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Clinical features of three patients with paradoxical immune reconstitution inflammatory syndrome associated with *Talaromyces marneffe* infection

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ABSTRACT

Talaromyces marneffe infection is a major cause of death in HIV-infected individuals in South and Southeast Asia. Talaromycosis immune reconstitution inflammatory syndrome has not been well described. Here we report the clinical features, management, and outcomes of three HIV-infected patients with talaromycosis-associated paradoxical immune reconstitution inflammatory syndrome in Ho Chi Minh City, Vietnam.

Key words: *Talaromycosis; Penicilliosis; Talaromyces marneffe; Penicillium marneffe; Immune reconstitution inflammatory syndrome; HIV*

**ĐẶC ĐIỂM DỊCH TỄ VÀ LÂM SÀNG Ở TRẺ VIÊM MÀNG NÃO
TĂNG BẠCH CẦU ÁI TOAN TẠI KHOA NHIỄM BỆNH VIỆN NHI ĐỒNG I**

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**“FEATURES OF EPIDEMIOLOGIC AND CLINICAL CHARACTERISTICS AMONG PATIENTS WITH
EOSINOPHILIC MENINGITIS AT CHILDREN HOSPITAL N^o 1, HO CHI MINH CITY”**

ABSTRACT

Background: Eosinophilic meningitis can be the result of noninfectious causes and infectious agents. Among the infectious agents, *Angiostrongylus cantonensis* is the most common.

Objectives: To describe the epidemiology, clinical features, laboratory findings of eosinophilic meningitis in pediatrics.

Methods: A case-series study of children with eosinophilic meningitis at the Infectious Diseases Department of Children's Hospital N^o1 from September 2013 to July 2014.

Results: 27 cases were described, the median age was 7 years old and 89% of them came from provinces. The incidence was remarkably high (74%) from September to December. Common clinical presentations were headache (96.3%) and fever (63%); the patients with meningeal signs 26%, lower limb weakness 7%, 6th cranial nerve palsy 7%. More than 85% eosinophils in blood was higher 500 cells per mm³, the cell count of cerebrospinal fluid (CSF) more than 500 cells per mm³ was 56% and median of eosinophils was 62 cells per mm³, the CSF protein was light high, the ratio of CSF glucose/serum glucose less than 0.5 was 41%, the CSF lactate was normal. 48% serological tests was positive and most of them were positive with *Angiostrongylus cantonensis* (37%).

Conclusion: Most of the patients eosinophilic meningitis were old children with having history of consumption of raw snails. The predominant clinical manifestations were headache and fever and usually accompanied by cerebrospinal fluid eosinophilia.

Key words: Eosinophilic meningitis, *Angiostrongylus cantonensis*, children.

BƯỚC ĐẦU THỰC NGHIỆM XÂY DỰNG QUY TRÌNH KỸ THUẬT TIÊU CƠ CẢI TIẾN TRONG CHẨN ĐOÁN NHIỄM GNATHOSTOMA SP. Ở LƯƠN (*MONOPTERUS ALBUS*)

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"INITIAL EXPERIMENT TO BUILD PROCESS USING MODIFIED TECHNIQUE OF MEAT'S DIGESTION IN DIAGNOSIS OF GNATHOSTOMA SP. INFECTION IN SWAMP EELS (*MONOPTERUS ALBUS*)"

SUMMARY

Background: Human gnathostomiasis is an important food-borne parasitic zoonosis, caused mainly by eating raw meat of infected fish especially frogs, snakehead, swamp eels, snakes, Getting into the human body, the advanced third stage larvae can migrate and harm to many different organs, or even lead to death. Due to the urgent requirements of suitable diagnostic techniques with many various types of specimens, we conducted a research to build the process of modified method - digestion of meat by pepsin to determine presence of *Gnathostoma* sp. larvae in swamp eels. Navigate to alert the exact risk of infection agent from the environment.

Objectives: Initial building the process using modified technique - digestion of meat by pepsin to determine presence of *Gnathostoma* sp. larvae in swamp eels.

Methods: a laboratory experimental study, we build the process of modified technique - digestion of meat by pepsin. Collect samples of meat and visceral organ of swamp eels from a market. The samples were dissected and applied histolytic modified technique by artificial pepsin digestion to find the advanced third stage larvae (AT3). Determine the prevalence of *Gnathostoma* sp. infection in research samples.

Results: According to the established process, 30 samples of eel meat and 30 samples of eel liver were tested, the prevalence of *Gnathostoma* sp. infection was 10%. The process get a successful outcome with pepsin concentration was 6 FIP – U for eel meat. At lower concentration (5 FIP – U), the process was also success with the tissue of eel liver.

Conclusion: From our study, we found that our modified process was possible to apply in determine of *Gnathostoma* sp. infection inside the liver and meat tissue of eel.

Key words: *Gnathostoma* sp., modified digestion of meat

MORPHOLOGICAL CHARACTERIZATION AND REAL-TIME PCR FOR THE DETECTION OF HUMAN *STRONGYLOIDES* SPECIES IN LONG AN PROVINCE IN 2017

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ABSTRACT

Human strongyloidiasis is mostly an asymptomatic infection, sometimes severe or even death in immunocompromised individuals. *Strongyloides* is a genus containing some 50 species of obligate gastrointestinal parasites of vertebrates. Species diagnosis and genomic sequence identification are very important for epidemiology and pathogenic prediction, but difficult due to current parasitological and serological technique's limitation. This study was conducted to identify *Strongyloides* species by a real-time PCR based method in positive stool samples. Total of fresh stool samples were collected and examined by the fresh fecal method and modified Harada mori culture for larvae *Strongyloides* spp. collection. Using real-time PCR method identified the genus *Strongyloides* targeting on the 28S rRNA sequences (GenBank U39490) and species identification of *Strongyloides stercoralis* on the 18S rRNA sequences (GenBank AF279916) and *Strongyloides ratti* on 28S rRNA sequences (GenBank DQ14570). Among those 50 collected larvae samples, morphological clarification of 100% genus *Strongyloides*, real-time PCR-based analysis of 98% (49/50) *S. stercoralis* and 2% (1/50) mixed infection *S. stercoralis* plus *S. ratti*. Real-time PCR was a very sensitive technique that can detect very low genomic load up to about 5×10^{-6} *S. stercoralis* larvae of extracted DNA. The specificity of real-time PCR compared with microscopic observation method was 100%. The real-time PCR method showed that an important tool for pathogenic *Strongyloides* spp diagnosis, the combination of conventional morphology and molecular diagnosis can be reliable for directly detecting the *Strongyloides* spp.

Key words: *Strongyloides* spp, *S. stercoralis*, *S. ratti*, real-time PCR.