P–07; ***MASTOMYS COUCHA*: A NATURAL ANIMAL MODEL FOR PAPILLOMAVIRUS-INDUCED SKIN CARCINOGENESIS**

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Background: Epidemiological and molecular studies suggest a causal involvement of infections with cutaneous HPV types in skin carcinogenesis, notably in immunosuppressed or genetically predisposed patients. The high incidence for multiple wart formation and skin cancer in these individuals requires an appropriate animal model system to investigate latent papillomavirus reactivation as well as the development of a vaccine to apply prior to immune suppression.

Methods: The rodent *Mastomys coucha* is latently infected with *Mastomys natalensis* papilloma virus (MnPV). These animals are unique in spontaneously developing multiple benign skin tumors such as papillomas and keratoacanthomas, for which MnPV is the etiological agent.

Results: Previous studies demonstrated that MnPV persistence and viral load correlate with the development of skin tumors, thus viral DNA and the virion itself can be found in these lesions. Moreover, MnPV infection is evidently not restricted to the epidermis but can be also detected in inner organs suggesting that this virus has broader tissue specificity than other papillomaviruses. We recently discovered a novel virus, *Mastomys coucha* papilloma virus 2 (McPV2), which is the first described animal papillomavirus inducing anogenital lesions in its natural host. McPV2 has a similar tropism as MnPV but is apparently less abundant in our colony. To reveal immunological events during infection a variety of animals was tested for infectious state and serological response to both viruses. We found a strong correlation between high viral copies and PV-specific antibodies and interestingly high antibody titers were predominantly seen in tumor-bearing animals.

Conclusion: *Mastomys coucha* represents an excellent animal model to study virus-induced skin carcinogenesis and may also serve as an *in vivo* system to identify the potential pathological impact of still unknown target cells. Moreover, we produced virus-like particles for a prophylactic vaccination which will be used to immunize young animals in order to prevent PV-induced tumors of the skin.