New System Detects Tumor Cells Quickly

Last Updated: February 24, 2011.

A quantitative micro-nuclear magnetic resonance chip attached to a smart phone appears capable of quickly detecting tumor cells at a patient’s bedside, with quicker turnaround and better accuracy than immunohistochemistry, according to research published in the Feb. 23 issue of *Science Translational Medicine*.

Jered B. Haun, Ph.D., of Harvard Medical School in Boston, and colleagues analyzed small samples of biopsied tissue from 50 patients to test a quantitative micro-NMR system and compare it with immunohistochemistry for diagnosing cancer.

The researchers note that the micro-NMR system correctly identified 44 patients with malignancies, which were later verified by standard diagnostic techniques. The team determined the new system to be 96 percent accurate in establishing a cancer diagnosis, compared with 84 percent for immunohistochemistry. Further, the test yielded results in less than 60 minutes, compared with a standard three-day turnaround.

"Our quantitative point-of-care micro-NMR technique shows potential for cancer diagnosis in the clinic," the authors write.

Abstract

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