SAS Journal of Surgery
Abbreviated Key Title: SAS J Surg
ISSN 2454-5104
Journal homepage: https://www.saspublishers.com

OPEN ACCESS

General Surgery

Idiopathic Post Traumatic Pneumoperitoneum without Pneumothorax

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DOI: 10.36347/sasjs.2023.v09i04.006 | **Received:** 04.03.2023 | **Accepted:** 11.04.2023 | **Published:** 18.04.2023

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Abstract **Case Report**

One case of "idiopathic pneumoperitoneum" following closed thoraco abdominal trauma is reported. No etiology was discovered about pneumatic effusions. Also, it was interesting to compare this experience with literature to know frequency of such association; physiopathologic mechanism responsible and management of the described other cases.
Keywords: Idiopathic pneumoperitoneum, Abdominal pain, Negative Laparotomy.

INTRODUCTION

Pneumoperitoneum is pneumatosis (abnormal presence of air or other gas) in the peritoneal cavity, a potential space within the abdominal cavity. The most common cause is a perforated abdominal organ, generally from a perforated peptic ulcer, although any part of the bowel may perforate from a benign ulcer, tumor or abdominal trauma. A perforated appendix seldom causes a pneumoperitoneum.

In our case we describe à spontaneous pneumoperitoneum post traumatic.

CASE REPORT

A 19-year-old man was fixing his car from the bottom when it is crushed on him, causing for the patient a thoracoabdominal trauma.

The patient was hemodynamically stable with a Glasgow Coma Scale (GCS) score of 15.

Urgent thoraco-abdominal computer tomography CT performed and it showed us abdominal free air in abdomen and a slight right pulmonary contusion without any other pathology (figure 1 and 2).

Exploratory laparotomy was negative. He made an uneventful post-operative recovery and was discharged home 3 days after the exploratory laparotomy.

Figure 1: Thoraco-abdominal computer tomography CT performed and it showed us abdominal free air in abdomen and a slight right pulmonary contusion without any other pathology

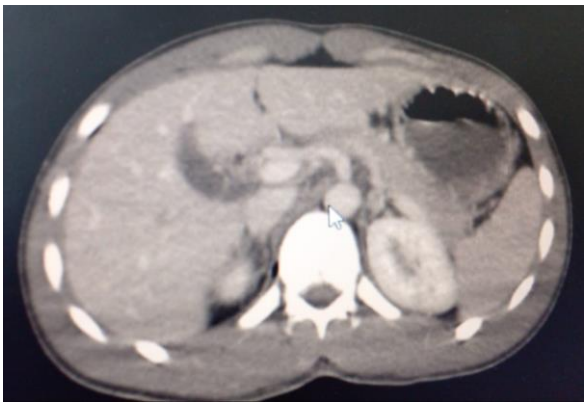

Figure 2: Thoraco-abdominal computer tomography CT performed and it showed us abdominal free air in abdomen and a slight right pulmonary contusion without any other pathology

DISCUSSION

Pneumoperitoneum refers to the presence of free air in the abdominal cavity and it is often a sign of severe intraabdominal pathology, such as perforation of abdominal viscus that requires acute surgical intervention. In rare cases, the presence of pneumoperitoneum is observed in patients with intact viscus and this condition has been termed as idiopathic or non-surgical pneumoperitoneum and is considered to be a benign condition that can be managed conservatively [1, 2].

The association of pneumoperitoneum with pneumothorax is considered relatively rare however in our case the pneumothorax was absent one of the causes of spontaneous pneumoperitoneum is ruptured intramural gas-filled cysts in the gastrointestinal tract, caused by pneumatosis cystoides intestinalis [3, 4].

Furthermore, in females, the genital route is a possible port of entry into the abdomen caused by vaginal insufflation due to sexual intercourse. Finally, there are cases where the underlying cause cannot be determined even with a thorough examination, which would be classified as idiopathic [5, 6].

CONCLUSION

Not all cases of pneumoperitoneum found on abdominal X-ray or computed tomography (CT) scan are caused by hollow viscus perforation. Non-surgical or spontaneous pneumoperitoneum is a repeatedly described entity. However, not all physicians in emergency departments are aware of it, and in such cases unnecessary laparotomy is often performed which reveals no intra-abdominal pathology. Non-surgical pneumoperitoneum can have thoracic, abdominal, gynecological, or other causes. When we acknowledge the possibility of non-surgical pneumoperitoneum, the primary goal is to discern surgical from non-surgical pneumoperitoneum. Identifying cases in which laparotomy can be avoided is important to prevent unnecessary surgery and its associated morbidity and financial costs.

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