Aluminium adjuvant disease in sheep (ovine ASIA syndrome): Implications for human vaccination

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Aluminium (Al)-containing adjuvants are widely used in vaccines applied to animals and humans since they promote an unmatched immune response against antigens. The mechanisms for this response are only partially known even though Al adjuvants have been used for almost ninety years. Studies on the role of these adjuvants in sheep have demonstrated constant formation of long-lasting granulomas after inoculation, translocation of Al to the regional lymph and the CNS, induction of danger signals and activation of the immune system, along with inducing profound behavioural changes.

These studies attempts to explain a sheep disease using an ovine model, but results may have a wider impact. Formation of granulomas has been described in human and other mammals and -as in sheep- perhaps they are not occasional side effects but constant inflammatory reactions after vaccination, capable of changing the patient’s health status from healthy to sick. Other implications will be further discussed.


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