台灣原住民部落生活環境中動物寄生蟲感染與居民健康相關性之研究

A study of the relationships between parasitic infections among enviromental animals and health of aboriginal tribes in Taiwan

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摘要

目的：本研究的主旨乃在研究台灣原住民部落生活環境中動物寄生蟲感染與居民健康相關性。材料與方法：本調查從 1997-2000 年以隨機採樣方式陸續展開，針對台灣東部地區(宜蘭縣南澳鄉；台東縣金峰鄉：正興村、嘉蘭村、新興村、賓茂村及歷坵村；台東縣海端鄉；台東縣達仁鄉；台東縣大武鄉及花蓮海岸山脈等地區)原住民部落生活環境中動物與所狩獵的動物之血液和腸道進行寄生蟲檢測。血液方面：包括家犬(114 例)、貓(2 例)、老鼠(12 例)、鴿子(17 例)、台灣山羊(3 例)、蝙蝠(1 例)、野豬(3 例)、飛鼠(8 例)之血液檢體共計 160 例。腸道方面：犬(20 例)、老鼠(12 例)、鴿子(30 例)、天竺鼠(3 例)、台灣山羊(2 例)、野豬(4 例)、飛鼠(8 例)等檢體共計 79 例。結果：生活環境中犬感染弓蟲、心絲蟲、肝孢子原蟲、鉤蟲、蛔蟲、鞭蟲的比率分別爲 21.9%(25/114)、6.1%(7/114)、1.8%(2/114)、35.0%(7/20)、20.0%(4/20)、5.0%(1/20)。鴿子之血變形蟲感染率爲 41.2%(7/17)。老鼠巴貝原蟲之感染率爲 41.7%(5/12)。老鼠之鉤蟲、糞小桿線蟲、條蟲感染率分別爲 16.7%(2/12)、25.0%(3/12)、25.0%(3/12)，糞小桿線蟲與條蟲混合感染率爲 8.3%(1/12)。台灣山羊乳頭糞桿線蟲感染率爲 50.0%(1/2)。天竺鼠糞桿線蟲感染的比率則爲 33.3% (1/3)。至於狩獵動物中所採集到的血液檢體計有野豬、飛鼠 2 種。於野豬中，弓蟲與絲蟲的感染率各爲 33.3%(1/3)。在腸道方面，檢出寄生蟲之比率分別爲 75.0%、100.0%，而其個別之寄生蟲感染率分別爲，台灣野豬：蛔蟲、鞭蟲、糞桿線蟲及豬紅色胃蟲均爲 50.0%(2/4)，類圓豬胃蟲爲 25.0 %(1/4)；飛鼠之寄生蟲感染率則分別爲鞭蟲 25.0%(2/8)、蟯蟲 87.5%(7/8)、球蟲 75.0%(6/8)、糞桿線蟲 50.0%(4/8)及鉤蟲 37.8%(3/8)。在重覆感染方面，野豬同時感染二種寄生蟲的比率爲 25.0%(1/4)、感染三種寄生蟲爲 25.0%(1/4)、感染四種寄生蟲爲 25.0%(1/4)。飛鼠方面：感染二種寄生蟲的比率爲 50.0%(4/8)、感染三種寄生蟲爲 25.0%(2/8)、感染四種寄生蟲爲 25.0%(2/8)。結論：本調查是採漸進

性資料累積和配合現行所知研究地點、檢驗調查結果，來建立台灣本土原住民部落區域內動物寄生蟲相關之文獻資料庫。日後若與地理資訊系統(Geography Information System)檔案相互連接，或可作爲原住民部落人畜共通傳染病、公共衛生、流行病學、疫情即時監控和預防醫學之參考，進而改善原住民的衛生教育及降低因寄生蟲感染所誘發的其他疾病或感染。(慈濟醫學 2001; 13:161-168)

Abstract

Objectives: This study described parasitic infections in environmental animals living near Taiwanese aboriginal tribes. Materials and Methods: From 1997 to 2000, 160 blood samples (dogs 114; cats 2; mice 12; pigeons 17; goats 3; bat 1; wild boars 3 and flying squirrels 8) and 79 stool samples (dogs 20; mice 12; pigeons 30; guinea pigs 3; goats 2; wild boars 4 and flying squirrels 8) were periodically collected from animals living with and hunted by aboriginal people of 5 townships in Taiwan (Nan Au township in Yi Lan county; Hai Duan township in Tai Tung; Da Jen township in Tai Tung; Da Wu township in Tai Tung; Coastal mountains of Hua Lian county). Results: Dogs living with people showed that infection rates with Toxoplasma gondii, Dirofilaria immitis, Hepatazoon canis, Ancylostoma spp., Toxocara canis and Trichuris vulpis were 21.9%(25/114), 6.1%(7/114), 1.8%(2/114), 35.0% (7/20), 20.0%(4/20), and 5.0%(1/20), respectively. Meanwhile, the Haemoproteus spp. Rate in pigeons was 41.2%(7/17) and the Babesia spp. rate in mice was 41.7%(5/12). Results from mouse stools showed that infection rates with Ancylostoma spp., Strongyloides ratti and Diphyllobothrium spp. were 16.7%(2/12), 25.0%(3/12), and 25.0%(3/12), respectively. The multi-infection rates with Strongyloides ratti and Diphyllobothrium spp. were 8.3% (1/12), and 25.0% (3/12). The Strongyloides papillosus rate in goats was 50.0%(1/2). The Strongyloides ratti rate in guinea pigs was 33.3% (1/3). There were only 2 blood samples from wild boars and flying squirrels. The infection rate with both Toxoplasma gondii and Suifilaris suis in wild boars was 33.3%(1/3). The total parasitic infection rate was 75.0% and 100.0% in stool samples. The results from wild boars showed that the infection rates 50.0% (2/4) for Ascaris suum, Trichuris suis, Strongyloides ransomi and Hyostrongylus rubidus and 25.0 % (1/4) for Ascarops strongylina was. The investigation of flying squirrels showed the infection rates with Trichuris spp., Syphacia spp., Coccidia spp., Strongyloides ratti and Nippostrongylus muris were 25.0%(2/8), 87.5%(7/8), 75.0%(6/8), 50.0%(4/8), and 37.5%(3/8), respectively. The rates of multi- infection with 2, 3 and 4 parasites in wild boars were 25.0%(1/4). The rates of multi- infection with 2, 3 and 4 parasites in flying squirrels were 50.0%(4/8), 25.0%(2/8), and 25.0%(2/8), respectively. Conclusions: In this investigation, the data was accumulated progressively and matched with the current study location. The main purpose to establish parasitic data animals in aboriginal tribal areas in Taiwan and it is expected to link with the Geography Information System. Then, infectious diseases, public health, epidemiology and epidemic situations in humans and animals in aboriginal tribes can be

monitored and controlled more quickly. The hygiene education of the tribes can be improved and the parasitic disease induced by other diseases can also be reduced. (Tzu Chi Med J 2001; 13:161-168)