Commentary

Commentary on "Guidelines for the management of large non-pedunculated colorectal polyps" by the BSG/Association of Coloproctologist of GB and Ireland

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The guidelines for the management of large non-pedunculated colorectal polyps (LNPCPs) was created in cooperation between the British Society of Gastroenterology (BSG) and the Association of Coloproctologist of Great Britain and Ireland, and was largely similar to the first guidelines in this area from these Societies (1). The authors this year searched, analyzed and showed in the list of recommendation the results of important new investigations in this field. Their guidelines have a specific structure and consist of key recommendation about definitions; service provision and management principles; lesion assessment; endoscopic management: pre-procedure, peri-procedure and post-procedure; and surgical management of LNPCPs. The authors also talk about the importance of advanced polypectomy training and accreditation.

Definitions

The authors suggest replacing the terms "sessile and flat colonic lesion", with the Paris classification term—"non-pedunculated colorectal polyp" (NPCP), and the term "laterally spreading type polyp" (LST) as a further lesion subclassification.

The term "Large NPCP" can be used for polyps more than 2 cm in size.

Lesions with increased risk of malignancy are those with lesion pit pattern type V (strongly associated with deep submucosal invasion), Paris 0-IIc or 0-IIa + IIc morphology (strongly correlated with malignancy), non-granular LST, granular LSTs with a dominant nodule, distorted surface pattern, colour and vessels (NICE NBI type III), thick and irregular microvessels (Sano capillary pattern type III) (2-6).

Lesions with increased risk of incomplete excision/recurrence are those with size more than 4 mm, location involving the appendix, ileocaecal valve, diverticulum or dentate line; those that occur in inflamed segment of colitis; prior failed attempts at resection or recurrence at a site of previous resection; a non-lift sign after submucosal injection; or the endoscopist's concern about difficult location. Polyps that are considered to be challenging to remove endoscopically are those that cross two haustral folds, polyps behind a fold or polyps that have a "clamshell" distribution around a fold (7).

Increased risk of adverse events associated with endoscopic polypectomy include: caecal location, size more than 40 mm and inexperienced endoscopists. Lesions located in the right colon are also associated with increased risk of perforation and bleeding (8).

The term "complex NPCP" can be use to describe NPCP with any of the following features: an increased risk of malignancy; increased risk of incomplete resection/recurrence; increased risk of adverse event; or a SMSA level 4.

Service provision and management principles

The guideline's authors recommend that hospitals that detect or manage LNPCPs should develop a referral pathway to facilitate patient management, monitor quality of service, give information to patients about different therapeutic options, offer laparoscopic surgery, have

infrastructure for the management of complex rectal lesion and skilled endoscopists who can perform endotherapy of complex NPCPs. In the hands of an expert endoscopist, over 90% of selected lesions may be successfully removed and surgery avoided (2,9,10). Endoscopic management *vs.* surgery is more cost-effective (11). But it is very important to differentiate between complex benign polyps and early rectal cancer as the referral/treatment tree is very different.

For successful management of complex polyps, the authors recommend multidisciplinary meetings (MDM) to discuss complex cases, which should include at least one complex NPCP endoscopist, at least one colorectal laparoscopic surgeon and a gastrointestinal histopathologist. Patients with benign NPCPs should not undergo surgery without prior discussion at such a multidisciplinary meeting.

All endoscopists who perform endotherapy of LNPCPs should be highly experienced in standard polypectomy and should have service approval for this work.

Primary therapeutic management of LNPCPs is recommended to be undertaken within 8 weeks of the referral, though there is no evidence given to support the choice of 8 weeks. Currently, the time sequence for adenoma to carcinoma transformation with NPCPs is unclear.

Endoscopic resection should be first-line therapy for the removal of LNPCPs if there is no suspicion of malignancy. Nowadays, endoscopic removal [either endoscopic mucosal resection (EMR) or endoscopic submucosal dissection (ESD)] is internationally recognized as first-line therapy for benign and dysplastic polyps.

If malignancy is suspected, endoscopic or surgical piecemeal resection should be avoided and efforts at en bloc resection emphasized (an important oncological principle).

In the context of significant comorbidities, conservative management may sometimes be appropriate after discussion with patient and documentation. Before attempting invasive treatment the use of mortality index models such as the Schonberg Index may help to stratify individual patient's risk.

Lesion assessment

The authors of the guidelines recommend that all LNPCPs should be photographed or videoed before removal.

Ideally, size estimate of LNPCPs should be made by measuring against an open snare. But, there is evidence that visual size estimation during endoscopy continues to be inaccurate (12).

The Paris classification system should be used to characterize polyps. Additionally, the surface characteristic of polyps should be described using the Kudo pit pattern classification.

Complex polyps should be imaged with optical enhancement technology such as NICE or narrow band imaging (NBI) system. NBI had greater accuracy than standard and high definition white light endoscopy at correctly predicting polyp histology with a sensitivity of 90% and accuracy 82% (13).

The use of deep biopsy techniques is not recommended. If a lesion can possibly be endoscopically removed, biopsies should be used with caution, because there is a risk of submucosal tethering due to scarring, making the lesion unresectable endoscopically. If concern about cancer and biopsies are necessary, they should be targeted to the area exhibiting features indicative of cancer, and avoiding flat areas and the periphery of the lesion.

Endoscopic management: pre-procedure

The new guidelines recommend adequate planning before performing advanced polypectomy.

In accordance with BSG Antiplatelet Guidelines, antiplatelet drugs (clopidogrel, prasugrel), but never antiplatelet agents (ticagrelor) should be stopped at least 7 days before resection. Warfarin should be stopped at least 5 days before LNPCP resection and international normalized ratio (INR) should be confirmed as less than 1.5 days before procedure to minimize the chance of post polypectomy bleeding (14). Newer anticoagulants (dabigatran, rivaroxaban and apixaban) don't require regular monitoring, have shorter half-lives and can be stopped closer to the time of endoscopy. General recommendation about management of these newer anticoagulants cannot be made owing to a lack of evidence.

When stopping anticoagulant before endoscopic resection patients should be informed of and consent to the risk of thromboembolic events (stroke, venous thromboembolism). The risk of bleeding *vs.* risk of thromboembolic episode should be explained and high-risk individuals should use "bridging regimen" of low molecular weight heparin.

In cases where cessation of anticoagulants or antiplatelet drugs is contraindicated, patients should be referred to a hematologist before considering the procedure.

There is no strong evidence for the cessation/continuation of low-dose aspirin, therefore this decision should be individualized according to the patient's risk. While many endoscopist stop aspirin before polypectomy, UK and US

guidelines advise that it can be prolonged (15,16).

Endoscopic management: peri-procedure

The guidelines authors recommend the following procedural measures: carbon dioxide insufflation during colonoscopy in preference to air insufflation. Chromoendoscopy, mucosal washes with contrast agents (indigo carmine, methylene blue) can help delineate polyp margins. The addition of low-concentration adrenaline to the submucosal injection helps keep the resection field clean and blood free.

For mucosal lift procedures, a colloidal-type submucosal injection solution can be preferable to a normal saline lift, but there is no strong evidence of this.

There is no single optimal snare for LNPCPs, endoscopists must be available to use a wide range of snares.

According to the guidelines, pure coagulation can be commonly used for polypectomy and has good hemostasis properties; however, prolonged pure coagulation may increase the risk of delayed post-polypectomy bleeding and thermal tissue injury.

The use of en bloc endoscopic snare resection of lesions less than 20 mm reduces the risk of recurrence and provides more accurate histopathological interpretation, but in the case of LNPCPs can increase risk of thermal injury and perforation. Therapy-naïve lesion that fail to lift with submucosal injection should not be resected with conventional snare polypectomy technique. Non-lifting signs are frequently associated with deep submucosal invasion and malignancy and may indicate a need for surgery. The priority of resection should be en bloc (by ESD or snare polypectomy) followed by piecemeal resection. If piecemeal resection is performed, all residual fragments should be carefully removed, if small fragments remain, thermal coagulation of the residual is indicated. Following resection, inspection of the resection site and photographic documentation of completeness of resection is recommended.

Tattooing may cause submucosal fibrosis, but it is still recommended for suspicious lesions. Except for rectal or caecal lesions, tattoos should be placed at least 3 cm from the lesion for better endoscopic follow-up or surgical resection.

Endoscopic management: post-procedure

The authors recommend providing the patient written information about complication risks, follow-up recommendations and an emergency phone number. Resumption of anticoagulant and antiplatelet treatment should be considered on individual basis.

In cases of piecemeal EMR, initial follow-up should be within 2–6 months. On follow-up, the scar site should be positively identified, scrutinized and photographed. Management of residual/recurrent polyp tissue should be performed by endoscopists with complex NPCP experience. Management of ongoing recurrence should be discussed in a complex MDM meeting.

Surgical management of large non-pedunculated colorectal polyps (LNPCPs)

Surgical therapy should be used where malignancy is suspected or in cases of incomplete endoscopic resection. In surgical management of LNPCPs laparoscopic surgery should be used in preference to open surgery.

For optimal management of LNPCPs, an emphasis should be placed on the development of multidisciplinary teams to discuss and treat cases in the least invasive fashion possible. Efforts should be made to create patient treatment pathways and improve training. Fellowship training for advanced endoscopy, including virtual reality simulators and tissue simulator models and hands-on training on live animals training models are imperative for both surgeons and gastroenterologists.

Conclusions

Recent guidelines for the management of LNPCPs, published by the BSG/Association of Coloproctologist of GB and Ireland, have updated previous recommendations and guidelines for the management of these complex lesions. We summarize their current recommendations. These recommendations range from well supported, evidence based recommendations to those based only on common practice and expert opinion. They contribute to improved patient care for these common premalignant lesions as well as identifying areas needing more definitive research.

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Footnote

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