Colorectal Polyps

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Algorithmic Approach

A. Adenomatous colon polyps are precursors to colon cancer, and colonoscopic polypectomy reduces both the incidence and mortality of colorectal cancer [1]. Adequate bowel preparation, endoscopic irrigation, and meticulous suctioning permit thorough and complete mucosal evaluation to detect and treat all colonic neoplasia.

B. Following polyp identification, thorough irrigation and suctioning are performed to adequately assess polyp-specific features to guide management and enable treatment. Determination of polyp size, morphology, and location is essential, and use of Paris classification to characterize polyp morphology is encouraged [2]. Malignant tumors are differentiated from benign adenomas by size, firmness, central depression, ulceration, and fixation to the deeper bowel wall [3, 4]. Inability to expand peri-polyp submucosa during saline lift (i.e., "non-lifting sign of Uno") is associated with invasive cancer or scarring from prior polypectomy interventions. Narrow-band imaging, colonoscopic microscopy, and chromoendoscopy may yield additional information about the polyp surface features. Nongranular surface features and irregular nonstructured pits (Kudo pit pattern type V) are both features that should raise suspicion of submucosal invasion and invasive adenocarcinoma [5].

C. Many suggest routinely tattooing all polyps larger than 1–2 cm to facilitate endoscopic surveillance or future surgical resection should the lesion prove to be malignant.

D. Nearly all benign polyps are amenable to endoscopic excision. Cold snare polypectomy is the workhorse for most sessile polyps smaller than 1 cm. Cold forceps can be used to excise the smallest (1–2 mm) polyps; however, this technique is associated with high rates of residual adenomatous tissue [6]. Hot biopsy forceps polypectomy techniques have fallen out of favor due to high rates of delayed bleeding and perforation. Hot snare polypectomy is typically used for pedunculated and larger sessile (>1 cm) polyps. Saline-lift endoscopic mucosal resection (EMR) is a useful technique in which the submucosal layer is first injected with saline to "lift" the polyp, facilitating en bloc or piecemeal resection with a hot snare. EMR is helpful for large polyps, those spanning many folds, and for large right-sided polyps where the bowel wall may be more susceptible to thermal injury.

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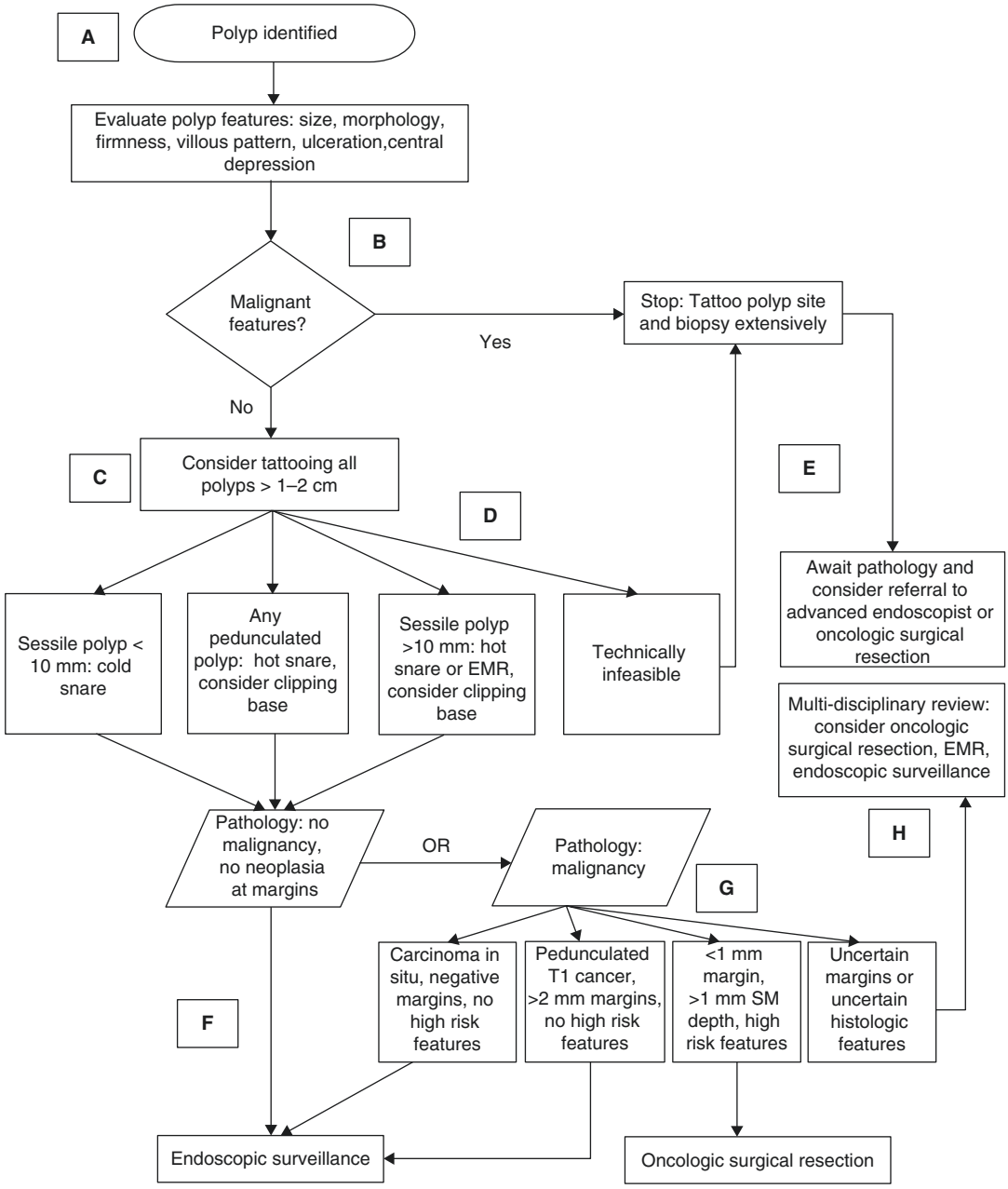
Large postpolypectomy defects may benefit from prophylactic clip closure to decrease the risk of postpolypectomy hemorrhage.

E. Malignant appearing lesions should be biopsied and tattooed, and not removed, since malignancy merits oncologic surgical resection. Indeterminately malignant lesions with benign biopsy pathology may be referred to expert endoscopists for consideration of advanced polypectomy. The endoscopist must be aware of his or her limitations prior to attempting polypectomy because an incomplete polypectomy may cause submucosal scarring and prohibit later EMR attempts by an expert. Special situations may mandate surgical resection regardless of polyp histology. For example, polyps growing into the appendiceal orifice or ileocecal valve are frequently not amenable to endoscopic resection due to the difficulty of obtaining a negative margin, as well as risk of perforation or appendicitis. In these special cases, patients should be referred for advanced expert colonoscopic polypectomy or consideration of surgical resection.

F. If polyp pathology demonstrates no evidence of cancer, surveillance colonoscopy should continue based on the number, size, histology, completeness of polypectomy, bowel preparation quality, and patient and family history. Periodically updated guidelines dictate the frequency of postpolypectomy surveillance for commonly resected polyps in average-risk individuals [7].

G. "Carcinoma in situ" or "intramucosal carcinoma" are confusing terms that describe lack of cancerous invasion of the muscularis mucosa. These lesions are premalignant (i.e., Tis or T0), and colonoscopic resection alone may be adequate. Histology, margins, and depth of malignant invasion determine the adequacy of colonoscopic polypectomy for malignant pedunculated polyps. Haggitt's classification dictates that polypectomy alone is sufficient for a favorable- histology tumor confined to the polyp stalk with a 2 mm margin from the cut polyp edge [8]. The analogous Kikuchi classification for sessile polyps has shown polypectomy to be sufficient for favorable-histology tumor penetration limited to the upper third (<1 mm) of submucosa [9]. Sessile and pedunculated polyps with deeper submucosal cancerous penetration (>1 mm) should be considered for oncologic surgical resection given the high frequency of lymph node metastases. Regardless of polyp morphology, high-risk pathologic features such as poor differentiation, lymphovascular invasion, and extensive budding increase the risk of lymphatic metastasis and typically mandate oncologic surgical resection [10].

H. Occasionally, polyp margins, histology, and the endoscopist's assessment of polypectomy completeness may be unclear. In these situations, multidisciplinary review with the endoscopist, surgeon, and pathologist can guide decision-making. In this meeting, the risks of local cancer recurrence and lymph node metastasis should be balanced against the risk of surgical resection, using the patient's wishes and operative risk to determine the course of subsequent care.



Algorithm 65.1

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