学 位 論 文 要 旨

博士課程 第 1 号 月	. 名	HABIBI WAZIR AHMAD
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[論文題名]

"Experimental induction of chicken amyloid A amyloidosis in white layer chickens by inoculation with inactivated vaccines"

(不活化ワクチン接種による白色産卵鶏の AA アミロイド症に関する実験的研究) Journal of Avian Pathology, 46(5):497-505.

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[要 旨]

We investigated the amyloidogenic potential of inactivated vaccines and the localized production of serum amyloid A (SAA) at the injection site in white layer chickens. Hens in the treated group were injected intramuscularly three times with high doses of inactivated oil-emulsion Salmonella Enteritidis vaccine and multivalent viral and bacterial inactivated oil-emulsion vaccines at two-week intervals. Chickens in the control group did not receive any inoculum. In the treated group, emaciation and granulomas were present, while several chickens died between 4 and 6 weeks after the first injection. Hepatomegaly was seen at necropsy, and the liver parenchyma showed inconsistent discolouration with patchy green to yellowish-brown areas, or sometimes red-brown areas with haemorrhage. Amyloid deposition in the liver, spleen, duodenum, and at injection sites was demonstrated using haematoxylin and eosin staining, Congo red, and immunohistochemistry. The incidence of chicken amyloid A (AA) amyloidosis was 47% (28 of 60) in the treated group. In addition, RT-PCR was used to identify chicken SAA mRNA expression in the liver and at the injection sites. Furthermore, SAA mRNA was detected by in situ hybridization in fibroblasts at the injection sites, and also in hepatocytes. We believe that this is the first report of the experimental induction of systemic AA amyloidosis in white layer chickens following repeated inoculation with inactivated vaccines without the administration of amyloid fibrils or other amyloid-enhancing factors.