Experimental pneumonitis and encephalitis caused by acanthamoeba in mice: pathogenesis and ultrastructural features.

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**Abstract**

For a more precise definition of the clinicopathological features of experimental acanthamoebic infection in mice, trophozoites of Acanthamoeba castellanii and Acanthamoeba polyphaga were instilled intranasally into adult white mice. Eight to 20 days after inoculation, severe pulmonary disease developed; one to two days later, neurological signs ensued. On pathologic examination an amebic broncho-pneumonia associated with encephalitis was found. Trophozoites and cysts were seen in lung and brain. Although Naegleria is spread by the olfactory route, cerebral lesions produced by Acanthamoeba might result principally from hematogenous carriage from the lungs. Other differences between infections caused by Naegleria and those caused by Acanthamoeba in mice also exist and serve to emphasize that when natural infections with Acanthamoeba occur, a distinct clinicopathological entity may be produced.

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