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DERMATITIS ASSOCIATED WITH *ESCHERICHIA COLI* IN BROILERS

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The aim of this study includes 1) the examination of field cases and 2) experimental reproduction of dermatitis and swollen-head syndrome (SHS), which is considered to be the same as the lesion of dermatitis associated with involvement of *Escherichia (E.) coli.*

1) Representative samples of skin were obtained from a total of 35 broiler chickens for histopathological examination. Of these, 25 cases were considered to be lesions of dermatitis while 10 cases were considered to be lesions of SHS. Microscopically, the skin lesions were classified as follows : a) only exudative deep dermatitis (EDD) on the thigh, ventral abdomen and thoracic area (17 cases), b) scabby-hip dermatitis with EDD on the thigh, ventral abdomen and thoracic aera (8 cases), and c) lesions of SHS (10 cases).

2) SPF chickens were experimentally infected with *E. coli* to elucidate the pathogenesis of dermatitis. The reproduction of focal dermatitis by intracutaneous injection with *E. coli* was successful. Both EDD and scabby-hip dermatitis with EDD developed in the skin, mimicking those observed in natural cases.

The pathogenesis of these skin lesions is obscure though *E. coli* was isolated from some of the natural cases. It can be surmised that both EDD and scabby-hip dermatitis may result from secondary *E. coli* infection of feather follicles following trauma or loss of feathers. Other predisposing factors include the density of broilers kept on farms, poor sanitation in cages, and unhygienic keeping of broilers. Increased density of broilers not only results in breakage and loss of feathers but also prevents opportunities for pecking and cannibalism with subsequent secondary bacterial infection. Based on the pathological and bacteriological findings, SHS can be included into the category of EDD.