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Scientists from John Hopkins University find what causes the spread of cancer

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An international team led by scientists from John Hopkins University of the US has for the first time found what causes the spread of cancer and what could slow it down.

90% of cancer deaths are caused when cancer cells break off from the origin and start spreading elsewhere in the body. There are no existing drugs to stop the metastasis of cancer. Researchers found that when cancer cells get densely packed they secrete two proteins that deliver the message to other cancerous cells to go away. This causes the cancer cells to break off from the pack and float through the blood stream to other sites and start growing afresh.

Lead author who hails from Sri Lanka said “It's like waiting for a table in a severely overcrowded restaurant and then getting a message that says you need to take your appetite elsewhere,” said to Nature Communications.

Jayatilaka and her colleagues found a medication mix that kept this microscopic message from being delivered. The team members have tested the treatment in animal models, but not on human cancer patients. Nevertheless, they said the discovery contributes to a promising new focus for cancer research: disrupting the biochemical activity that prods cancer cells to spread through the body.

“The pharmaceutical companies view metastasis as a by-product of tumor growth,” said Denis Wirtz, one of the study’s senior authors who is the Director of the Physical Sciences- Oncology Center of Johns Hopkins. “Our study looked more closely at the steps that actually initiate metastasis.

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“In our eight-week experiment, when we used these two drugs together, the growth of the primary tumor itself was not stopped, but the spread of the cancer cells was significantly decreased,” Jayatilaka said. “We discovered a new signaling pathway that, when blocked, could potentially curb cancer's ability to metastasize.”