

EDITORIAL

Lower morbidity and improved outcomes in patients with screen-detected colorectal cancer

Screening for colorectal cancer is now integrated into the fabric of healthcare systems across the world, as a wealth of evidence exists as regards its benefits in reducing cancer-specific mortality through the detection of early-stage disease (1). Options for screening include both endoscopic and stool-based tests, with a majority of countries opting for repeated faecal occult blood screening tests (FOBT). These can be either guaiac-based, as is the current system across the UK, or immunoglobulin-based, as is the case in the accompanying article from Spain (2). Patients testing positive for FOBT proceed to colonoscopy, where a relatively small proportion of patients, less than 10% in established screening programmes, will have a colorectal cancer identified (3). As national programmes have developed, multiple publications have focused on the differing aspects between colorectal cancers diagnosed through screening programmes (SD) and those diagnosed outside the screening pathway (NSD). In particular, patients diagnosed with SD tumours have been noted to be younger, more likely to be male and less socioeconomically deprived. Furthermore, tumour characteristics are different with early-stage disease and an absence of rectal tumours predominating in the SD patient group (4,5).

In the accompanying article, Sebastian et al. take this one stage further by examining in detail the short-term outcomes associated with surgery for these differing populations. Their single-centre retrospective, observational cohort study explores differences in post-operative morbidity between those diagnosed through a FOBT screening programme and those of similar age diagnosed through a more traditional route over a similar timescale. Those with SD disease were more likely to have tumours of an earlier stage and less likely to have rectal lesions, as was described previously. The primary conclusion of the study was that, post-operatively, those with SD disease had a shorter hospital stay and were less likely to suffer a complication when compared to those with NSD disease. It was also noted that, pre-operatively, those with SD disease were less likely to be anaemic or to have low serum albumin levels, and while no significant differences existed between co-morbidity indices, when measured with either the Charlson Index or the American Society of Anaesthesiology (ASA) score, a trend towards less comorbidity was noted for SD patients. The authors acknowledge the limitations of the present study both in terms of absolute numbers and based on the sub-analysis focused on colonic disease; however, overall, the multivariate analysis accounting for patient comorbidity did appear to support the notion that patients undergoing surgery for SD disease have a different and more favourable post-operative course as compared to those with NSD disease.

There have been a wealth of both co-morbidity indices and pre-operative risk stratification scores developed in order to predict both morbidity and mortality following major operations (6). These range from general indices such as those featured in the accompanying article, to more tailored colorectal scores such as the ColoRectal Physiological & Operative Severity Score for the enUmeration of Mortality and morbidity (CR-POSSUM), and the Association of Coloproctology of Great Britain & Ireland (ACPGBI) score (7,8). The development and validation of these have all occurred in the pre-screening era. These scores have limitations in that they generally tend to overestimate mortality risk, and struggle to stratify accurately populations that are deemed at lower risk. However, they are still used to inform discussions when consenting and coming to patient-centred decisions around operative intervention. By identifying the presence of SD disease as an independent factor for an improved short-term outcome, the accompanying article has questioned the validity of such systems for accurately predicting risk in this patient population. Indeed, in the accompanying article 80% of patients with SD disease had an ASA \leq II, suggesting that its use to stratify outcomes may well be of limited clinical utilization. Larger studies exploring the determinants of short-term outcome in the post-screening era are urgently required in order to both confirm the findings of Sebastian et al, and to potentially develop an alternative risk-stratification score that might incorporate the presence of SD disease as a covariate.

It is of interest that the authors identified a low pre-operative serum albumin level in NSD patients as compared to SD patients. Low serum albumin can reflect both a state of malnutrition and a chronic inflammatory condition (9), both of which can be associated with both poorer short-term and long-term outcomes in patients undergoing surgery for colorectal cancer (10). It is worth considering that peri-operative inflammatory response is also used to identify patients at risk of post-operative complications, and this can be influenced by a pre-operative systemic inflammatory response (11). In particular, many colorectal units focus on the role of C-reactive protein (C-RP) in the post-operative period as a measure of increased risk of complications (12). As regards the findings of the present study, this raises the question – do patients with SD disease develop fewer complications because they are less inflamed? Further studies exploring the post-operative inflammatory response in patients with SD disease would afford a unique insight into the complex role of inflammation and complications within this early-stage, relatively low-risk group.

Overall, the accompanying article has demonstrated improved short-term outcomes in patients undergoing surgery for SD disease versus those of similar age with NSD disease. This adds further weight to arguments for improved screening tests and compliance in order to try and increase the proportion of cases detected through screening programmes. Furthermore, by identifying these patients as having a more auspicious course, it has indirectly questioned our understanding of post-operative risk in this population. This is a concept that requires further exploration in larger numbers if we are to improve the prediction of post-operative outcomes in the post-screening era.

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