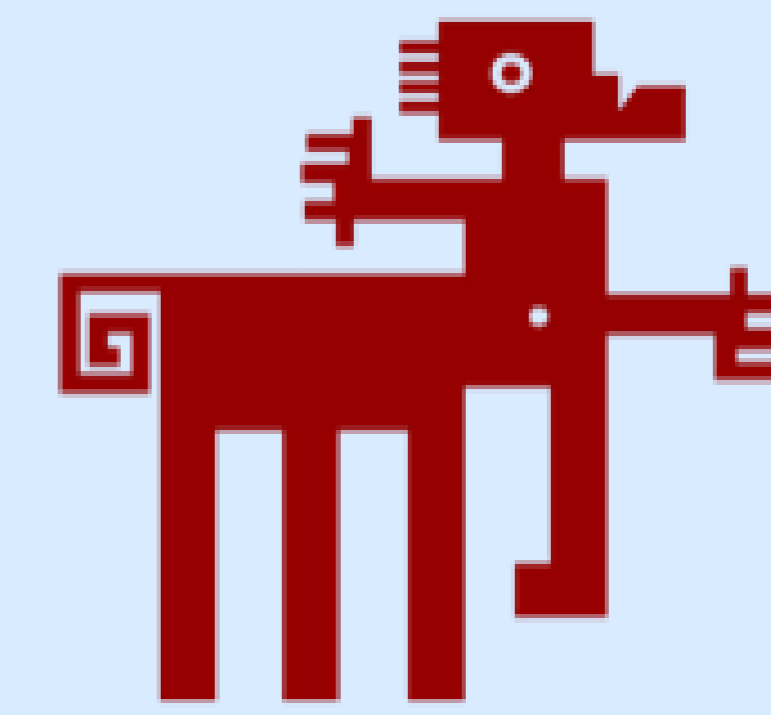


Immunohistochemical detection of p16 protein in canine and feline papilloma virus induced skin lesions

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June 2023



P16 is a protein that participates in the control of cell proliferation and apoptosis. Several studies have demonstrated that this protein accumulates in papillomavirus-infected cells. Therefore, in human medicine, p16 protein accumulation detected through immunohistochemistry, is regarded as a reliable surrogate marker for infection by human papillomavirus. P16 accumulation has also been detected in feline papillomavirus infections, specially Bowenoid *in situ* squamous cell carcinomas. However, its accumulation in canine papillomavirus-induced lesions has not been reported.

OBJECTIVES AND HYPOTHESIS

The objective of this TFG is to develop an immunohistochemical technique for detecting p16 protein in canine and feline papillomas and pigmented viral plaques.

The hypothesis is that the p16 protein is accumulated in proliferative papillomavirus-induced epithelial lesions of the canine skin, as observed in other species.

RESULTS

Type of lesion	Specie	Positive/Negative
Exophytic cutaneous papilloma	Canine	+
Exophytic cutaneous papilloma	Canine	+
Inverted papilloma	Canine	-
Pigmented viral plaques	Canine	-
Viral plaques (B)	Canine	+
Viral plaques (C)	Canine	+
Viral plaques (B)	Feline	-
Viral plaques (C)	Feline	-
Squamous cell carcinoma (A)	Feline	+
Squamous cell carcinoma (B)	Feline	+

Table 1. Materials and results of the study

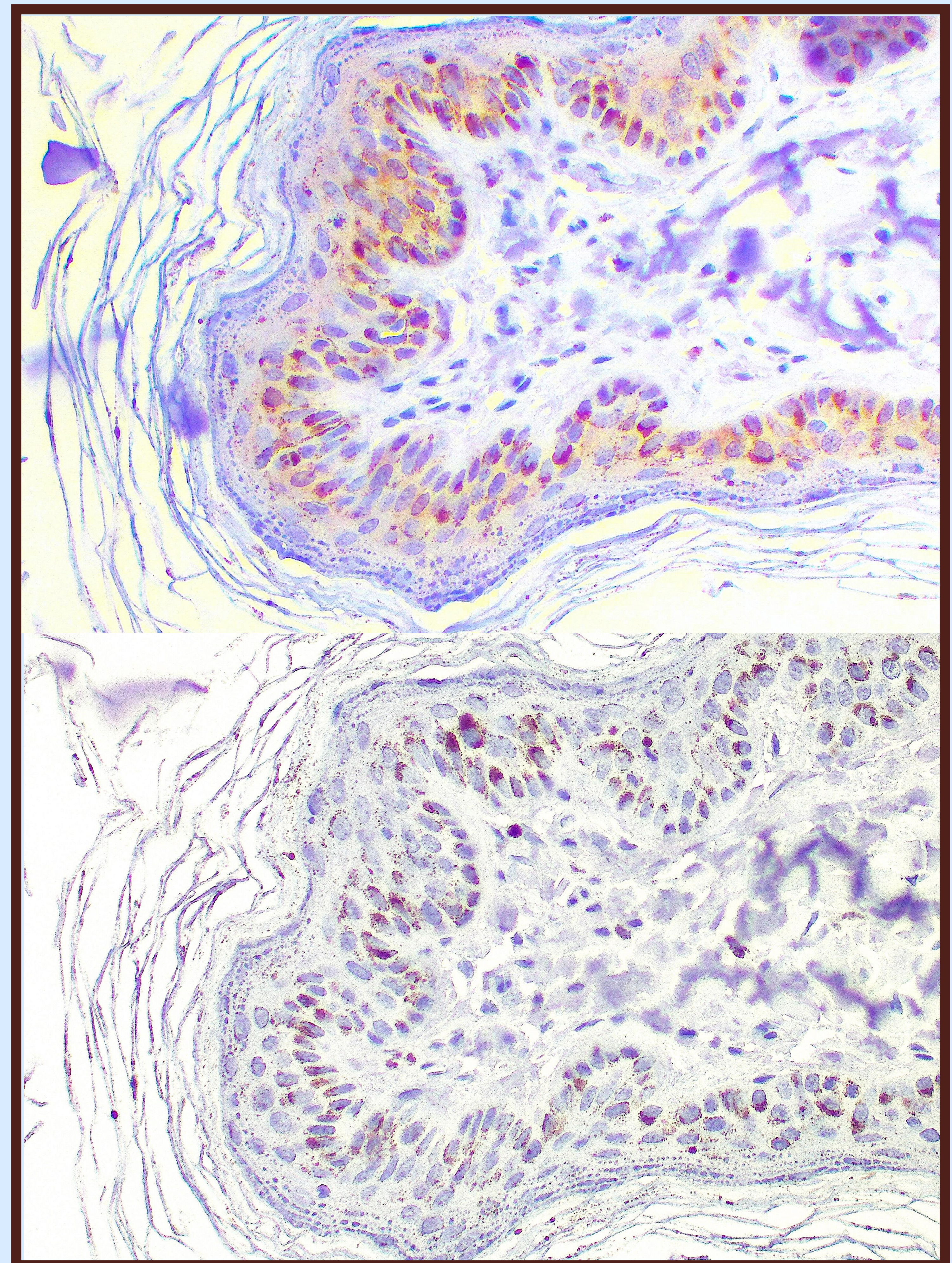


Figure 1. Immunohistochemical detection of p16 in a canine pigmented viral plaque. Up:, section incubated with the specific anti-p16 antibody (positive reaction). Down: same section incubated without the primary anti-p16 antibody (absence of staining).

CONCLUSIONS

1. The developed immunohistochemical technique works consistently for the detection of p16 protein in formalin-fixed and paraffin-fixed canine and feline tissue samples. Overexpression of p16 has been detected for the first time in canine pigmented viral plaques (but not in felines viral plaques) and in canine exophytic papillomas.
2. Overexpression appears to be associated with epidermal hyperplasia. However, to assess the real utility of this technique, it is necessary to carry out a larger study, which includes more samples.