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PICTURES IN DIGESTIVE PATHOLOGY

Pneumatosis cystoides intestinalis

P. A. Rivera Vaquerizo, A. Caramuto Martins, M. A. Lorente García[1], M. Blasco Colmenarejo and R. Pérez Flores

Departments of Gastroenterology and [1]Internal Medicine. University Hospital Complex. Albacete, Spain

A 51-year-old woman with no significant history of disease had been suffering from constipation for the past year, and had abdominal strain and rectal tenesmus during the past three days. During the examination, the only significant symptom was pain in the epigastrium and in the left iliac fossa with no reaction or peritonism. A complete blood test was performed, which showed normal results, including thyroid hormones. Gastroscopy revealed the presence of a small hiatal hernia without complications, and a *Helicobacter pylori*-associated erosive duodenitis, which was treated with the standard eradicating treatment. An ileum-deep colonoscopy showed 2 polyps in the ascending colon and 4 in the sigma, all of them small in size that were subsequently treated with argon. In the descending colon several elevated areas of different sizes were identified, covered by normal mucosa that collapsed after puncturing with a sclerosis and aspiration needle, which suggested pneumatosis of the colon (Figs. 1 and 2).

Pneumatosis cystoides intestinalis (PCI) is defined as the presence of gas-containing cysts in the submucosal and serosal layers of the small and large bowel. The first description was given by Du Vernoin as a post-mortem observation (1).

It is a rare disease of uncertain etiology. In 1974 Shallal et al. collected 410 cases from the literature (2). For unknown reasons it is more frequent in men aged between 30 and 50, and gas may remain in the cysts for long periods.

Three theories exist (3) to explain the pathogenesis of PCI: the *mechanical theory,* which states that the gas, coming both from the intestinal lumen and the serosal layer, dissects the intestinal mucosa; the *bacterial theory,* according to which the gas formed by bacteria accesses the submucosa through small erosions; and finally, the *biochemical theory,* which suggests that bacteria in the intestinal lumen produce high quantities of hydrogen gas from carbohydrate fermentation.

In many cases, PCI is a casual finding. When symptoms exist, the most frequent are: diarrhea, mucous secretion, rectal bleeding, constipation, pain, and abdominal strain. PCI in the small bowel may cause complications in the ileum, invagination, volvulus, and partial or total obstruction (1).

The diagnosis can be made with plain abdominal X-rays, opaque enema, CAT, ultrasonography, MRI, and colonoscopy, although abdominal X-rays is the most reliable examination (4).

Asymptomatic patients do not need any specific treatment. Symptomatic patients may be treated with high oxygen flow

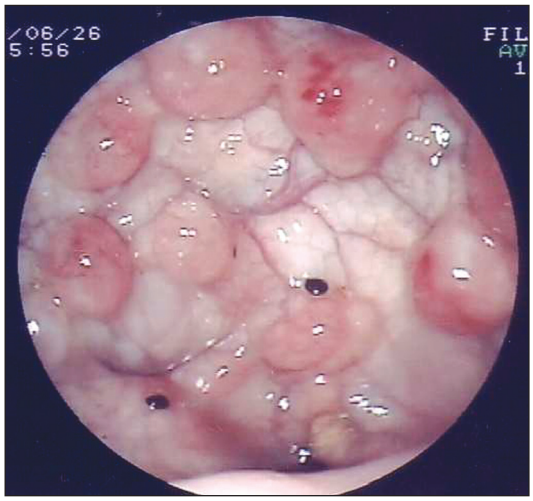

Fig. 1.

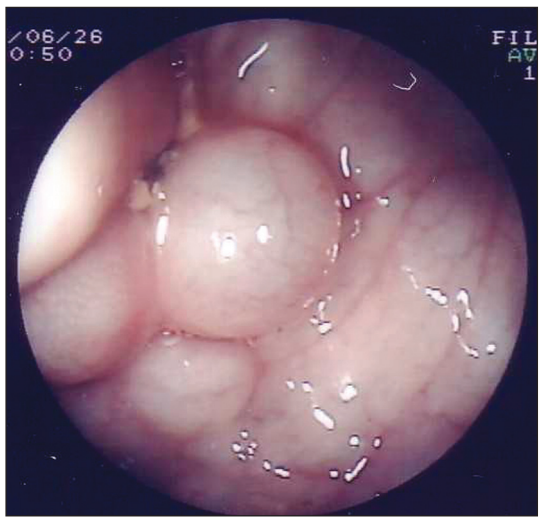

Fig. 2.

for several days; with this treatment a complete healing of the pattern of symptoms has been reported (5). A response has also been reported to treatment with metronidazole (3), which suggests the involvement of anaerobic bacteria in these cases. Some cases may require surgical treatment (1,4).

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Se han propuesto tres teorías (3) para explicar la patogenia de la NQI: *la mecánica,* por la cual el gas, procedente tanto de la luz intestinal como de la serosa, disecciona la mucosa intestinal; *la teoría bacteriana,* según la cual el gas formado por las bacterias accede a la submucosa a través de pequeñas erosiones de esta, y por último, *la bioquímica,* que propone que las bacterias de la luz intestinal producen cantidades de gas hidrógeno a partir de la fermentación de los hidratos de carbono.

En muchos pacientes la NQI es un hallazgo casual. Cuando hay síntomas los más frecuentes son: diarrea, secreción de moco, sangrado rectal, estreñimiento, dolor y distensión abdominal. La NQI del intestino delgado puede complicarse con íleo, invaginación, vólvulo y obstrucción parcial o completa (1).

El diagnóstico puede realizarse con Rx simple de abdomen, enema opaco, TAC, ECO, RMN y colonoscopia, aunque la Rx de abdomen es la exploración más rentable (4).

Los pacientes asintomáticos no requieren tratamiento específico. Los pacientes sintomáticos pueden ser tratados con flujos altos de oxígeno durante varios días, habiéndose comunicado la resolución completa del cuadro (5). También se ha descrito respuesta al tratamiento con metronidazol (3), lo cual sugiere la implicación de las bacterias anaerobias en este cuadro. El algunos casos puede ser necesario el tratamiento quirúrgico (1,4).