P011 Microvesicles and epithelial mesenchymal transition in the development of cancer

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Microvesicles released by tumour cell lines are thought to play an important role in both extracellular matrix (ECM) invasion and evasion of the immune system. We have examined the role of MVs derived from a T cell line (Jurkat) on PNT2 cells (normal prostate cells) to see if they carry some bioactive molecules capable of inducing an epithelial to mesenchymal transition (EMT) in normal prostate cells. The link between EMT and malignancy has been well documented in almost all carcinomas of epithelial origin. However, to understand the mechanism by which MVs may induce this and to show the factors carried by MVs, further tests including invasion assays, angiogenesis and apoptotic assays as well as proteomic analyses will be needed. By microscopic analysis, PNT2 cells, which are of epithelial origin, treated with Jurkat MVs, showed some morphological changes. They become elongated, motile and morphologically mesenchymal-like as previously documented. The molecular changes were confirmed by immunohistochemical techniques using the fluorescencent microscope and flow cytometer. The experimental (MV-treated cells) compared to control (untreated cells) expressed high levels of mesenchymal markers such as Vimentin and low levels of epithelial markers such as E-Cadherin. Proteins from PNT2 control cells and MV- treated cells were profiled by SDS- PAGE, MV-treated cells showing a band around 13 kDa, which is currently being identified by mass spectrometry.