HealthManagement
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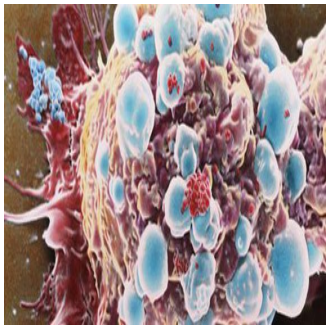
Spread of Cancer Potentially Halted by ‘Sticky Balls’



Early research suggests that cancerous tumour cells can be destroyed with sticky balls which consequently, may prevent cancer from spreading to other parts of the body.

Once a tumour begins to spread around other areas of the body, it has reached its most dangerous and deadly stage and now scientists at the US Cornell University have successfully designed nanoparticles, which stay in the bloodstream and kill migrating cancer cells on contact.

The researchers described the impact as dramatic, however they added that a lot of work remained to be done.

Lead researcher Prof Michael King explained that about 90% of cancer deaths are related to metastases. Whether a tumour has spread and evolved into a metastatic cancer remains one of the major factors in life expectancy for a patient after being diagnosed with cancer.

In a novel approach to tackle this issue, the team at Cornell attached the protein entitled ‘Trail’ (previously used in cancer trials) along with other sticky proteins, to tiny spheres or nanoparticles. They discovered that when these sticky spheres were injected into the blood, they latched on to white blood cells.

During the study, tests revealed that in the current of the bloodstream, the white blood cells would bump into any tumour cells which had broken off the main tumour and were trying to spread. As reported in ‘Proceedings of the National Academy of Sciences’, the resulting contact with the Trail protein then triggered the death of the tumour cells.

Prof King commented on the results as being quite remarkable, both in human blood and in mice. Observations of the blood flow for a duration of two hours showed that the tumour cells had literally disintegrated. According to Prof King the nanoparticles could result in tumour cells being shed from the main tumour if used before surgery or radiotherapy. They could further prove beneficial in the fight against the spread of very aggressive tumours in patients. Current evidence suggested no knock-on effects for the immune system or damage to other blood cells or the lining of blood vessels.

Prof King added however, that this was subject to much more safety testing in mice and larger animals before any attempt at a human trial was made. He cautioned that there was a lot of work to be done and with a number of breakthroughs required prior to this development being of benefit to patients.

Source and image credit: BBC News

8 January 2014

Published on : Wed, 8 Jan 2014