

Anti-Proliferative activity of *Commelina spp* on Wil-2 NS lymphocytes.

Mokgotho M .P., Lebogo K. W., Matsebatlela T. M., Mbazima V. G., Mampuru L. J.

Biochemistry Discipline, University of the North, P/bag 1106, Sovenga, 0727, Limpopo Province, South Africa

Cancer prevention and treatment using traditional remedies have attracted increasing interest. This study demonstrates and characterizes the anti-proliferative activities of traditional medicinal plant *Commelina spp*, which has been in use for many years to treat skin ulcers and skin lumps. The plant was exhaustively extracted with absolute acetone at room temperature for 5 hours and the crude extract obtained was further sub-fractionated with n-Hexane to obtain fraction 1 (F1) and with Dichloromethane to obtain fraction 2 (F2). We report here that both F1 and F2 inhibited the growth of Wil-2 NS cells in a dose- (0-200g/ml) and time-dependent manner. The observed growth-inhibitory effects were demonstrated to be associated with the process of apoptosis as determined by acridine orange/ethidium bromide (AES) dual stain method. Furthermore, morphological characterization indicative of apoptosis was confirmed by chromatin condensation, cell shrinkage, formation of apoptotic bodies and membrane blebbing, as shown by light and electron (TEM and SEM) microscopy. The data strongly suggest that fractions of *Commelina spp*. have growth-inhibitory activities against Wil-2 NS cells and may do so against other malignant growths. Further studies are in progress to establish the actual molecular and biochemical mechanism(s) responsible for the growth-suppressive effects of this medicinal plant.