Finding Cancer in Blood



Lyudmila Bazhenova Clinical Professor, Division of Hematology Oncology, Department of Medicine

CURRENT RESEARCH

Drawing blood samples to examine cancer cells

Cancer is very difficult to treat because it constantly changes under the pressure of treatment. Therefore, it would be critical to identify what exact abnormalities are making the cancer cells grow. The typical way to study cancer is to conduct a biopsy, or removing the cancer cells from patients with a needle or surgery to examine them, but this kind of biopsy can lead to several complications and therefore is difficult to justify doing repeatedly. In order to avoid these complications and effectively simplify the process, Dr. Lyudmila Bazhenova, a Clinical Professor of Medicine at the University of California, San Diego, focuses her research on liquid biopsy and studies cancer by merely collecting a tube of blood. Using the liquid biopsy as opposed to the traditional tissue biopsy, Dr. Bazhenova hopes to see improvements in treatments and, ultimately, in survival.

Liquid biopsy allows researchers to learn about patients' cancer through a simple blood draw. In cancer patients, blood carries circulating tumor cells (CTC) and circulating cell free DNA (cfDNA). By examining these cells in the blood using a special proprietary device that helps reach only the cells needed for investigation, Dr. Bazhenova hopes to understand special mutations -- or broken genes -- that could be driving cancer to grow, especially in the lungs. Simple yet thorough, the processes involved in extracting cancer cells through liquid biopsy can be applied to all areas of cancer and result in advancements in cancer research as a

Some questions that Dr. Bazhenova is addressing include:

• Can we predict patient responses to chemotherapy by studying the cancer cells? Through clinical trials and collecting..

AFFILIATION



University of California, San Diego

EDUCATION

- Fellowship in Hematology-Oncology 2005, Scripps-Green Hospital
- Intern/Resident in 2002, UCLA VA Medical Center
- Resident, Chief Resident and Research Fellowship, Clinical Hospital #38 in 1995, Nizhny Novgorod State Medical Academy Nizhny Novgorod, Russia
- M.D. in 1994, Nizhny Novgorod State Medical Academy, Nizhny Novgorod, Russia

RESEARCH AREAS

Life Science, Oncology / Cancer, Oncology / Cancer

FUNDING REQUEST

Your contributions will support the continued research of Dr. Lyudmila Bazhenova as she develops liquid biopsy methods to study cancer cells in the blood. A single blood test at this point requires approximately \$1.5~2K, including personnel, processing, and shipping. Your donations will support the translational research of the collaborating fields of pathology, biology, mathematics, and clinical oncology, and help advance cancer research to increase the survival rate in those afflicted.

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