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Significant polyp and early colorectal cancer – decision-making and treatment planning in regional networks and multidisciplinary teams

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Background

Data from colorectal cancer screening programmes in both England and Wales clearly demonstrate a significant variation in the proportion of significant polyps subsequently found to be benign referred for and treated by surgery. Internationally, various studies also suggest significant differences in outcome, as defined by completeness of resection and recurrence rates, as well as the proportion referred for surgery between expert centres and endoscopists compared with local centres. In the UK and internationally, national audits of outcomes of bowel resectional surgery suggest a small though significant morbidity and mortality after surgery for benign polyps. A strategy to reduce the variation in management would consequently improve outcomes.

Significant polyp and early colorectal cancer (SPECC) – factors affecting decision-making and therapy planning

The components of planning and management of SPECC involve individual colonoscopist, organizational and system-related factors.

- 1 Individual colonoscopist associated factors – the relevant factors include a clear understanding of standardized terminology, classifications of polyp morphology, surface and vascular patterns, as well as skills and accuracy in characterization of polyps and identifying those with a high likelihood of malignancy. The characterization of polyps may need supplementation with methods of optical enhancement (virtual and/or dye based chromoendoscopy) as well as the ability to demonstrate and document the individual operator outcomes for endoscopically resected significant polyps (complete resection rates, recurrence rates at 12 months, unanticipated histology after endoscopic resection etc.)
- 2 Organizational factors – a common barrier to standardization of therapy in this situation is the lack of defined and agreed regional referral pathways between healthcare providers. Given the variation in catchment populations, variable access to individual expertise in therapeutic endoscopy and minimally invasive colorectal surgery, e.g. transanal endoscopic microsurgery (TEM), and no defined criteria used routinely to categorize these lesions, outcomes are understandably variable. Multidisciplinary team (MDT) working is embedded into most cancer management structures and a similar approach for specific criteria based SPECC lesions has also proven to be successful in the context of the colorectal cancer screening programme in Wales.
- 3 System-related factors – a significant driver in many aspects of healthcare has been the resource-related factors affecting referral to other providers. However, this should be a surmountable barrier once there is agreement within regional clinical networks and MDTs with regard to a common aspiration of improving patient outcomes and prevention of avoidable surgery and complications. The cost-effectiveness of this approach has also been demonstrated to be significant and consequently is an attractive option for publicly funded healthcare systems such as the National Health Service.

A common theme in all of the above is that of appropriate allocation of time for specialist individuals, within the constraints of a busy clinical practice and large procedure volumes. This is achievable through agreement between individuals and organizations, within networks, of concentrating therapy for SPECC lesions to fewer individuals and centres and redistributing other procedures with a relatively small impact on network resource and capacity.

Components of an SPECC MDT

For a team and a network to achieve optimal decision-making in therapy planning there are several essential components that need to be embedded into the decision-making pathway.

- 1 Representation of expertise – the minimum requirements to achieve the aims of a regional SPECC MDT network are expertise in advanced colonoscopy interpreted as understanding, skill and outcomes based evidence from individuals involved in endoscopic mucosal resection and endoscopic submucosal dissection of colorectal polyps fulfilling SPECC criteria; similar expertise in minimally invasive colorectal surgery including laparoscopic surgery as well as TEM and its variants; expert pathology input with interpretation of depth involvement, particularly when dealing with early submucosal invasion, and in many cases expert radiology input for interpretation of the staging of early cancer and distinguishing malignancy from a complex benign polyp. As with other cancer MDTs the involvement of specialist nurses and screening practitioners is essential to ensure optimal communication between patients, local and centralized clinical teams and the MDT.
- 2 Adequate documentation and administrative pathways, bearing in mind that the purpose of the MDT is to reduce harm and variation in a timely and standardized approach using minimum standard datasets and tracking of patients moving between organizations and treatment pathways is crucial to a sustainable process and demonstration of outcomes.
- 3 Supporting technology – experience from the complex polyp MDT in Wales has demonstrated that during the initial development of the network there is significant variation in the quality of still image and video-documentation of lesions between individuals and organizations. This is often due to a combination of variation in individual expertise and skill in polyp assessment and understanding of the factors that need endoscopic photo- and video-documentation and organizational access to high quality recording devices. The situation is often compounded by the variability in endoscopy reporting systems with image and video capabilities. Poor quality endoscopic images have limited value in decision-making. The ability to have video-link clinics and consultations, when patients at the heart of the decision-making need appropriate communication, is often helpful and a relatively efficient method of comprehensive therapy planning.

Patient-related factors and components in SPECC decision-making and therapy planning

There is significant variation in the information and modes of communication with variations in terminology used when patients are seen by clinical teams, as well as the explanation of treatment options. Patient perceptions about local compared with unfamiliar referral centres also involve logistical and resource implications which may be appropriately addressed through a combination of technological (video-linked clinics), written and verbal (via clinician, specialist nurse and practitioner involvement) solutions. Another factor that is often cited as significant when considering options is comorbidity in patients who might be considered as high risk for more invasive therapeutic options. Issues such as benefit vs risk and life expectancy need to be considered. Improvement in communication with understandable defined terminology and close liaison with the patient through the above methods is often helpful in achieving optimized well documented decision-making by an MDT.

MDT scenarios with uncertainty around benign or malignant pathology in SPECC lesions

A factor that seems to influence several aspects of decision-making is the uncertainty surrounding certain SPECC lesions where despite adequate endoscopic imaging, radiological staging and targeted biopsy there is difficulty in confirming or refuting the presence of early malignancy. This also has an impact on patient perceptions regarding treatment approaches and potential outcomes. Variation in professional opinion about treating high grade dysplasia as being equivalent to cancer and inter-observer variation in pathology interpretation from often small and limited biopsy specimens add to these uncertainties. In such cases a network approach with the appropriate professional expertise at an SPECC MDT along with a clear explanation of the uncertainty to the patient with planning for further options depending on histology after endoscopic therapy is often helpful. Emerging evidence suggests that there is no difference in outcomes for early stage colorectal cancer with a systematic approach as outlined above with considerably less morbidity compared to the direct to surgery approach. From an organization and system perspective clarity in the remit and responsibilities of various MDTs (e.g. colorectal cancer MDT compared to an SPECC MDT/ polyp MDT/early rectal cancer MDT) is helpful in avoiding conflicting communication to patients and ensuring an optimized pathway for the best outcome.

SPECC MDTs in education, training and service re-design

The concept of a network of expert professionals in close communication with patients making optimal evidence based decisions is already embedded in healthcare organizations. Extending this to a wider regional level in areas of practice such as the management of SPECC lesions, where expertise may be limited to certain centres and individuals, is an opportunity to embed training and education as a component of the process. Transparency of process, and objective and standardized documentation of outcomes for these lesions, has the potential to enable targeted training and upskilling for individuals involved in the management of SPECC lesions. It also provides an opportunity to re-design services to a more efficient use of resource, reduce variations in treatment and optimize outcomes for the patient.

Suggested pathway for decision-making and management of SPECC lesions

A comprehensive assessment of SPECC lesions with subsequent discussion with the patient and at an SPECC MDT enables appropriate decision-making and treatment planning. We suggest that this systematic approach should be considered as the standard of care rather than attempting often inappropriate therapy at the time of detection of the lesion without specific assessment or discussion with the patient regarding the appropriateness of treatment in their individual context and alternative treatment options that may be available and appropriate in a wider regional context.

This approach is necessary rather than merely considered desirable in an era of increased detection of SPECC lesions as a consequence of colorectal cancer screening. It is also imperative that advances in diagnostic and therapeutic technology in endoscopy require integration with clinically effective and cost effective healthcare processes in order to achieve the optimal individualized patient outcomes.