Surgical Management of Malignant Colonic Polyps Often Suboptimal

A recent study shows that the use of surgical resection in the management of malignant colonic polyps (MPs) increased from 1988 to 2003. However, care of patients with MPs frequently does not include optimal lymph node assessment, thereby adversely affecting survival rates.

Lead author Nabil Wasif, MD, and colleagues used the National Cancer Institute’s Surveillance, Epidemiology, and End Results (SEER) database to study trends over time in the surgical treatment of 19,743 patients diagnosed with MPs from 1988 to 2003, as well as demographic and clinical factors associated with variations in care (Cancer. 2010 Oct 19. [Epub ahead of print]).

Dr. Wasif, assistant professor of surgery at the Mayo Clinic in Scottsdale, Arizona, says the question of managing MPs is an issue that is dealt with on a daily basis in practices everywhere, making this population-based study clinically relevant.

Current Guidelines

An MP is defined as an adenoma that contains carcinoma, which invades the submucosa, but does not extend into the muscularis propria. Polyps with in situ or intramucosal disease were not included in this study. MPs comprise approximately 11% of all endoscopically removed polyps. Larger polyps and those with villous features are more likely to harbor carcinoma.

According to National Comprehensive Cancer Network (NCCN) guidelines, patients with any type of MP do not require surgery if the polyp is completely removed endoscopically and has a favorable histology (low-grade cancer, no lymphovascular invasion, and a negative resection margin). However, the NCCN recommendation for completely resected MPs with favorable histology includes a statement noting that, “…in addition to the option of observation, the panel includes the option of colectomy… because it has been reported that patients with sessile polyps have a 10% risk of lymph node metastases.” For MPs with unfavorable histology or a positive resection margin, NCCN guidelines recommend operative management following the standard guidelines for colon cancer surgery with a goal of removing at least 12 regional lymph nodes. The standard approach, whether performed in an open or laparoscopic fashion, is to resect an adequate amount of bowel and mesentery to make an appropriate evaluation of draining lymph nodes.

Surgical Assessment and Survival

The proportion of patients managed with surgical resection increased from 54% between 1988 and 1993 to 70% between 1999 and 2003. Geographical variation was noted among state and metropolitan area registries within the SEER program, with 42% of patients in Hawaii versus 74% in Kentucky receiving surgery for their MP.
Frederick Greene, MD, chair of the department of surgery at the Carolinas Medical Center in Charlotte, North Carolina, believes that greater use of laparoscopic techniques may have contributed to the increase in the surgical management of MPs. “In the era of minimal access techniques and the improvements in those techniques, we will likely see more surgical resections of MPs,” he says.

In univariate analyses, patients who underwent surgery were significantly more likely to be female, and to have villous tumors, right-sided tumors, and high-grade cancers. On multivariate analysis, age younger than 70 years, more recent time of diagnosis, high-grade cancer, right-sided tumor, and villous features were predicative of undergoing surgery. The authors suspected that because tumor grade and villous subtype are predicative of malignancy, selection bias may occur in the referral of these patients for surgery. Further, the morbidity and mortality for right-sided colon resection is lower compared with left-sided disease, perhaps accounting for a right-side location being predicative of surgery.

In a subset of 10,935 patients undergoing surgery, the extent of lymph node removal could be analyzed. Nearly half of surgical specimens (49%) contained no lymph nodes. The mean number of lymph nodes removed was 4 and the median was 1.

Although not examined in this study, Dr. Wasif said many studies have noted that both surgical technique and specimen processing in the pathology laboratory influence lymph node evaluation.

“This is a multidisciplinary effort,” Dr. Greene says. “If not enough nodes are found, then the surgeon can sit with the pathologist and examine the specimen further.”

Lymph nodes were found to be positive in 7.1% of patients undergoing surgery who had at least one lymph node removed (n = 6184). A significant increase in lymph node count was observed from 1999 to 2003 compared with earlier years. Patients having at least one lymph node removed had a significantly better 5-year overall survival rate compared with patients with no lymph nodes removed at surgery (74% vs 64%; P < .001). In multivariate Cox regression analysis, lymph node positivity adversely affected survival (95% confidence interval [95% CI], 1.05-1.47) and having at least one lymph node examined was a favorable prognostic variable (95% CI, 0.64-0.73).

The authors also examined the subset of patients with low-grade tumors and a negative resection margin after endoscopic removal who underwent subsequent surgery (n = 2034). Of these patients, 5.5% were found to have involved lymph nodes.

Unfortunately, investigators were not able to assess lymphovascular invasion, the other parameter included in NCCN guidelines, as a reason to perform surgery, because it is not coded for in the SEER database. Other limitations the authors noted is that this is an observational study and that they were not able to account for variability in pathology protocols across the time period and geographic regions. Further, most of the MPs (69%) did not have the size recorded.

Dr. Wasif says the study does not warrant an overhaul of the current guidelines, such as those from the NCCN or the American College of Gastroenterology, but that each patient deserves a thorough explanation of the risks and benefits of local versus surgical excision.

“More study is needed to clarify the patient population, if any, in which local excision for MP can be safely performed,” he says. “The development of molecular, as opposed to histological, markers may allow for better selection of patients with MP who may be appropriately treated by local excision.”

Practice Implications

The bottom line of the study, according to Dr. Greene, is that if surgery is going to be done, removing at least 12 lymph nodes is the benchmark.

“The surgeon may be thinking the patient has minimal disease and does a minimal operation, but that is not appropriate,” he says. He added that lymph node count can be a quality benchmark that could be applied just like other benchmarks for quality improvement initiatives.

Dr. Wasif says adequate surgical staging should always be undertaken. “The take-home message should be that malignant polyps are still T1 colon cancer and treatment should not be minimized to the detriment of the patient,” he says.

Note: The name of this section has been changed from “News & Views” to “Perspectives: Research in Context.” It continues to provide the context for major developments in cancer prevention, detection, and treatment.