It's a wart! A case report of papillomatosis in snakes and general considerations on the management of papillomatosis in reptiles

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IT'S A WART! A CASE REPORT OF PAPILLOMATOSIS IN SNAKES AND
GENERAL CONSIDERATIONS ON THE MANAGEMENT OF PAPILLOMATOSIS
IN REPTILES

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Summary

It was possible to demonstrate papillomavirus DNA with a broad range PCR from skin biopsies of
a diamond python (Morelia spilota spilota) with nodulous skin alterations. Epidemiology and cli-
nical manifestation of reptile papillomatosis are suspected to be similar to papillomas in mammals.

Introduction

Papillomaviruses cause warts or papillomas in a wide range of species. In reptiles, several cases of
papillomatosis have been described. Virus particles have been demonstrated with transmission elec-
tron microscopy in lizards (COOPER et al., 1982) and chelonians (JACOBSON et al., 1982) and whole
papillomavirus genomes have been obtained from latter as well (HERBST et al., 2009). Still, to the
knowledge of the authors, papillomaviruses have not yet been demonstrated in snakes. On the basis
of the following report of a case of skin papillomatosis in a diamond python (Morelia spilota spilota),
the diagnostic procedure and management in a case of suspected papillomatosis in a reptile is de-
scribed.

Case report

A 4 year old male diamond python (885 g) was presented with black nodulous skin alterations (ap-
proximately 3 mm in diameter), increased amount of mucus in the oral cavity and dyspnoea. Histology
of skin biopsies led to the diagnosis of a papilloma-like neoplasia or a basal cell tumour. The respira-
tory signs led to the presumptive diagnosis of pneumonia, which was successfully treated with intra-
muscular marbofloxacin 5 mg/kg (Marbocyl® FD, Vétoquinol SA, 70204 Lure, France) for 10 days.
Ten months after the first presentation, the skin lesions had regressed almost completely. Further skin
biopsies were taken, and it was possible to amplify papillomavirus DNA with a broad range DNA
FAP59/FAP64 PCR (FORSlund et al., 1999). To confirm the papillomavirus nature, the PCR product
was extracted, sequenced and compared with known papillomaviruses of the NCBI database (BlastX).
The owner reported that another diamond python from the same collection, which had been sold to
another private keeper, showed similar skin lesions with subsequent spontaneous regression.
Discussion

The interesting question is how the diamond python acquired the virus. The 2 affected snakes were siblings, and the owner had bred these snakes in the 4th generation originating from 6 wild-caught animals. To that date, no signs of papillomavirus had been detected in these animals. In mammals, transmission of papillomavirus may be horizontally (by direct contact or contaminated material) or vertically. For reptiles the epidemiology is not known, but it could be hypothesised that the wild-caught parents might have been already carrier of the virus. Several reports of reptiles affected with papillomavirus are related to wild-caught animals. The reasons that trigger clinical manifestation of the disease are not known but could include concomitant stress or disease (e.g. pneumonia in the present case). Alternatively, horizontal infection of the diamond python cannot be excluded, although there is no indication for a potential source in the anamnesis. In mammals, most papillomas are self-limiting and seldom cause clinical problems, yet some may undergo malignant transformation (SUNDBERG et al., 2001). In the present case the papillomas were completely resolved after 12 months without treatment.

References


