PP5 - ASSESSING THE *IN VIVO* EFFECTS OF *PTERIDIUM AQUILINUM* EXTRACT IN K14-HPV16 TRANSGENIC MICE

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Pteridium aquilinum, commonly known as bracken fern, is a versatile plant species that thrive in diverse environmental conditions and has a global distribution. However, it possesses toxic properties that can lead to various diseases in animals. The consumption of bracken fern has been associated with the development of gastrointestinal and bladder tumours, thiamine deficiency, retinal degeneration, and haemorrhagic diathesis. Ingestion of this plant by cattle can result in leukopenia (reduced white blood cell count) and thrombocytopenia (decreased platelet count). This study aimed to assess the haematological parameters of mice that were genetically modified to carry the human papillomavirus type 16 (HPV16) oncogenes and exposed to an extract of *Pteridium aquilinum* through their drinking water. This study received authorization from UTAD's Animal Welfare and Ethics Body (ORBEA) and Directorate General for Food and Veterinary (DGAV) (014139). We utilized 30 female mice and the *Pteridium aquilinum* extract was provided at concentrations of 0.0125g/ml, 0.025g/ml, and 0.05g/ml. The mice were divided into six groups (G1 to G6, n=5): G1 ($HPV16^{-/-}$, control), G2 ($HPV16^{-/-}$, 0.05g/ml), G3 ($HPV16^{+/-}$, control), G4 ($HPV16^{+/-}$, 0.0125g/ml), G5 ($HPV16^{+/-}$, 0.025g/ml) and G6 ($HPV16^{+/-}$, 0.05g/ml). Throughout the 28-day study, we recorded the mice's body mass, food intake, and water consumption. At the end of the study, we euthanized the animals and collected blood samples. Regarding weight gain, G2 was statistically superior ($p<0.05$) to G6, which received the highest concentration of extract (0.05g/ml). Overall, transgenic animals in groups G3, G4, G5, and G6 consumed more water and extract than their counterparts in other groups. The transgenic animals in G4, G5, and G6 consumed more food compared to other groups. The haematocrit was higher in groups that consumed the extract. Regarding haemoglobin, erythrocytes, leukocytes, lymphocytes, and platelets, the transgenic groups showed higher values compared to controls. The increase of the mentioned parameters may reflect the presence of HPV16 transgenes aggravated by the extract. However, more studies are being processed to better understand the relationship between the extract and HPV16.

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