# Prof: biomarkers key to cancer care

BY TATIANA COOKE, THE DARTMOUTH STAFF
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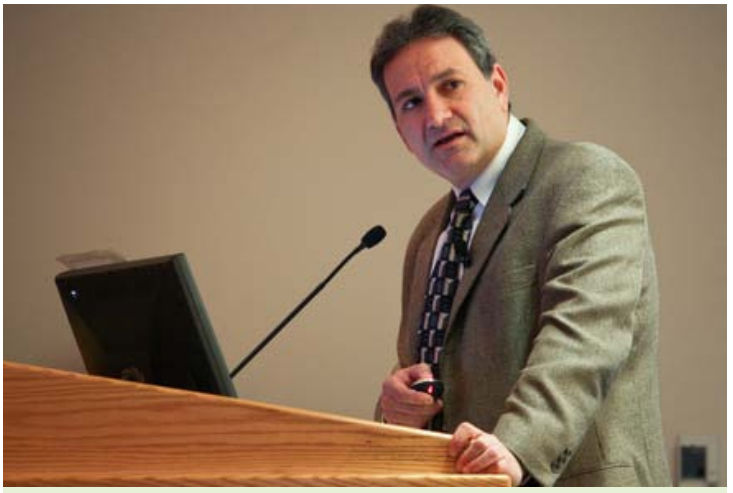
Identifying biological markers that indicate the most effective cancer treatments is central to improving patient care and lowering medical expenses, Johns Hopkins School of Medicine professor David Sidransky said in a lecture at Dartmouth-Hitchcock Medical Center on Thursday. In his standing-room only address, "Molecular Markers for Personalized Cancer Diagnosis and Therapy," Sidransky emphasized the potential of new screening tests in cancer treatment.



David Sidransky, a professor at the Johns Hopkins School of Medicine, spoke about the role of biological markers in treating cancer in a Thursday lecture.

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Sidransky explained that by examining the biomarkers, or specific biological properties, associated with a cancer, physicians are better equipped to choose the most effective treatment. The presence of the biomarker protein KRAS, for example, can indicate whether a patient will respond to treatment with the drug Erbitux.

"All of the studies showed that if you are mutant for KRAS, you won't have any response to Erbitux based therapy," Sidransky, the director head and neck cancer research at Johns Hopkins, said.

Erbitux is expensive and can be dangerous for patients who have the KRAS mutation, Sidransky said. Screening for KRAS mutations to determine if patients are resistant to Erbitux will lower treatment costs and improve general care, he said.

Identifying additional biomarkers that can predict a patient's response to certain drugs will allow physicians to optimize drug treatments, Sidransky explained, adding that tailoring drug combinations and dosages using biomarkers will help increase survival rates and decrease the cost of treatment.

"We're actively working with pharmaceutical companies to develop tests for other biomarkers," Sidransky said.

Developing new biomarkers that can be used clinically is often a lengthy process, Sidransky said. Researchers must first identify the biomarker and then perform several rounds of testing to evaluate how effectively it serves as an indication of what treatment course is relevant.

Researchers hope the process may be accelerated by recreating patients' tumors in mice using so-called "tumorgrafts," Sindransky said. Multiple drug therapies can then be tested in a human-specific environment without posing a danger to the patients themselves.

By comparing the effectiveness of different drugs across mice grafted with different tumors, researchers can determine how the genetic differences between tumors relate to their response to drug treatment.

"The bottom line is that once you completely characterize these tumors and continue to do drug testing, we think this is going to be an absolute gold mine for biomarker testing," Sidransky said.

Sidransky argued that current clinical practices do not take advantage of existing biomarker data, citing a study published by the investment bank Rodman and Renshaw.

The study, which surveyed 50 physicians, found that 88 percent of respondents were familiar with clinical data about the biomarker KRAS, but 80 percent were unfamiliar with screening techniques.

Many physicians incorrectly believe that KRAS screening must be performed by outside laboratories, Sidransky said, even though the tests can easily be conducted in the primary care setting. One type of KRAS screening test can be performed for $7, and the results can be evaluated with the naked eye, Sidransky said.

"I think it's a really unique opportunity we have right now as we develop more targeted agents to improve patient care," Sidransky said.

Sidransky was invited to Dartmouth to deliver the Inaugural Friends of Norris Cotton Cancer Center Distinguished Lecture in Cancer Science.

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