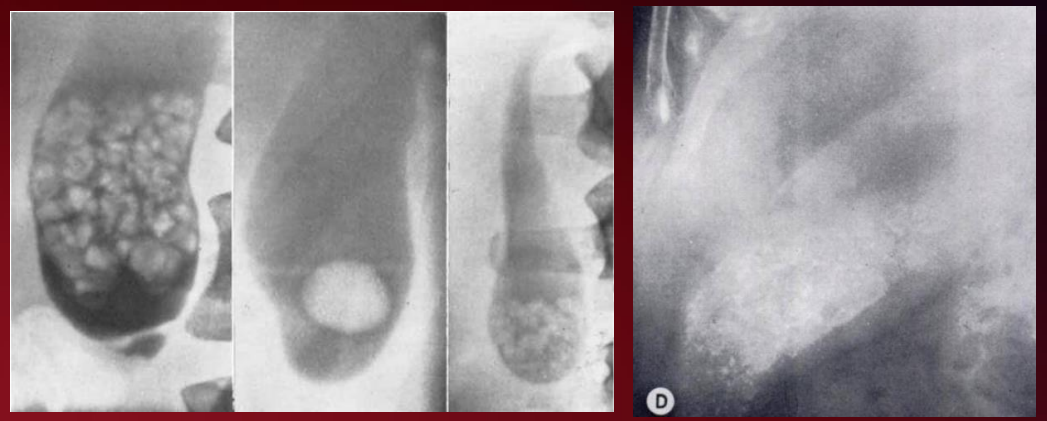

Figure 3,4,5,6: Gallstones and sludge (sabulography) seen with telepaque.

Results: Invented in 1949 by Lewis and Archer as an oral contrast for oral cholecystograms, it involved consumption of followed by abdominal x-ray 12-24 hours later. Absorbed in the small bowel, secreted into the liver's canaliculi, and excreted into the biliary system, travelling to the gallbladder and duodenum. Clinically trialed and approved in the 1950s, it produced images of gallstones, the entire biliary tree, and gallbladder. Gallstones would absorb the contrast, producing radiolucency eventually opacifying (rim sign), showing very bright, round gallstones. This tool diagnoses cholecystitis, choledocholithiasis, and obstructive biliary masses. The method would allow surgeons to correlate clinical signs with intraabdominal pathology when no other technique produces similar results. The accuracy of diagnosis was as high as 99 percent. It had little to no side effects, absorbed easily, and displayed the gallbladder in 2 hours. It was simple and surgeons would carry tablets of the compound with them, conveniently administering this contrast to patients that would present with signs and symptoms of biliary diseases.

Conclusion: Surgeons today rely on many diagnostic tools to diagnosis biliary diseases and disorders. 70 years prior, surgeons were carrying a simple tablet that could be given to patients to safely, effectively, and conveniently help in the diagnosis of biliary disorders.

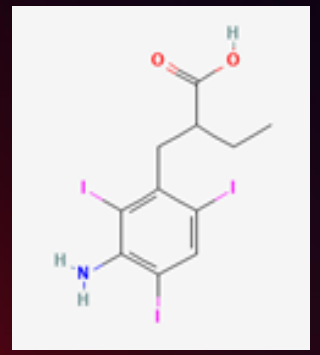

Figure 7,8: Chemical structure. Simple cholangiogram.

Figure 9,10: The "Rim Sign" seen with telepaque.