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Complicated incidental appendectomy in a patient with inflammatory bowel disease: Case report

Apendicectomia incidental complicada em paciente com doença inflamatória intestinal: Relato de caso

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INTRODUCTION

Inflammatory bowel disease (IBD) is an immune-mediated disorder of the gastrointestinal tract, which encompasses chronic conditions resulting in inflammation in the region.[1–3] Its prototypical forms, Crohn's disease (CD) and ulcerative colitis (RU), are influenced by genetic-environmental interactions, and their incidence has increased due to the westernization of dietary patterns, registering about 7 million cases in 2017.[1,4] Both CD and RU are characterized by chronic inflammation, and CD can affect any part of the gastrointestinal tract, from the mouth to the anus, with intermittent inflammation prone to complications such as strictures and fistulas.[1,2] RU predominantly affects the colon and rectum, exhibiting ongoing inflammation that can culminate in ulcers and bleeding.[1.2]

Both conditions share symptoms such as abdominal pain, diarrhea, weight loss, and fatigue, with IBD being an often debilitating chronic condition that requires regular medical monitoring.[1,2] The treatment of IBD usually follows a multidisciplinary approach, including immunosuppressive medications, dietary modifications, nutritional supplementation and, in certain cases, surgical interventions.[1,3,4] This complexity and multifactorial nature of IBD involves interactions between genetic, immunological, and environmental factors, highlighting the importance of a comprehensive approach to effectively manage this chronic medical condition.[1] The relationship between appendectomy and inflammatory bowel disease (IBD) has

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been the subject of study and analysis in epidemiological research.[2,5] Some studies suggest that appendectomy may be associated with an increased risk of developing Crohn's disease.[2,3] However, other studies indicate that appendectomy may be related to a reduced risk of developing ulcerative colitis, another form of IBD.[1,2] The objective of this study was to report complications of an inconclusive IBD with surgical approach due to abnormal uterine bleeding (AUB), with incidental appendectomy.

CASE REPORT

J.S., female, 32 years old, with a non-conclusive diagnosis of IBD and a history of rectosigmoidectomy for 2 years, without specialized follow-up. Due to abnormal uterine bleeding, abdominal hysterectomy and incidental appendectomy with lysis of intestinal adhesions were performed intraoperatively. The patient progressed with abdominal distension and the need for laparotomy 22 days later, with numerous fistulas being evidenced, and raffia, colostomy and loop ileostomy were performed. She was admitted to our service in intensive care after 4 days, complaining of nausea and severe abdominal pain, tachycardia (HR 130BPM), flat abdomen with intense percussion pain. Median surgical scar draining fecaloid contents, functioning ileostomy on the right, and non-functioning colostomy on the left. Exploratory laparotomy was performed, showing fecal peritonitis, enteric contents in the abdominal cavity, blockage of small bowel loops and multiple enteric fistulas, as well as clots and blood in the pelvic region, with abundant lavage, fistula raffia and peritoneostomy. Due to the high output of fistulas, total parenteral nutrition and daily cleaning of the surgical wound in the operating room were initiated. The patient was chosen to start a high-absorption diet via enteral, but presented new enteroatmospheric fistulas. After 3 months of intensive treatment, the patient developed refractory septic shock with abdominal focus, with no possibility of surgical interventions and death.

DISCUSSION

The relationship between appendectomy and inflammatory bowel disease (IBD) has been the subject of epidemiological investigations, and several studies have shown divergent results regarding the impact of this procedure on the development of specific forms of IBD.[1,2] The studies suggest a complex association between appendectomy and IBD, highlighting the variability in the conclusions.[1–4] While some indicate an increased risk of CD after appendectomy, others point to a possible reduction in the risk of developing RU.[1–3] This duality

of results highlights the need for a more in-depth analysis, considering factors such as the patient's age at the time of the procedure, the temporality of the events, and the influence of other contextual elements.[2,3]

The pathophysiology underlying the association between appendectomy and the onset of CD remains an area of theoretical debate.[1–3] Alteration in the immune response of the gastrointestinal tract is a proposed theory, suggesting that appendectomy may trigger changes in gut microbiota and immune regulation.[1–3] These alterations, in turn, may contribute to inflammatory responses that would predispose genetically susceptible individuals to the development of CD.[1,3] However, it is crucial to recognize the complexity of this process, since the available evidence is often contradictory, underscoring the need for additional research for a more complete understanding of the underlying pathophysiological mechanisms.[1–3] While the relationship between appendectomy and RU is also the subject of controversy, some studies indicate a possible inverse association, suggesting a protective effect of appendectomy against ulcerative colitis.[1,3,5] The patient's age at the time of appendectomy emerges as a relevant factor, influencing the results.[1–3] This finding reinforces the complexity of the interaction between appendectomy and different forms of IBD, highlighting the need for more comprehensive and stratified studies to adequately understand this dynamic.[2,3]

Several theories have been proposed to explain the pathophysiology between appendectomy and the onset of CD.[3] Gut dysbiosis, the possible immune function of the appendix in regulating the gut immune system, and the specific location of inflammation, especially in the terminal ileum, are relevant aspects that deserve consideration.[3] These proposals, however, indicate the complexity of the pathophysiological scenario and the need for additional research to validate and deepen these theories.[3]

CONCLUSION

The relationship between appendectomy and IBD is multifaceted, presenting challenges for a comprehensive understanding. The available evidence suggests different associations for CD and RU, requiring careful analysis of the specific contexts. The proposed pathophysiology highlights the influence of genetic, immunological, environmental, and microbial factors, emphasizing the complexity underlying this association. Future research is essential to consolidate and expand knowledge in this area, contributing to significant advances in the understanding and clinical management of the relationship between appendectomy and IBD. Thus, in the case presented here, it is possible to link the hypothesis of previous IBD with the

rapid evolution of intestinal fistulas after incidental appendectomy, which raises doubts about its performance in patients with IBD, especially when it is not possible to characterize it among its prototypes.

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