Colon cancer DNA tests show promise as affordable early detection tools

By ACSH Staff — November 1, 2010

Physicians may eventually use DNA tests instead of colonoscopies to regularly screen for colon cancer, *The New York Times* reports [1]. One of the tests developed by Exact Sciences would use stool samples to detect four mutated genes specific to colon cancer. Researchers announced at an American Association for Cancer Research meeting Thursday that preliminary results from 1,100 patient samples show that the test can detect 64 percent of pre-cancerous polyps (larger than 1 cm in diameter) and 85 percent of colon cancers based on confirmation with colonoscopies. However, the test can yield false positive results — when a test incorrectly shows the presence of a disease — 12 percent of the time, though the researchers argue that the worst that can come from these inaccurate results is a follow-up colonoscopy. Exact Sciences hopes to launch a larger clinical trial in the next year to gain FDA approval in 2012.

Meanwhile, Germany’s Epigenomics AG has developed a blood-based screening test that looks for a different gene, Septin 9, to detect colon cancer. The company presented early results at a meeting in Barcelona last week indicating that the blood-based test could detect colon cancer 86 percent of the time with a 7 percent false positive rate.

Both tests could provide a cheaper screening method for patients who want a less invasive method to detect colon cancer early.

Though ACSH’s Dr. Gilbert Ross considers these preliminary results to be promising, he does not believe these tests will be able to replace colonoscopies. “Unlike colonoscopies, they can’t remove polyps during the procedure. One of the Exact Sciences’ researchers justifies a lower (64 percent) detection rate to be effective at preventing the spread of colon cancer by comparing it to the 50 percent detection rate of the Pap smear. However, colon cancer does not grow as slowly as cervical cancer. The efficacy of the stool test has been demonstrated on adenomas (pre-cancerous masses) and tumors, but it still needs to overcome the hurdle of detection in actual stool samples in order to gain FDA approval.”
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