

presentation is nonspecific and includes abdominal pain and iron-deficiency anaemia, as well as dyspepsia and vomiting. The differential diagnosis must include gastroesophageal reflux disease, gastritis due to *H. pylori* and eosinophilic disorders of the gastrointestinal tract. The presence of iron-deficiency anaemia requires ruling out coeliac disease.

The diagnosis of collagenous gastritis requires performance of an upper GI endoscopy, and performance of colonoscopy is recommended to rule out colonic involvement. The findings of histological examination include a chronic sub-epithelial inflammatory infiltrate in the presence of a collagen band thicker than 10 microns. The nodular appearance of the gastric antrum and corpus is more common and characteristic in paediatric patients.<sup>5</sup> Collagenous gastritis may also present with mucosal erythema associated with pseudopolyps, erosion, ulcers or bleeding. Its course is chronic but benign. There are no reports in the literature of progression to malignant disease, although the natural course of the disease is unknown.<sup>6</sup>

Treatment is based on proton pump inhibitors or H<sub>2</sub> antagonists (which were contraindicated in this case, since the patient had atrophic pangastritis with hypochlorhydria) and oral iron supplementation. Anti-inflammatory drugs such as systemic corticosteroids may also be used. Hypoallergenic or gluten-free diets have been tried with little success. There is no widely accepted treatment protocol. At present, the recommended treatment consists of oral iron supplementation, and use of antisecretory or anti-inflammatory drugs for the shortest possible time is considered on a case-to-case basis.

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## Recovery from episodes of *Clostridium difficile* infection following the implementation of a consensus document<sup>☆</sup>



### Recuperación de episodios de infección por *Clostridium difficile* tras la aplicación de un documento de consenso

*Dear Editor:*

*Clostridium difficile* is the leading cause of diarrhoea in health care settings.<sup>1</sup> Several studies also emphasise the importance of community-acquired *C. difficile* infection (CDI).<sup>2,3</sup> However, CDI continues to be underdiagnosed, due to either lack of clinical suspicion or inadequate use of microbiological diagnostic methods. In Spain, Alcalá et al. found that 47.6% of episodes of CDI detected in their nationwide study had not been suspected by clinicians,

something that occurred more often in patients hospitalised longer than 3 days or inpatients aged more than 65 years, although lack of suspicion was also frequent in non-hospitalised patients (68.2% of unsuspected cases of CDI).<sup>4</sup> In this regard, a nationwide study conducted in Spain in 2013 that assessed the prevalence of community-acquired CDI at two different time points (I and II) reported estimates of 19.1 and 25.2 per 100,000 inhabitants per year, respectively.<sup>5</sup> A recent opinion document regarding CDI in Spain published by the Sociedad Española de Quimioterapia (Spanish Society of Chemotherapy)<sup>6</sup> concluded, among other recommendations, that all stool samples from children with diarrhoea aged more than 2 years should be tested for CDI even if this test were not specifically requested. Our aim was to assess the impact of implementing this recommendation in our hospital. The study was conducted between 2014 and 2016 at the Hospital Infantil Universitario Niño Jesús de Madrid, where all samples of loose stools submitted for culture from patients with a clinical diagnosis of acute gastroenteritis (AGE) aged more than 2 years (median, 7 years; range, 3–21 years), hospitalised or not, were tested for toxigenic *C. difficile* (TCD) in the absence of clinical suspicion of CDI. We excluded patients aged less than 2 years on account of the high prevalence of asymptomatic carriage of TCD in this population. The diagnosis of CDI was made based on the simultaneous detection of glutamate dehydrogenase (GDH) and toxins A and B in the initial assay

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(TechLab® C. Diff QuiK Chek Complete®, Alere Healthcare Inc) and the detection of toxin B (tcdB) by PCR (Portrait Toxigenic *C. difficile* Assay, Alere Healthcare Inc) for confirmation in samples that had tested positive for GDH and negative for toxins A and B. Stool analyses did not include toxigenic cultures or cytotoxin neutralisation assays. A total of 1162 stool samples were processed for stool culture and TCD assays, which were originally ordered by the clinician in some cases and added to the order by the laboratory in others. In 399 cases (34%) there was no clinical suspicion of CDI, of which 209 (52%) corresponded to AGE episodes in non-hospitalised patients. Focusing on these 399 samples and the results of stool culture, we found that the clinical suspicion of AGE was not confirmed by microbiological methods in 269 cases (67%). Of all cases of AGE with negative stool cultures, 88% corresponded to hospitalised patients, and 49% to non-hospitalised patients. The stool culture was positive in 130 samples, with isolation of *Campylobacter* spp (76), *Salmonella* spp (53), *Yersinia enterocolitica* (1) and *Shigella flexneri* (1); 23 of these samples were from hospitalised patients. There were 128 samples in which the stool culture was positive and the TCD assay was negative; in 55 of them, it was unclear whether the AGE episode could be considered a case of coinfection, as the laboratory test order did not include a request for viral or parasitological testing. In the remaining 73 samples, tests for other potential aetiological agents were requested, although comprehensive testing (bacterial culture, parasites and viruses) was only ordered for 8 samples. None of these tests were positive. In the other 65, in addition to stool culture, the clinician had only ordered tests for the detection of parasites (4 samples) or viruses (61 samples). The laboratory found a single case of AGE with more than one infectious agent (*Salmonella* spp and rotavirus). Fifteen samples tested positive for TCD. Two corresponded to non-hospitalised patients with additional isolation of *Campylobacter* spp in one and *Salmonella* spp in the other, which could also have been the aetiological agents of diarrhoea. In the first case, only bacterial coinfection was detected, although tests were not performed to detect viruses or parasites. However, the tests requested in the patient presenting with AGE with positive detection of *Salmonella* spp and CDT also found the presence of rotavirus, and therefore a viral aetiology should also be contemplated in this patient. Bacterial, parasitic or viral coinfection were not detected in any of the other 13 cases of TCD when tests for their detection were requested. The addition of tests for detection of TCD by the laboratory identified this pathogen in 5% of the episodes of AGE that would not have had a microbiological diagnosis by means of

stool culture and virology/parasitology tests. The detection of TCD in cases where there was no clinical suspicion also allowed the use of targeted antibiotherapy in most patients based on the medical history, as well as the implementation of the necessary measures to prevent its spread.

Our study underscored not only the importance of using appropriate microbiological diagnostic methods, but also being proactive in the aetiological investigation of the disease. Episodes of CDI detected in non-hospitalised patients were infrequent and may not have been actual cases, given the detected rate of coinfection.

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