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Contents

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Contents

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Semimonthly Volume 8 Number 15 August 6, 2020

Contents

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Semimonthly Volume 8 Number 15 August 6, 2020

Contents

ABOUT COVER

Editorial Board Member of *World Journal of Clinical Cases*, Dr. Romano is Professor of Medicine-Gastroenterology at the University of Campania "Luigi Vanvitelli" in Naples, Italy. Dr. Romano received his MD degree cum Laude at the University Federico II in Naples, Italy in 1980 and, after 4 year of Post-Graduate course, he became Specialist in Gastroenterology and Gastrointestinal Endoscopy. Dr. Romano's research interest was on the cross-talk between H. pylori and gastric epithelial cells, and presently is mainly focused on H. pylori eradication therapy and on the role of nutraceuticals in gastrointestinal diseases. Dr. Romano is presently the Chief of the Endoscopy and Chronic Inflammatory Gastrointestinal Disorders Unit, and Teacher at the University of Campania "Luigi Vanvitelli" in Naples, Italy.

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CASE REPORT

Campylobacter jejuni enterocolitis presenting with testicular pain: A case report

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Abstract

BACKGROUND

Common symptoms of *Campylobacter* colitis include abdominal pain, vomiting, diarrhea, and fever, among others. However, *Campylobacter* colitis also has a high incidence of extraintestinal symptoms.

CASE SUMMARY

We report the case of a 51-year-old man who presented with bilateral testicular pain. A scrotal examination failed to reveal any physical findings, but the patient exhibited mild tenderness in the right lower abdomen. Computed tomography revealed ileocecal wall thickening. Post-admission, the patient developed diarrhea, and a stool culture was submitted; *Campylobacter jejuni* infection was confirmed. Testicular pain is known to be caused by appendicitis. Consequently, we suggest that *Campylobacter* colitis, which causes ileocecal inflammation, caused the testicular pain in this case.

CONCLUSION

In patients with testicular pain and no other objective findings, diseases such as *Campylobacter* colitis should be considered.

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Core tip: In cases of testicular pain without other objective findings, ileocecal inflammation-causing diseases, such as *Campylobacter* colitis, should be considered in the differential diagnosis.

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INTRODUCTION

Campylobacter jejuni is the most common bacterial enteropathogen, and infections with this organism are typically accompanied by abdominal pain, vomiting, diarrhea, and fever. In contrast, *Campylobacter* colitis has been reported to cause various extraintestinal symptoms[1]. Approximately 40% of patients with *Campylobacter* colitis present with musculoskeletal symptoms, 15% present with ocular symptoms, and 17% present with urinary tract symptoms. Urinary tract symptoms can include urethral inflammation, which may cause frequent urination and pain during urination[1]. In this report, we document a case where *Campylobacter* colitis was accompanied by testicular pain.

CASE PRESENTATION

Chief complaint

A 51-year-old man presented to our hospital with bilateral testicular pain.

History of present illness

He had eaten raw chicken (*sashimi*, in Japanese) a few days before the onset of his symptoms. The testicular pain onset was gradual, beginning in the morning prior to his visiting the hospital. Throughout the day, his testicular pain had spread to his entire back and abdomen and had increased in intensity, leading him to visit our hospital that evening. He also experienced fever, headache, and general joint pain, but no nausea or diarrhea.

History of past illness

The patient did not have a history of significant past illnesses.

Physical examination

Physical examination revealed a body temperature of 38.1 °C, a heart rate of 109 beats/min, a blood pressure of 138/76 mmHg, and a respiratory rate of 20 breaths/min. He exhibited mild tenderness over a wide area, which centered in his right lower abdomen. However, his scrotum did not exhibit any abnormal findings, such as redness, swelling, warmth, or tenderness.

Laboratory examinations

Blood tests showed slight increases in his white blood cell count [12360 cells/μL, (neutrophils: 81.9%)] and C-reactive protein level (1.26 mg/L); no abnormalities were detected in the patient's urinalysis.

Imaging examinations

Abdominal computed tomography imaging revealed thickening of the ileocecal walls

(Figure 1), but his scrotal area appeared normal (Figure 2).

FINAL DIAGNOSIS

Campylobacter colitis.

TREATMENT

The patient was hospitalized and treated with fasting, fluid replacement, and 1 g of ceftriaxone, administered intravenously every 24 h. On the night of his admission, he developed watery diarrhea; a stool sample was submitted for culturing.

OUTCOME AND FOLLOW-UP

His fever and testicular pain resolved on post-admission day 3; he was discharged on day 6. After discharge, his stool culture results were reported and revealed the presence of *C. jejuni*, confirming the *Campylobacter* colitis diagnosis; his urine culture was negative for the presence of bacteria.

DISCUSSION

Here, we report, to the best of our knowledge, the first case of *Campylobacter* colitis accompanied by testicular pain. Clinicians should be particularly aware of the fact that *Campylobacter* colitis often presents with extraintestinal symptoms[1]. The more common symptoms of the disease include abdominal pain, vomiting, diarrhea, and fever. In addition, about 40% of patients present with musculoskeletal symptoms, which may include Reiter's syndrome-like arthritis[1]. Further, patients may manifest both eye and urinary tract symptoms[1]. The urinary tract symptoms, caused by urethral inflammation, include increased urinary frequency and dysuria[1]; however, previous reports have not suggested that this inflammation induces testicular pain.

The differential diagnosis for testicular pain includes testicular torsion, epididymitis/orchitis, testicular infarction, and scrotal edema[2]. In addition, a few reports have documented testicular pain associated with appendicitis[3-5], but none have reported testicular pain associated with ileocecal inflammation. The testicular pain associated with appendicitis is thought to be related to the tenth thoracic spinal nerve, which innervates both the appendix and the testes[6]. In the present patient, because ileocecal inflammation is a hallmark of *Campylobacter* colitis, the inflammation may have spread from the ileocecal region to the appendix.

Given the absence of physical findings, such as scrotal tenderness, and the normal urinalysis results, we surmise that the patient's testicular pain was caused by inflammation of the appendix. This hypothesis is supported by the simultaneous resolution of the testicular pain and the resolution of his colitis symptoms, which included fever, abdominal pain, and diarrhea. The testicular pain appeared as an early symptom, before the onset of diarrhea. This is similar to the onset of appendicitis, which may include related (indirect) epigastric and/or testicular pain. *Campylobacter* colitis is often preceded by extraintestinal symptoms, such as fever and headache, and the onset of diarrhea is often delayed. The inflammation that is often present in the ileocecal area is presumed to cause the delayed onset of diarrhea[7]. In the present patient, the reported testicular symptoms were bilateral, but the location of the pain may have been unclear because it was related, rather than direct, pain.

CONCLUSION

This is the first report of testicular pain associated with *Campylobacter* colitis. Given that *Campylobacter* colitis causes ileocecal inflammation, our case suggests that ileocecal inflammation may indirectly cause testicular pain. Thus, ileocecal inflammation should be considered in the differential diagnosis of patients with testicular pain.

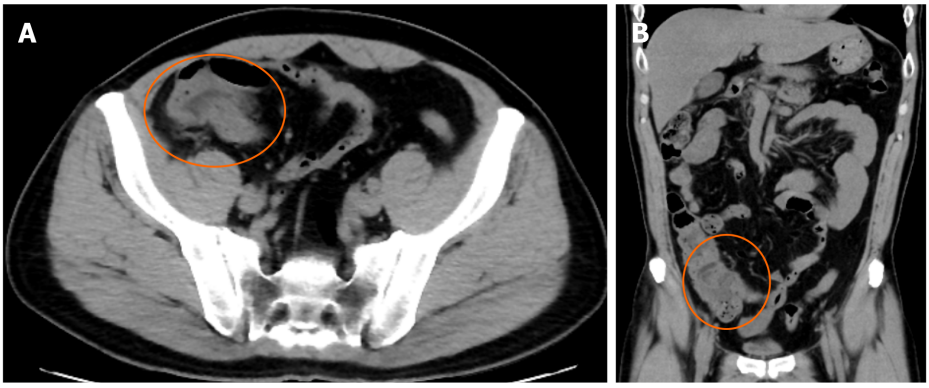

Figure 1 Computed tomography scans of the abdomen. Ileocecal wall thickening (circled) is evident in the horizontal and coronal views. A: Horizontal view; B: Coronal view.

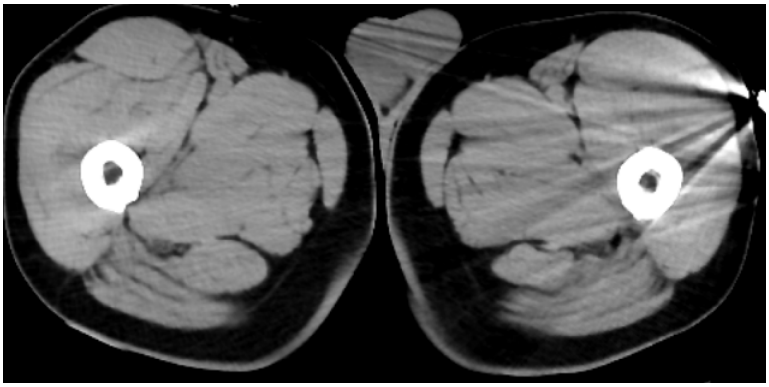

Figure 2 Computed tomography scans of the scrotum. Abnormal findings are not apparent.

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