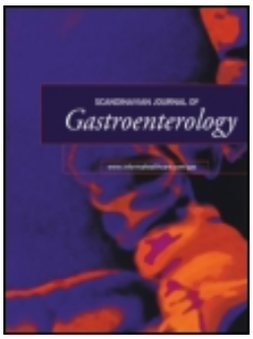

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EDITORIAL

Diverticular disease and cancer: an unproven link

This editorial reviews the question of an association between diverticular disease and cancer and concludes that so far studies do not provide any evidence at present. Patients with diverticular disease do not need additional screening for cancer.

The study by Hvorlis et al [1] has attracted attention to the rise of cancer markers in patients with diverticulosis by reporting that 'increased levels of CEA, TIMP-1, and CA19-9 at endoscopy with findings of diverticula were associated with a significantly increased risk of being diagnosed with a subsequent primary malignant disease'. The study has examined exclusively patients with diverticula on colonoscopy and lacked a control group with normal colonoscopy, which makes the interpretation of the findings debateable. This report creates an opportunity to review the debate on potential association between diverticula and malignancy.

Increased risk of left-sided colorectal cancer in diverticular disease had been claimed since 1995 on an epidemiological study of more than 7000 patients.[2] The relative risk had been found to be 1.8 and the association was considered by the authors causative. Since then there have been studies both supporting and refuting that causative association. A recent database-based study on more than 14,000 patients found and association of cancer in patients with diverticula in all segments of the colon, proximal (OR: 2.8), distal (OR: 3.65) and even the highest risk was in the rectum (4.07) – even though as we all know the rectum never gets diverticula.[3] A Swedish Register study on 41,000 patients found that there was a greatly increased risk (OR: 31.4) of cancer post admission due to diverticular disease within 6 months form discharge.[4] There was no increased risk after the first year. The authors reasonably concluded this was not an issue of causation but of occult cancer presenting as a diagnosis of diverticulitis. A systematic review on interval colorectal cancers, that is, cancers that are thought to have been missed on colonoscopy and presented within a year, suggested that there was an increased risk of proximal cancer with diverticular disease, the interpretation being that diverticula may cause technical difficulty to perform a complete colonoscopy rather than any other biologically based explanation.[5] The issue of missed cancer diagnosis in case of coexistent diverticulitis has been suggested also by a review of 633 CT scans, in 17 cases an unsuspected bowel cancer was later found.[6]

The main supporting studies have been epidemiological cohort series from database registers. Database registers have the advantage of large numbers and long follow-up. The disadvantage is that whilst their data are accurate for cancers they can be less accurate with some other conditions such as diverticular disease in which a range of variability of coding terminology fluctuates between diverticulosis, diverticulitis, complications, diverticular bleeding etc.

Endoscopic studies have been generally unsupportive of the epidemiological reports. A study on 502 colonoscopies found no association between colorectal cancer and diverticulosis and suggested that right-sided polyps were the main associated finding with distal cancers and not diverticula.[7] Another study looked into the incidence of colorectal cancer in 199 patients who had a recent attack of uncomplicated diverticulitis and found that to be only 0.7%.[8] A study on more than 4200 colonoscopies did not find an association between polyps and diverticulosis and diverticulitis and actually there was a negative correlation between cancer and diverticulosis.[9]

A risk of extracolonic malignancy lying within the abdomen and pelvis has been previously reported in patients with a diagnosis of diverticulosis or diverticulitis.[10] Diverticulitis is known to be a pericolonic inflammation, pericolonic abscesses and phlegmon masses are certain to cause peritoneal inflammation. Chronic inflammation is known to use similar inflammatory cytokines and other inflammatory mediators common in carcinogenesis. Can however the severity and length of exposure of chronic inflammation in diverticulitis be enough to cause an intra-abdominal malignancy? There is no evidence to date. The issue becomes even more confusing when it comes to the report on extra-abdominal cancers for which no explanation can be given with our current knowledge.

How about the tumour markers themselves? Are they a reliable predictor of latent malignancy? CEA, the best studied and most used clinically marker for abdominal malignancies has a sensitivity of 90% but its specificity is only around 70% and provides lead time to diagnosis of around 5 months.[11] TIMP-1 has shown a much better specificity (98%) for colorectal cancer but has not been equally effective for pancreatic and other cancers.[12,13] CEA19-9 has been used with relative success in diagnosis and assessment of response to treatment of pancreato-biliary cancers but is has not been possible to use as screening tool.[14] Even though tumour markers present enormous research interest and potential future clinical benefit as screening tools there is unfortunately too little evidence at present that the moment has arrived yet. There is no evidence at present that we should submit the patients with diverticula to any additional cancer screening.

Disclosure statement

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of this article.

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