

A Case of Increasing Pneumoperitoneum due to Intra-Abdominal Drain

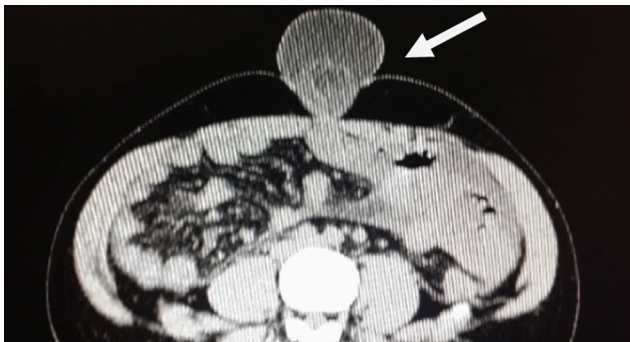
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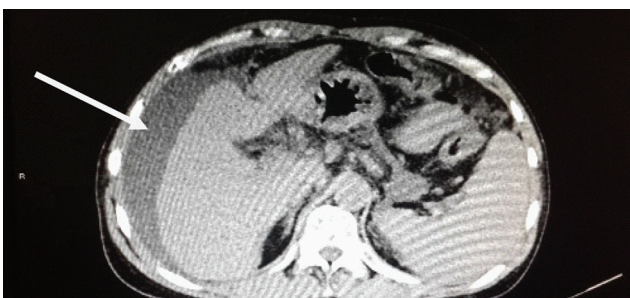
A 40 years old male, known case of cirrhosis of liver with ascites was on conservative treatment. He had an umbilical hernia which was being managed conservatively in view of his medical condition. He presented with small intestinal obstruction due to obstructed umbilical hernia. Hernia was reduced with difficulty. Patient was then optimized as much as feasible and was posted for hernia repair. He underwent open mesh repair and a 14 F Romo Vac drain was inserted obliquely through abdominal wall into pelvis to drain ascitic fluid. It was used as a passive drain without applying vacuum or suction. Plan was to remove the drain after main wound heals. There was 700-900 ml of straw-colored ascitic fluid draining per day. On 4th POD patient had abdominal

distension and discomfort. On percussion upper abdomen was resonant. Suspecting ileus patient was kept NBM and Ryle tube inserted. There was no significant improvement and on 6th POD, surgical emphysema was noticed around drain site. CT-abdomen was done to rule out hollow viscous perforation or necrotizing fasciitis. CT-abdomen showed huge pneumoperitoneum. Since, drainage was clear fluid and patient had no systemic signs of sepsis, hollow viscous perforation was ruled out. Increasing pneumoperitoneum was thought to be secondary to air getting sucked into abdominal cavity along the drain and entrapped due to skin acting as a flap valve because of obliquity of drain insertion. The drain was slowly pulled out which resulted in escape of all the air and patient then had a rapid recovery [Table/Fig-1-5].

The presence of pneumoperitoneum is well evident after open or laparoscopic procedure. As the days pass by, the pneumo goes on decreasing. The prevalence and volume of free air decreased with the time interval between surgery and CT. According a study done by Gayer G et al., it was not detected in any of the 11 examinations performed beyond the 18th postoperative day [1]. To diagnose pneumoperitoneum investigations done previously were X-ray and even Ultrasound. Now CT-scan is being used more commonly [2,3]. The presence of persistent or increasing



[Table/Fig-1]: Shows obstructed umbilical hernia in CT-scan (arrow).



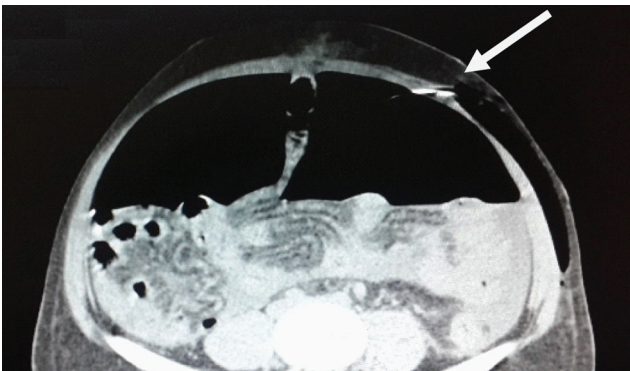
[Table/Fig-2]: Shows, shrunken liver with arrow pointing ascitic fluid.



[Table/Fig-3]: Umbilical hernia reduced after aspiration.



[Table/Fig-4]: Shows Romo Vac drain with ascitic fluid (arrow).



[Table/Fig-5]: Shows pneumoperitoneum with drain (arrow) in CT-scan image.

pneumo suggests hollow viscous perforation. Occasionally it could be due to more benign cause especially in cases of surgery where drain is kept [4]. Post laparoscopy procedure the pneumoperitoneum disappears by post op day 6 and anything beyond that period should arouse suspicion and investigated [5]. In our case there was increasing pneumoperitoneum after period of POD 4. This was due to air getting sucked into abdominal cavity along the Romo Vac drain and being entrapped by abdominal wall acting like a flap valve. This should be kept in mind while diagnosing such cases especially, where drain is kept.

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