

Ischemic colitis of the right colon after triathlon: The importance of high clinical suspicion[☆]



Colitis isquémica de colon derecho tras triatlón: la importancia de una alta sospecha clínica

Running has become a fashionable sport in recent years. It is highly accessible for the population, so it is increasingly practiced by beginners and people with little training. However, there can be risks involved. From a gastrointestinal point of view, 20%–50% of high performance athletes present gastrointestinal symptoms, with reflux, aerophagia, abdominal pain and diarrhoea being the most common. Ischaemic colitis is common in ultra-marathon runners and triathletes, although bleeding is normally occult.¹ Twenty-seven percent of professional triathletes, 20% of marathon runners and 80%–100% of ultra-marathon runners have a positive occult blood test after a race.^{1,2}

A 46-year-old male with no history of interest, who attended the Emergency Department due to the onset, after completing a triathlon, of colic-type abdominal pain in the hypogastrium and diarrhoea with blood mixed in. On arrival, an analysis was performed with findings of aspartate transaminase (AST) 68 mg/dL, creatine kinase (CK) 1,178 mg/dL and C-reactive protein (CRP) 10 mg/dL, as well as an abdominal ultrasound with no findings of note. A colonoscopy was performed in the first 24 h after admission, which found an abrupt change in the mucosa from the hepatic flexure, with continual involvement stopping short of the caecum, with oedema, petechial erythema, friability and haemorrhagic suffusion, compatible with ischaemic colitis (Figs. 1 and 2). In the abdominal computed tomography (CT) angiography, a diffuse thickening of the wall of the right colon was observed, along with a reduction in the adjacent mesenteric fat and low quantity of locoregional free fluid (Fig. 3). No alterations were observed in the splanchnic vessels. A faecal study for *Clostridium difficile* was performed with stool culture, parasites and toxin all negative, as well as a hypercoagulability study, with determination of cardiolipin antibodies, anti-β2-glycoprotein, lupus anticoagulant, activated c protein resistance, proteins C and S, homocysteine, functional antithrombin, factor V Leyden mutation and G20210A mutation, which was negative. An echocardiogram and Doppler ultrasound of the supra-aortic trunks showed no alterations. He was treated with mesalazine 4 g/24 h, prophylactic ciprofloxacin 500 mg/12 h and CasenBiotic®/24 h, presenting a good evolution and near-complete resolution of the symptoms at three days from onset, when he was discharged. A follow-up colonoscopy was performed at one month with complete resolution of the lesions. The patient



Figure 1 Endoscopic image with continuous involvement of the mucosa beginning abruptly in the hepatic flexure.

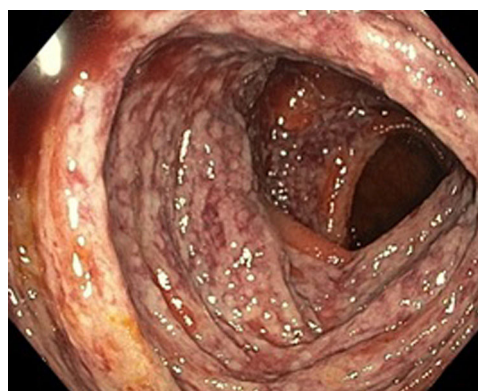


Figure 2 In the endoscopy, continuous involvement of the mucosa is observed, with oedema, petechial erythema and haemorrhagic suffusion.



Figure 3 Axial cross-section from the Abdominal CT with contrast, showing thickening of the wall of the right colon with involvement of the mesenteric fat.

has since remained asymptomatic and continues to practice his sporting activities.

Ischaemic colitis is more common in runners who practice excessive exertion with dehydration, high temperatures and hypoglycaemia.² Although there is not much evidence in this regard, the use of non-steroidal anti-inflammatory drugs and oral contraceptives appear to be risk factors.^{2,3}

[☆] Please cite this article as: García Gavilán MC, Morales Alcázar F, Montes Aragón C, Sánchez Cantos AM. Colitis isquémica de colon derecho tras triatlón: la importancia de una alta sospecha clínica. Gastroenterol Hepatol. 2021;44:565–566.

The aetiopathogenic mechanism through which ischaemia develops is due to a systemic response to exertion, with splanchnic blood flow redistributed to the vital organs. When flow is briefly reduced, the damage is reversible and symptoms are mild. The problem is when ischaemia is maintained, giving rise to macroscopic damage that can result in necrosis.² Reductions in mesenteric flow have been demonstrated of 43% just after finishing exercise, 29% after five minutes, and even 9%–10% 30 min after having finished exercising, with this reduction being lesser in a context of correct intake.⁴ Repetitive microtrauma while racing has also been proposed as an aetiopathogenic mechanism, and this may be why the distribution of ischaemic colitis is different in these patients.^{2,3} Normally, ischaemic colitis is more common in the left colon and sigmoid colon, involving Griffith's and Sudeck's points, however, in these patients the usual location is in the right colon and caecum.^{3,5} The importance of this lies in that fact that its diagnosis requires a high degree of suspicion and the performance of a full colonoscopy. Although this is an uncommon condition, it should be taken into account in the differential diagnosis of abdominal pain and haematochezia, especially where it follows significant physical exercise.

Abdominal pain secondary to neuroinvasive *Angiostrongylus cantonensis*; first European case. Some reflections on emerging parasitosis[☆]

Dolor abdominal secundario a *Angiostrongylus cantonensis* neuroinvasivo; primer caso europeo. Algunas reflexiones sobre las parasitosis emergentes

According to data from the World Tourism Organization, in 2018 up to 1,400 million people travelled internationally, to which must be added more than 70 million forced relocations due to conflicts.

Until the advent of the SARS-CoV-2 pandemic, air travel offered an unbeatable expansion route for infectious diseases, especially those with a short incubation period. This has led to the rise of epidemic outbreaks in countries with factors that facilitate gaining a foothold, whether for ecological (existence of vectors such as the Asian tiger mosquito) or social reasons.

The *Angiostrongylus* genus of nematodes has two sub-species that are pathogenic in humans: *A. cantonensis* and *A. costaricensis*. These helminths have a complex life cycle with five phases of development in marine invertebrates as intermediate hosts and rodents as definitive hosts. People are accidental hosts, and can become infected by eating raw or undercooked shellfish.^{1,2} After a two-week incubation

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period, the infection manifests with a clinical picture dominated by abdominal symptoms caused by the direct invasion of the bowel wall (*A. costaricensis*) or neurological symptoms secondary to eosinophilic meningitis (*A. cantonensis*). *A. costaricensis* commonly causes bowel perforation due to its inherent cytopathic effect and tissue anoxia secondary to intense eosinophilic vasculitis.³ Both infections have been well documented in tropical countries, but are practically unknown in Europe.

The patient described is one a group of nine tourists travelling from Cuba. Between days 14 and 17 from their return to Europe, four of them presented symptoms compatible with angiostrongyliasis. The source of infection was identified (eating undercooked prawns). The initial clinical presentation in three patients (intense retro-ocular and occipital headache, nausea and meningism with dysaesthesia plus severe eosinophilia in blood and cerebrospinal fluid [CSF]) matched the symptoms of parasitic eosinophilic meningitis. The fourth patient also presented episodes of intense abdominal pain.

She was a 20-year-old woman with a history of extrinsic bronchial asthma. At 17 days from her return, she was treated in the Infectious Diseases Department after reporting headache, nausea and an intense sensation of dysaesthesia in both knees, which was partially disabling, although without joint limitation or effusion. The complete blood count revealed hypereosinophilia (1,030 eosinophils; 9.5%). Baseline biochemistry was without abnormalities in liver and kidney function or elevated acute phase reactants (C-reactive protein [CRP]: 1.2 and erythrocyte sedimentation rate [ESR]: 11 mm/h). She was prescribed methylprednisolone 1 mg/kg and analgesia as instructed.⁴ Nevertheless, her evolution was markedly different from the other three patients, in whom the meningeal symptoms intensified requiring hospital admission and an evacuatory lumbar puncture. In the fourth patient, the appearance

[☆] Please cite this article as: Valerio Sallent L, Moreno Santabarbara P, Roure Díez S. Dolor abdominal secundario a *Angiostrongylus cantonensis* neuroinvasivo; primer caso europeo. Algunas reflexiones sobre las parasitosis emergentes. *Gastroenterol Hepatol*. 2021;44:566–567.