CO2 wedged hepatic venography: technical considerations and comparison with direct and indirect portography with iodinated contrast

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Abstract:

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Background: We evaluated the efficacy and safety of CO2 wedged hepatic venography (CO2 WHV) by comparing it with direct transjugular (DP) and indirect arterial portography (IP).

Methods: Twenty-one CO2 WHV and IP examinations were performed in 20 patients; 13 of them also underwent DP within 48 hours of CO2 WHV and IP. IP involved the injection of iodinated contrast into the superior mesenteric and splenic arteries. DP was performed from a transjugular approach, during transjugular intrahepatic portosystemic shunt placement, with the injection of iodinated contrast into the superior mesenteric or splenic vein. The parameters evaluated were visualization of vessels and varices, portal vein thrombosis detection, and complications.

Results: CO2 WHV depicted the splenic vein in 57%, the superior mesenteric vein in 62%, the main portal vein in 90%, the right portal vein in 95%, and the left portal vein in 90% of patients. It also demonstrated gastroesophageal varices in seven cases, a splenorenal shunt in one case, mesenteric varices in one case, and a recanalized umbilical vein in one case; other varices were also seen.

Conclusion: CO2 WHV is a good and safe technique for demonstrating the portal circulation. It may provide information not obtainable by IP and DP. However, IP provides better demonstration of the variceal network.

Keywords:

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