CT Colonography Refines Neoplasia Screening

BY KATE JOHNSON
Montreal Bureau

Detection rates for advanced colorectal neoplasia were similar in a comparison of screening computed tomographic colonography versus optical colonoscopy, but the numbers of polypectomies and complications were significantly lower with CT colonography, Dr. David H. Kim and colleagues reported.

"CTC [computed tomographic colonography] may provide a more targeted screening approach for detection of advanced neoplasia," they wrote, describing CTC as "an effective filter for therapeutic OC [optical colonoscopy]" (N. Engl. J. Med. 2007;357:1403-12).

Universal polypectomy at the time of screening OC is widely considered the most effective means of capturing advanced adenomas—benign lesions with a high risk of progression to cancer, according to Dr. Kim, of the University of Wisconsin (Madison) and his colleagues. However, most subcentimeter polyps are not adenomatous, suggesting a need for more selective alternatives to the practice of universal polypectomy, they wrote.

Their study compared results from 3,163 consecutive patients undergoing OC screening and universal polypectomy with 3,120 consecutive patients undergoing CTC screening followed by a choice of same-day therapeutic OC for all polyps of at least 6 mm or CTC surveillance for one or two polyps of 6-9 mm. Within the CTC group, a total of 246 patients (7.9%) were referred for therapeutic OC, whereas 158 patients (5.1%) with a total of 193 polyps chose CTC surveillance.

Detection of polyps measuring 6 mm or more occurred in 12.9% of the CTC group and 13.4% of the OC group, and the prevalence and detection of advanced neoplasms also was similar, at 3.2% in the CTC group and 3.4% in the OC group; the differences were not significant.

However, these detection rates were achieved with the removal of 2,434 polyps in the OC group, compared with just 561 in the primary CTC group. In addition, there were seven colonic perforations in the OC group (0.3%), four of which required surgical repair. There were no serious complications in the CTC group during either the primary examination or subsequent therapeutic OC.

"Our results suggest that primary CTC with selective OC also deserves consideration as a preferred screening strategy because it appears to achieve the same goals of detection and prevention but with the use of substantially fewer resources," they wrote.

There is limited follow-up data for the subgroup of 158 CTC patients who chose surveillance of their 193 polyps. To date, 54 have returned for follow-up, revealing that 96% of 70 polyps have either remained stable or decreased in size. Three polyps grew at least 1 mm and were removed, but none revealed high-grade dysplasia.

"On the basis of previous experience with CTC screening, approximately 60% of polyps of 6-9 mm detected by CTC would be expected to be adenomatous, and approximately 3% of CTC-detected adenomas of 6-9 mm contain advanced histologic findings," the authors wrote. "Therefore, we estimated that CTC surveillance would yield three to four advanced adenomas, resulting in a yield of advanced neoplasia among small lesions that was very similar to the yield associated with OC."

Although detection rates for lesions measuring 6 mm or more were similar for both groups, there was a significant difference in overall detection rates (12.9% in the CTC group vs. 37.6% in the OC group). This is explained by the difference between the two groups in the management of diminutive lesions (measuring 5 mm or less). All such lesions were removed during OC, but were ignored in patients undergoing CTC. Recommendations released by the American Gastroenterological Association Institute Task Force on CT Colonography stipulate that:

► Any polyp measuring 6 mm or more at the widest diameter should be reported, and the patient should be referred for consideration of endoscopic polypectomy.

► Patients with three or more polyps of any size in the setting of high diagnostic confidence should be referred for consideration of endoscopic polypectomy.

► The appropriate clinical management of patients with one or two lesions measuring 5 mm or less is unknown; therefore, the follow-up interval should be based on individual characteristics of the patient and the procedure. ■