Outpatient Practice Management Tips

Colorectal Polyps

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Describe the current general classification of colon polyps. Which features of an adenomatous polyp correlate with greater malignant potential?

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Colorectal polyps are classified histologically as neoplastic or non-neoplastic (Table 1). The majority of polyps are small, non-neoplastic lesions that are found during screening or when procedures are performed for other diagnostic reasons (for example, a gastrointestinal bleed). The malignant potential and subsequent screening intervals are dependent on polyp type.

All adenomas have variable degrees of dysplasia ranging from low-grade to high-grade. Classically, it is believed that the malignant potential of adenomas correlates with type of polyp, size, and degree of dysplasia. Higher grades of dysplasia, increasing percentage of villous tissue within the polyp, and polyps greater than 1 cm in diameter are associated with increased risk of malignancy. A polyp is considered malignant when cancer cells within the neoplasm have extended to the submucosa via penetration through the muscularis mucosal layer.

The adenoma-carcinoma sequence has traditionally been characterized as a uniform progression from normal mucosa, to adenoma, to carcinoma through an underlying homogenous carcinogenic pathway. The process of adenoma development is initiated when both copies of the adenomatous polyposis coli (APC) tumor suppressor gene are deactivated in a single epithelial cell. The consequent lack of the suppressor permits activation of oncogenes, including, but not limited to, p53 and k-ras. There is evidence, however, that colorectal carcinogenesis is a heterogeneous process involving more than one precursor lesion.

Table 1. Classification of Colorectal Polyps.

Histological Classification	Polyp Type	Malignant Potential
Non-neoplastic	Hyperplastic polyps	No
	Hamartomas	
	Lymphoid aggregates	
	Inflammatory polyps	
Neoplastic (adenomas)	Tubular adenomas (0-25% villous tissue)	Yes
	Tubulovillous adenomas (25-75% villous tissue)	
	Villous adenoma (75-100% villous tissue)	

What are the current recommendations regarding colorectal cancer screening?

Several screening tests are available. No uniform consensus is available with respect to the best method of screening. Currently accepted screening modalities include annual fecal occult blood testing plus or minus sigmoidoscopy every 5 years, flexible sigmoidoscopy every 5 years, colonoscopy every 10 years, or double-contrast barium enema every 5 years.

Evidence suggests that colonoscopic screening in asymptomatic adults can result in detection of advanced colonic neoplasms that other modalities would likely miss. There is evidence that colonoscopy has superior efficacy compared to double contrast barium enema as a method for screening for colorectal cancer. However, there is insufficient data available, at the present time, for the United States Preventive Task Force (USPTF) to make a recommendation regarding the most cost-effective method for screening. Professional organizations do agree that all asymptomatic, average risk adults 50 years or older should be screened.

How should malignant polyps be managed?

The histopathologic features and risk of surgical resection guide the management of malignant polyps. Complete excision during endoscopy is essential with submission in toto for pathological evaluation. Proper fixation and sectioning to facilitate accurate determination of depth of invasion, grade of differentiation, and completeness of excision are required. Favorable histopathologic and clinical prognostic features of malignant colorectal polyps are clearly defined (Table 2).

Patients with sessile malignant polyps having all of the favorable prognostic factors should undergo a follow-up colonoscopy in three months to confirm the completeness of endoscopic resection. Once this follow-up examination is negative, surveillance would be similar to patients who had excision of non-sessile malignant polyps or benign adenomas. In this standard surveillance scheme, the subsequent frequency of colonoscopy is guided by the patient's risk of developing metachronous advanced adenomas. Patients with low risk features, including those with one or two small tubular adenomas (<1cm) and no family history of colorectal cancer, should undergo screening in 5 years.

Factors that place patients at higher risk of developing metachronous adenomas include male gender, multiple polyps, polyps >2 cm, polyps with tubulovillous and villous histology at index polypectomy, or family history of colorectal cancer. High risk patients should undergo a first follow-up colonoscopic evaluation at three years and then every five years after the first negative exam.

In patients with malignant polyps that have poor prognostic features, the decision to proceed to surgical resection must be individualized. Generally speaking, the relative risk of surgical resection must be weighed against the patient's risk of local recurrence or nodal metastases.

Table 2. Favorable Prognostic Features of Malignant Colorectal Polyps.

Absence of poorly differentiated cancer
Absence of lymphatic or vascular involvement
No involvement of excision margin (including margin of the stalk in pedunculated polyps)

FURTHER READING

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