

PNEUMOPERITONEUM DUE TO PERFORATED APPENDICITIS: A RARE ANATOMO-RADIOLOGIC CORRELATION

Pneumoperitônio devido à apendicite perfurada: correlação anátomo-radiológica rara

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ABSTRACT – Background - Pneumoperitoneum is usually associated with a perforated peptic ulcer. However, perforated appendicitis may be evolved on it. In the medical literature, the anatomic-radiologic correlation between them is an uncommon event. **Case report** - Man with 56-year-old look for assistance with diffuse abdominal pain and distension associated with fever, vomit and absence of flatus and evacuation for about 14 days. The chest radiography revealed a pneumoperitoneum. Diffuse peritonitis was found during the exploratory laparotomy. Appendectomy, peritoneal cavity cleaning and drainage with tubular drains were carried out. However, severe sepsis occurred and the patient died on the 16th post-operative day with multiple systemic organ failure. **Conclusion** – Although rare as pneumoperitoneum etiology, acute appendicitis may be thought as it's cause.

HEADINGS – Pneumoperitoneum. Appendicitis. Surgery. Radiology.

INTRODUCTION

Pneumoperitoneum is a very common radiologic sign in patients with perforated peptic ulcer^{1,4,5}. Much less likely, other gastrointestinal diseases may present^{1,2,3,4,5}. The anatomic-radiologic correlation between them is a rare clinical event and frequently may lead to a diagnostic misinterpretation.

CASE REPORT

A 56-year-old man, presented to medical assistance with abdominal pain and distension associated with fever, vomit, absence of flatus and evacuation for about 14 days. He also reported treatment with herbal teas in the beginning, but without any success. The physical examination revealed a painful facial expression, anemia and severe dehydration. The abdomen was distended, tympanic, and diffusely painful on palpation mainly on right iliac fossae with Joubert's and Blumberg's signs. Leukocytosis (13.410/mm³), hypernatremia and hyperazotemia were present. Chest X-ray showed a pneumoperitoneum (Figure 1). The

abdomen's radiography revealed a distension of the intestinal loop with hydroaerial signs and pneumoperitoneum. The patient went to surgery with an exploratory laparotomy revealing diffuse peritonitis due to perforated appendicitis. Appendectomy, peritoneal cavity cleaning and drainage with tubular drains were carried out. After surgery, in intensive care unit, received Ertapenem 1g daily but severe sepsis lead him to death on the 16th post-operative day with multiple systemic failure.

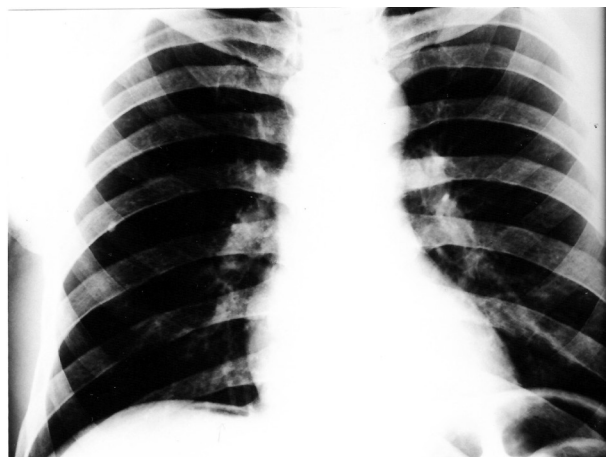


FIGURE 1 – Chest radiography revealing a pneumoperitoneum due to a perforated appendicitis

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DISCUSSION

Peritonitis caused by appendicitis is not usually related to pneumoperitoneum. It is a very rare situation reported on the medical literature with at most 7% estimated incidence^{2,4}. Few authors published anatomo-radiologic correlation between perforated appendicitis and pneumoperitoneum, but it can be more common than usually related in literature due to the lack of X-ray evaluation in established acute appendicitis^{1,2}.

Two theories may explain the pathophysiologic mechanism for this correlation: 1) intestinal gas escapes from the perforated appendix and, 2) the increase in the gas

production by the peri-appendicular abscess' bacteria^{2,4}. In the present case, the first theory is probably the most appropriate to explain.

Körner et al.³ reported that patients with perforated appendicitis have an increase in the duration of the clinical symptoms and signs than patients with non-perforated appendicitis. This observation had been observed in our case.

CONCLUSION

Although rare as pneumoperitoneum etiology, acute appendicitis may be thought as it's cause.

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RESUMO – Introdução – Penumoperitônio é usualmente associado à perfuração gástrica ou duodenal. Entretanto, apendicite perforada pode também desenvolvê-lo. Na literatura, correlação clínica-radiológica é rara nesses eventos. **Relato do caso** – Homem com 56 anos foi atendido com dor abdominal difusa, distensão abdominal e febre, vômitos, parada de eliminação de gases e fezes por 14 dias. Estudo radiológico de tórax mostrou pneumoperitônio. No procedimento cirúrgico, peritonite difusa foi encontrada e apendicectomia com lavagem abdominal e drenagem foi efetuada. Entretanto, o paciente morreu por sepse generalizada e falência múltipla de órgãos e sistemas no 16o. dia do pós-operatório. **Conclusão** – Embora rara como causa de pneumoperitônio, a apendicite aguda deve ser pensada como sua possível causa.

DESCRITORES – Pneumoperitônio. Apendicite. Cirurgia. Radiologia.

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