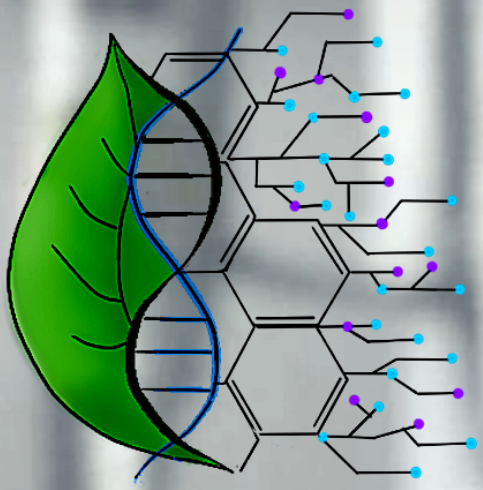

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Index

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Morphometric measurements in HPV-transgenic mice after topical application of *Cytinus hypocistis* (L.) extract

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Human papillomavirus (HPV) infections are associated with the development of several anogenital cancers. K14HPV16 transgenic model is an animal model that mimics HPV-induced lesions. *Cytinus hypocistis* (L.) is an endophytic parasitic plant that has been shown to possess several antibacterial and antiproliferative properties1. During antiproliferative studies in animal models, the toxicological analysis is also required. Therefore, the present research aims to study the toxic effects of applying a topical formulation enriched with *Cytinus hypocistis* extracts (FCH) on K14HPV16 mice.

Three different concentrations of FCH were used to enrich a base cream, the phenolic compounds were analyzed by HPLC-DAD-ESI/MS and were applied to the animal's ears for 28 days. Thirty female mice were equally divided into six groups (G) (n=5): G1 (HPV16+-C1); G2 (HPV16+-C2); G3 (HPV16+-C3); G4 (HPV-C3); G5 (HPV+-control); and G6 (HPV-control). The animals were kept under controlled conditions and biological variables were registered throughout the study. In the end, animals were sacrificed, and the organs collected and weighed.

The main phenolic compound present in the base cream enriched with *C. hypocistis* was galloyl-bis-HHDP-glucose. Food and water intake were constant throughout the trial. G3 presented a higher relative weight of the liver and lungs than the control animals, and a significant difference in body weight relatively to G4 ($p<0.05$). The body weight loss and the increase in liver weight observed in HPV+ mice treated with they may reflect a negative impact of the extract on these already fragile animals. However, overall, the FCH was well tolerated by the animals.

Although the highest concentration of the extract had a negative impact on the evaluated morphometric parameters, this does not necessarily imply that the extract is toxic, which can be corroborated with histological analysis. Further studies are needed to understand whether different doses of this extract would cause distinct effects.

References:

1. Silva AR, *et al.*,(2020). Food and Chemical Toxicology, 136, 111071.

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