

Breakthrough in understanding spread of cancer around the body reported

March 6 2013

A new research study has investigated how cancer cells 'hijack' blood cells known as platelets, enabling cancer to spread around the body and promoting the growth of new tumours, it was reported today at the annual Royal College of Surgeons in Ireland (RCSI) Research Day.

The findings of this significant new study will inform the development of novel anti-[cancer drugs](#).

Platelet blood cells normally have a role in blood clotting. In patients with cancer, [cancer cells](#) moving around in their bloodstream act on the platelets causing them to behave abnormally. The cancer cells encourage the platelets to clot around the cancer cell, protecting the cancer cell from the body's immune system and enabling the cancer to spread to other parts of the body.

Furthermore, the cancer cells cause the clusters of platelets to establish new blood vessels. This new blood source promotes the growth of secondary (metastatic) [cancer tumours](#).

Explaining the significance of the study, senior author Professor Niamh Moran, Associate Professor in Molecular and Cellular therapeutics explained 'This is the first time that the exact [molecular mechanisms](#) at play between [prostate cancer cells](#) and platelets have been understood. It was already known that cancer patients with a higher platelet count had worse outcomes but we now know what causes this negative effect. Our study paves the way for the development of new anti-cancer treatments

that may potentially prevent the spread of cancer.'

The first author on the study was PhD student Annachiara Mitrugno who worked in collaboration with Professor Moran and Professor David Williams, Associate Professor in Geriatric and Stroke Medicine, RCSI and Beaumont Hospital, who has a special interest in platelet research.

The research was funded by the Health Research Board (HRB) Scholars programme in Diagnostics and Therapeutics for Human Disease.

Provided by Royal College of Surgeons in Ireland (RCSI)

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