**Image analysis for monitoring in vitro migration of feline oral squamous cell carcinoma cells**

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Feline oral squamous cell carcinoma (FOSCC) is the most common oral malignancy in cats and is highly malignant and invasive. Poor prognosis and local invasion into the jaw bones or tongue are major factors in owners electing for euthanasia. Cranberries have components that demonstrate anti-migration and anti-invasion properties in human oral squamous cell carcinoma cell lines. The aim of this study is to see if cranberry extract is effective in slowing FOSCC cell migration. A migration assay was performed with 3 FOSCC cell lines – SCCF1, SCCF2, SCCF3 – and with varying concentrations of crude cranberry extract. A migration assay involves making a 'scratch', or 'gap', in a monolayer of tumour cells in a tissue culture plate and measuring the rate of cells migrating into the defect and closing the gap. The migration assay was photographed daily. This study focuses on the image analysis performed using an opensource program called Fiji (based on ImageJ2). The dimensions of the defect are measured at the onset of the experiment and at 24 and 48 hours of culture. Studying the effect of crude cranberry extract on FOSCC migration will help determine the potential of cranberry extract for the treatment for FOSCC. Furthermore, optimizing the migration assay technique for FOSCC cells will make this cancer research tool available for other FOSCC studies.

Research Grant: Natural Sciences, Engineering and Research Council of Canada (RGPIN-2019-06898, PI: C.Martin)

Student Support: Natural Sciences, Engineering and Research Council of Canada