Dawrung Sila-on 2007: Study on the Relation of White Spotted Kidneys and Leptospires Infection in Cattle. Master of Science (Veterinary Anatomy), Major Field: Veterinary Anatomy, Department of Anatomy. Thesis Advisor: Associate Professor Somchai Pongjunyakul, Dip. in Vet. Pathology, F.R.V.C.S. 73 pages.

Samples of white spotted kidney, blood, serum and urine of 26 cattle from slaughter house were collected for Histopathological examination, Microscopic agglutination test (MAT), Hematological assay and Leptospiral culture. All kidney samples from 26 cattle were found chronic interstitial nephritis. Silver impregnation staining were negative in all samples. Microscopic agglutination test of serums at titer of 1:50 and 1:100 were positive to leptospires 16 (61.53%) samples and negative to leptospires 10(38.47%) samples. The 15 positive samples at titer 1:50 to *L.ranarum*, *L.shermani*, *L.sejroe*, *L.tarasovi*, *L.hebdomadis*, *L.cynopteri* and *L.mini* were 11, 7, 4, 3, 1, 1 and 1 samples, respectively. The 7 samples at titer 1:100 to *L.ranarum*, *L.tarasovi*, *L.hebdomadis*, *L.shermani* and *L.sejroe* were 4, 3, 3, 3 and 2 samples, respectively. Leptospiral culture of 16 samples with MAT positive were found leptospires in 1 samples. Hematological assay of MAT positive 10(62.5%) samples were found high white blood cell count. Differential count were found monocytosis, lymphocytosis and neutrophilia in 8, 7 and 7 samples, respectively. The result show that white spotted kidney did not always infected by leptospires but may be caused by other pathogens.

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