

# World Journal of *Clinical Cases*

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**OPINION REVIEW**

- 3136 Impacts and challenges of United States medical students during the COVID-19 pandemic  
*Rolak S, Keefe AM, Davidson EL, Aryal P, Parajuli S*
- 3142 Recent advances in the management of gastrointestinal stromal tumor  
*Ahmed M*
- 3156 Medical research during the COVID-19 pandemic  
*AlNaamani K, AlSinani S, Barkun AN*

**REVIEW**

- 3164 Progress of intravoxel incoherent motion diffusion-weighted imaging in liver diseases  
*Tao YY, Zhou Y, Wang R, Gong XQ, Zheng J, Yang C, Yang L, Zhang XM*

**MINIREVIEWS**

- 3177 Typical and atypical COVID-19 computed tomography findings  
*Caruso D, Polidori T, Guido G, Nicolai M, Bracci B, Cremona A, Zerunian M, Polici M, Pucciarelli F, Rucci C, Dominici CD, Girolamo MD, Argento G, Sergi D, Laghi A*
- 3188 Review of possible psychological impacts of COVID-19 on frontline medical staff and reduction strategies  
*Fu XW, Wu LN, Shan L*

**CLINICAL AND TRANSLATIONAL RESEARCH**

- 3197 Overexpression of AMPD2 indicates poor prognosis in colorectal cancer patients *via* the Notch3 signaling pathway  
*Gao QZ, Qin Y, Wang WJ, Fei BJ, Han WF, Jin JQ, Gao X*

**ORIGINAL ARTICLE****Case Control Study**

- 3209 Effect of motivational interviewing on postoperative weight control in patients with obstructive sleep apnea-hypopnea syndrome  
*Sun XH, Xue PS, Qi XX, Fan L*

**Retrospective Study**

- 3218 Thalidomide for refractory gastrointestinal bleeding from vascular malformations in patients with significant comorbidities  
*Bayudan AM, Chen CH*

- 3230** Colorectal adenocarcinoma patients with M1a diseases gain more clinical benefits from palliative primary tumor resection than those with M1b diseases: A propensity score matching analysis

*Li CL, Tang DR, Ji J, Zang B, Chen C, Zhao JQ*

- 3240** Surgical outcomes of bladder augmentation: A comparison of three different augmentation procedures

*Sun XG, Wang RY, Xu JL, Li DG, Chen WX, Li JL, Wang J, Li AW*

### Clinical Trials Study

- 3249** Comparison of measurements of anterior chamber angle *via* anterior segment optical coherence tomography and ultrasound biomicroscopy

*Yu ZY, Huang T, Lu L, Qu B*

### Observational Study

- 3259** Dydrogesterone treatment for menstrual-cycle regularization in abnormal uterine bleeding – ovulation dysfunction patients

*Wang L, Guan HY, Xia HX, Chen XY, Zhang W*

### CASE REPORT

- 3267** Multi-organ IgG4-related disease continues to mislead clinicians: A case report and literature review

*Strainiene S, Sarlauskas L, Savlan I, Liakina V, Stundiene I, Valantinas J*

- 3280** *Campylobacter jejuni* enterocolitis presenting with testicular pain: A case report

*Sanagawa M, Kenzaka T, Kato S, Yamaoka I, Fujimoto S*

- 3284** Natural killer/T-cell lymphoma with intracranial infiltration and Epstein-Barr virus infection: A case report

*Li N, Wang YZ, Zhang Y, Zhang WL, Zhou Y, Huang DS*

- 3291** Successful management of tubular colonic duplication using a laparoscopic approach: A case report and review of the literature

*Li GB, Han JG, Wang ZJ, Zhai ZW, Tao Y*

- 3299** Hypothyroidism with elevated pancreatic amylase and lipase without clinical symptoms: A case report

*Xu YW, Li R, Xu SC*

- 3305** Two mechanically ventilated cases of COVID-19 successfully managed with a sequential ventilation weaning protocol: Two case reports

*Peng M, Ren D, Liu YF, Meng X, Wu M, Chen RL, Yu BJ, Tao LC, Chen L, Lai ZQ*

- 3314** Adult duodenal intussusception with horizontal adenoma: A rare case report

*Wang KP, Jiang H, Kong C, Wang LZ, Wang GY, Mo JG, Jin C*

- 3320** Isolated metachronous splenic multiple metastases after colon cancer surgery: A case report and literature review

*Hu L, Zhu JY, Fang L, Yu XC, Yan ZL*

- 3329** Imaging of hemorrhagic primary central nervous system lymphoma: A case report  
*Wu YW, Zheng J, Liu LL, Cai JH, Yuan H, Ye J*
- 3334** Coexistence of ovarian serous papillary cystadenofibroma and type A insulin resistance syndrome in a 14-year-old girl: A case report  
*Yan FF, Huang BK, Chen YL, Zhuang YZ, You XY, Liu CQ, Li XJ*
- 3341** Acute suppurative oesophagitis with fever and cough: A case report  
*Men CJ, Singh SK, Zhang GL, Wang Y, Liu CW*
- 3349** Computed tomography, magnetic resonance imaging, and F-deoxyglucose positron emission computed tomography/computed tomography findings of alveolar soft part sarcoma with calcification in the thigh: A case report  
*Wu ZJ, Bian TT, Zhan XH, Dong C, Wang YL, Xu WJ*
- 3355** COVID-19 with asthma: A case report  
*Liu AL, Xu N, Li AJ*
- 3365** Total laparoscopic segmental gastrectomy for gastrointestinal stromal tumors: A case report  
*Ren YX, He M, Ye PC, Wei SJ*
- 3372** Facial and bilateral lower extremity edema due to drug-drug interactions in a patient with hepatitis C virus infection and benign prostate hypertrophy: A case report  
*Li YP, Yang Y, Wang MQ, Zhang X, Wang WJ, Li M, Wu FP, Dang SS*

**ABOUT COVER**

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## **Campylobacter jejuni enterocolitis presenting with testicular pain: A case report**

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**Author contributions:** Sanagawa M managed the case and edited the manuscript. Kenzaka T assisted with the editing and correcting of the manuscript; Sanagawa M, Kenzaka T, Kato S, Yamaoka I, and Fujimoto S read and approved the final manuscript.

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Informed written consent was obtained from the patient for publication of this 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<sup>[1]</sup>. 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<sup>[1]</sup>. 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/ $\mu$ L, (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).

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## FINAL DIAGNOSIS

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*Campylobacter colitis*.

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## TREATMENT

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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.

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## OUTCOME AND FOLLOW-UP

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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.

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## DISCUSSION

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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<sup>[1]</sup>. 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<sup>[1]</sup>. Further, patients may manifest both eye and urinary tract symptoms<sup>[1]</sup>. The urinary tract symptoms, caused by urethral inflammation, include increased urinary frequency and dysuria<sup>[1]</sup>; 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<sup>[2]</sup>. In addition, a few reports have documented testicular pain associated with appendicitis<sup>[3-5]</sup>, 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<sup>[6]</sup>. 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.

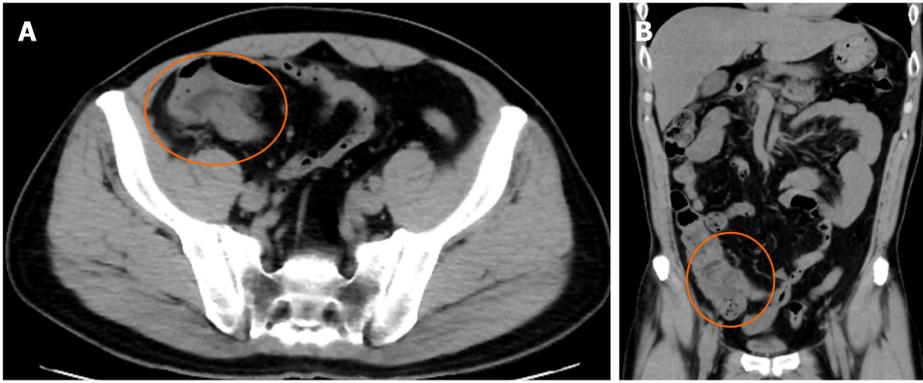
Given the absence of physical findings, such as scrotal tenderness, and the normal urinalysis results, we surmise that the patient's testicular pain was caused by inflammation of the appendix. This hypothesis is supported by the simultaneous resolution of the testicular pain and the resolution of his 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<sup>[7]</sup>. 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.

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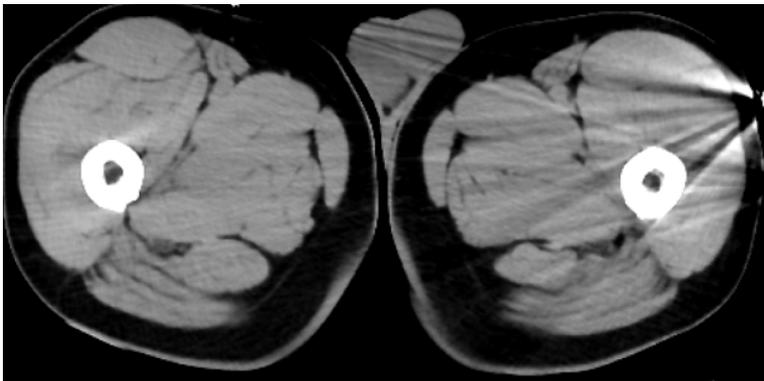
## CONCLUSION

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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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