The continuing dilemma of chronic appendicitis

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When a patient presents with chronic right iliac fossa pain, it is not uncommon for the appendix to come under suspicion and sometimes for a diagnosis of chronic appendicitis to be made. Not surprisingly, there is then the temptation to perform an appendicectomy.

In this issue of *Therapeutic Advances in Gastroenterology* a letter has been published describing a patient with a 6-month history of intermittent right lower quadrant abdominal pain in whom, after removal, the appendix showed chronic inflammation [Kothadia *et al.* 2015]. Review of the literature reveals a large number of case reports incriminating a variety of chronic disease processes, such as granulomatous disease [AbdullGaffar, 2010], parasitic infection [Ramsaransing *et al.* 2010], or even endometriosis [Huang *et al.* 2015], in the pathogenesis of appendicitis. However, there is relatively little information on whether an apparently normal appendix can ever be a source of chronic abdominal pain.

In one study involving immunohistochemical examination of surgically removed appendixes, which were not inflamed, a proportion exhibited an excess of neurotransmitters, such as substance P and vasoactive intestinal peptide, leading the authors to suggest the concept of neuroimmune appendicitis [Di Sebastiano *et al.* 1999], although this has not been confirmed by others [Partecke *et al.* 2013]. This has led to speculation that removal of the appendix might lead to an improvement of symptoms in these individuals, with a recent report claiming that an appendicectomy can lead to a reduction in right lower quadrant pain in a selected group of patients [van Rossem *et al.* 2014]. It is therefore possible that such findings could lead to a swing back to the bygone years of performing this operation for a presumed diagnosis of chronic appendicitis.

How should we be managing patients with persistent right lower quadrant abdominal pain in the

future? The current and previous case reports highlight the need for adequate investigation with a minimum of high-quality imaging, endoscopic examination and ancillary tests such as faecal calprotectin, which when positive can lead to appropriate management. However, the therapeutic dilemma centres on the patient with persistent symptoms in whom all investigations are completely normal, where the most likely diagnosis is a functional gastrointestinal disorder, particularly irritable bowel syndrome (IBS). Many patients with the more severe forms of IBS give a history of multiple surgical interventions, including appendicectomy, and seem to be particularly susceptible to postoperative pain syndromes [Longstreth and Yao, 2004; Cole *et al.* 2005; Lu *et al.* 2007]. Consequently, it currently seems reasonable to conclude that in patients with investigation-negative right lower quadrant abdominal pain, with additional symptoms suggestive of a functional gastrointestinal disorder, surgical intervention is best avoided. The only way to establish whether such an approach is not optimal would be by a prospective, randomized controlled trial of the value of appendicectomy in such a group of patients, stratified into those with and without functional gastrointestinal symptoms.

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