EXPERIMENTAL INFECTION OF SQUIRRELS *SCIURUS VULGARIS* BY MONKEY POX VIRUS

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Monkey pox virus was isolated from a wild African squirrel *Funisciurus anerythrus* (*1, 2*). This finding was confirmed by detection of antibodies to this virus in 24.7 % of the squirrels *Funisciurus anerythrus* and 16.2 % of squirrels *Heliosciurus rufobrachium* suggesting that these animals were the natural reservoir of monkey pox virus. It seemed of interest to determine whether squirrels are sensitive to experimental infection.

For this purpose adult squirrels *Sciurus vulgaris* of both sexes weighing about 300 g were kept in quarantine for 1 month in the Moscow Zoo. Then the squirrels were infected with the monkey pox virus (strain Z-249) isolated from a wild African squirrel by intranasal route in the dose of 10^6 PoFU, by oral route and/or on the scarified skin 5 × 5 mm area in the same dose.

A rise in temperature was observed in the animals as early as 1 day p.i., on days 3 to 5 they became limpy, barely moving and they stopped eating; later on dyspnea appeared. The signs of the disease developed most rapidly in the animals infected intranasally or orally, the process was slower in the animals infected on the scarified skin, which did not develop dyspnea. No skin lesions were observed. All animals died on days 7 or 8 p.i. regardless of the infection route. Autopsy revealed intestinal distention and pneumonia (foci of consolidation). The virus was found in high concentration in the visceral organs and in the nasal discharge (Table).

These data indicate that squirrels are highly susceptible to monkey pox virus which can cause acute illness in these animals as a result of different inoculation routes.

Infection route	No. of animals	Virus titres** in the organs					
		lungs	liver	kidneys	spleen	oesophagus	nasal discharge
Intranasally	2/2*	10^6	10^6	10^6	10^6	10^6	8×10^2
Orally	1/1	10^6	10^6	10^6	10^6	10^6	7.8×10^2
Onto scarified skin	1/1	10^6	10^6	10^6	10^6	10^6	7×10^2

* dead/infected

** pock-forming units on chick embryo chorioallantoic membrane (PFU/ml)

References

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