PATHOGENICITY OF A CAMELPOX VIRUS STRAIN FROM KENYA ON CAMELS (CAMELUS DROMEDARIUS)

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PATHOGENICITE D'UNE SOUCHE VIRALE DE LA VARIOLE CAMELINE DU KENYA SUR LES DROMADAIRES (CAMELUS DROMEDARIUS)

Résumé
Le virus de la variole cameline a été isolé lors d'une épidémie qui a infecté des dromadaires adultes. Le virus de la variole cameline s'est propagé dans les cellules des reins de dromadaire et il était par la suite inoculé par scarification à dix dromadaires séronegatifs. Le développement de la lésion commençait avec le rougeissement et la tuméfaction le 3ème jour, puis la lésion atteignait les vésicules le 4ème jour et formait des pustules le 5ème jour. Les pustules éclataient pour former des croûtes entre le 7ème et le 10ème jour. La grandeur et la gravité de la lésion augmentaient avec le temps pour atteindre un maximum le 10ème jour. Le virus de la variole cameline a encore été isolé de certains dromadaires le 10ème jour. L'anticorps neutralisant augmentait progressivement pour atteindre un maximum le 20ème jour. La réaction à la dose linéaire pouvait être utilisée comme un modèle d'évaluation de la variole cameline.

Summary
Camelpox virus was obtained from a field outbreak involving adult camels. The camelpox virus was propagated on sheep kidney cells and then inoculated by scarification into ten seronegative camels. Lesion development started with reddening and swelling on the third day developing to vesi- cles on day four and to pustules by day five. The pustules ruptured forming scabs on the seventh to tenth day. The lesion size and severity increased with time to a maximum on day 10. Camelpox virus could be re-isolated from some of the camels by day 10. Neutralizing antibody rose steadily to maximum on day 20. The linear dose response could be used as a camelpox evaluation model.

Introduction
Camelpox virus has a narrow host range causing disease only in camels, (1,2,3) rhesus monkeys and man (4,5) and no disease in many laboratory animals(6,6). Different strains of camelpox virus are also said to have variable pathogenicity in camels with mortalities ranging from 10 to 50%(7). While some camelpox infections are restricted to the head and muzzle region, sometimes there are severe forms, accompanied by fever, generalized pustules on the body and higher mortality rates(7,8).

There are few reports on camelpox vaccine development. Recently, two reports of attenuated camelpox trials have been reported(8,10). Bedouin camel herders are said to protect their stock by rubbing a suspension of pox crusts in milk into the scarified labial surface of the calves(11) and a similar technique is reported to be practised in India(8). In Russia, a camelpox vaccine is reported available(12). In this study, the pathogenicity of camelpox virus in camels is examined.

A camelpox strain isolated from camels with mild pox lesions in Turkana was propagated on sheep kidney cell cultures and then inoculated into ten experimental camels. The lesion development and antibody profile were then followed.

Materials and Methods

Cell cultures
Lamb kidney cell cultures were prepared by trypsin dispersion of kidney cortex tissue from healthy foetal lambs. Cell cultures were grown