

Transient hepatic portal venous gas secondary to emphysematous infectious spondylodiscitis

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A 79-year-old bed-ridden woman, with a history of haemodialysis, presented with a 3-day history of intermittent fever. Physical examination showed coarse breath sounds bilaterally. Lab data showed leukocytosis with elevated C-reactive protein level of 7.25 mg/dl, and two sets of blood culture that were positive for *Staphylococcus epidermidis*. Abdominal computed tomography disclosed emphysematous infectious spondylodiscitis at the L4/5 level (**Figure 1a**), bilateral multiloculated psoas muscle abscess formation (**Figure 1c**) and scanty hepatic portal venous gas formation (**Figure 1b**). After abscess drainage with antibiotic treatment, a follow-up computed tomography 2 weeks later showed much improvement of the infectious spondylodiscitis and the bilateral psoas muscle abscesses. In addition, the previously seen transient hepatic portal venous gas had completely resolved and no further development of ischaemic bowel sign occurred on the follow-up computed tomography (**Figure 2a,b,c**).

Hepatic portal venous gas is defined as the accumulation of gas in the portal vein. Sometimes an ominous sign, it is often associated with mesenteric vascular occlusion and subsequent bowel necrosis, which requires prompt surgical intervention. Sometimes hepatic portal venous gas is transient or has a benign cause (such as inflammation of the gastrointestinal tract, sepsis, iatrogenic injury, or trauma) without clinical catastrophic consequence, in which case it can be treated conservatively. Fujikawa and Murai (2014) reported a case of hepatic portal venous gas that developed after caudal block. The authors hypothesised that during the procedure, extracorporeal air was accidentally directed into the Batson's venous plexus before flowing into the portal vein, accounting for a proportion

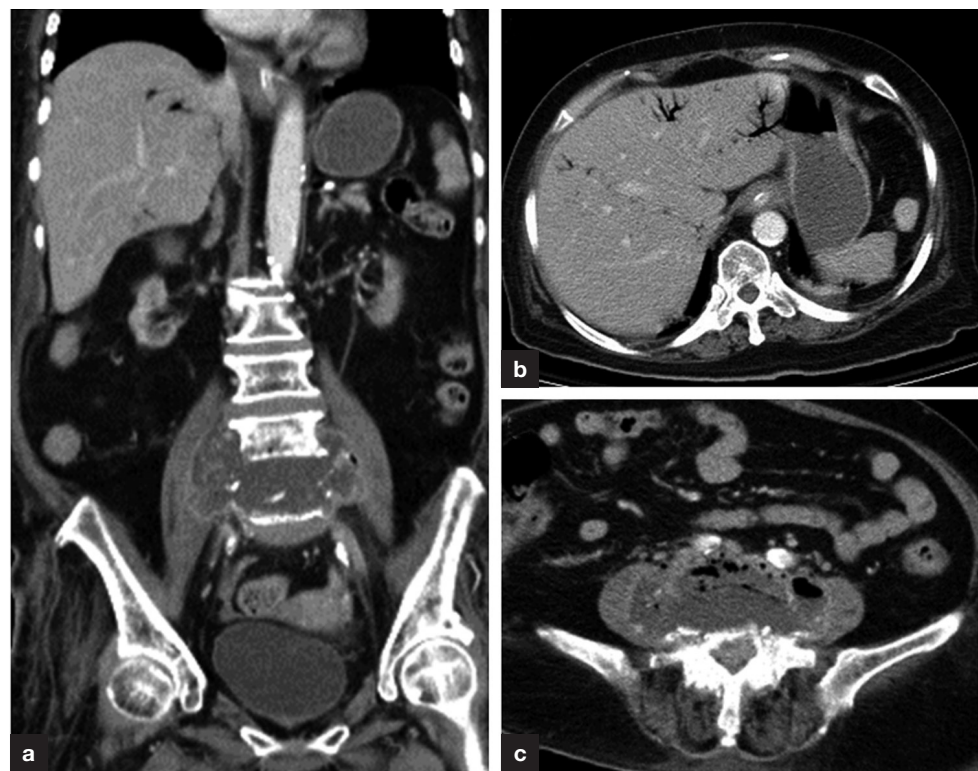


Figure 1. Pre-treatment abdominal computed tomography findings. a. Abdominal computed tomography showed spondylodiscitis with abscess formation and emphysematous change in L4/5 and portal venous gas in bilateral lobes of the liver. b. Portal venous gas in bilateral lobes of the liver. c. Spondylodiscitis with abscess formation and emphysematous change in L4/5.

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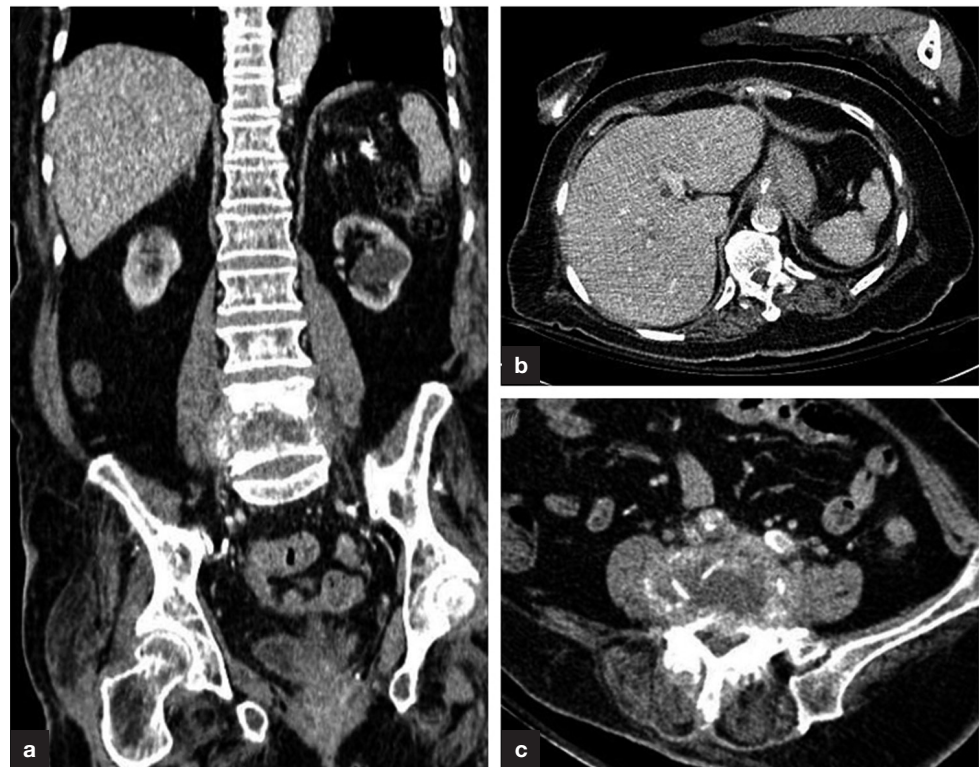


Figure 2. Post-treatment abdominal computed tomography findings after 1 month. a. Portal venous gas is completely resolved in the follow-up computed tomography, yet residual spondylodiscitis with abscess accumulation was still observed. b. Hepatic portal venous gas is completely resolved. c. Residual spondylodiscitis with abscess accumulation was still seen.

of the hepatic portal venous gas. The paraspinal ramification of valveless veins, namely the Batson's venous plexus, communicates with multiple venous structures, including the portal vein (Batson, 1940).

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