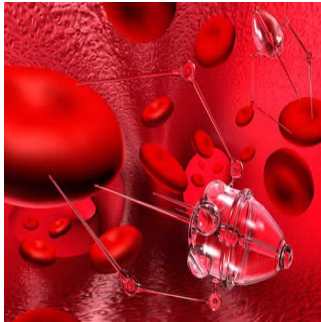

Google Developing Heart Attack And Cancer Detector



Google is currently developing a wristband that would have the ability to carry out non-invasive blood tests. The company is working on technology that can combine disease-detecting nanoparticles which could enter a patient's blood stream via a swallowed pill, with a wrist-worn sensor. The concept is that the sensor would be able to identify changes in the person's biochemistry and would act as an early warning system.

The technology is still in an early stage, but Google continues to work towards developing solutions that would help diagnose cancers, impending heart attacks or strokes and other diseases at a much earlier stage. By using such technology, it would be possible to monitor the blood for unique traces of cancer, enabling earlier diagnosis before the physical symptoms appear. Many conditions, such as pancreatic cancer, are detected after they have become untreatable and are therefore fatal.

The project is being conducted by Google X, the company's research unit that is committed to investigating potentially revolutionary innovations. According to Dr. Andrew Conrad, a molecular biologist and the project leader, "What we are trying to do is change medicine from reactive and transactional to proactive and preventative. Nanoparticles...give you the ability to explore the body at a molecular and cellular level."

Google has previously worked on glucose-measuring contact lenses for patients with diabetes and has also acquired a start-up that has developed a spoon to counteract the tremors caused by Parkinson's disease. In addition, the company has bought Calico, an anti-ageing research company, and 23andME, a company that offers personal genetic testing kits.

Google is designing a suite of nanoparticles which are intended to match markers for different conditions and could be tailored to stick to cancerous cells or a fragment of cancerous DNA. They could also find evidence of fatty plaques that are about to break free and could result in a heart attack or stroke. Another set of nanoparticles would be used to monitor chemicals in the blood.

Google X researchers are also exploring ways of using magnetism to concentrate nanoparticles temporarily in a single area. The ultimate goal is to create a wristband that would make readings of nanoparticles through light and radio waves.

According to Prof. Paul Workman, Chief Executive of the Institute of Cancer Research in London, "There is an urgent need for this. If we can detect cancer or other diseases earlier, then we can intervene with either lifestyle changes or treatment. How much of this proposal is dream versus reality is impossible to tell because it is a fascinating concept that now needs to be converted to practice."

He did highlight though that such devices will have to be carefully monitored as they could increase anxiety and lead to unnecessary treatment. However, Dr. Conrad clarified that these would be prescriptive medical devices and Google's goal is not to commercialise such technology or monetise it in any way.

Source: BBC Health

Image Credit: Spectrum.ieee.org

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