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Abstracts

PP129

Introduction of Recombinase Polymerase Amplification assay based mobile suitcase laboratory as a point of need tool to diagnose cutaneous leishmaniasis in Sri Lanka

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Introduction and Objectives: Cutaneous leishmaniasis (CL) caused by the vector-borne protozoan parasite is now endemic in Sri Lanka. Microscopy of Giemsa stained slit skin smears (SSS), lesion aspirates or scrapings for the presence of amastigotes, is widely used for laboratory confirmation of CL, although the reported sensitivity is low. Facilities for more sensitive culture and molecular techniques are available only in reference laboratories. A newly developed, Recombinase Polymerase Amplification (RPA) assay based Mobile Suitcase Laboratory (MSL) is a promising, molecular point of care test with high sensitivity and specificity for diagnosis of both post-kala-azar dermal leishmaniasis and visceral leishmaniasis.
Objective was to assess RPA based MSL as a point of need tool to diagnose CL in Sri Lanka.

Methods: Twenty seven army personnel at Mullaitivu Army camp clinically suspected of having CL were recruited for this pilot study. Two slit skin smears and two punch biopsy specimens were obtained from each of them. Slit skin smears were stained with Giemsa in the field and examined for the presence of amastigotes and RPA was carried out at the point of collection. PCR was performed at the Parasitology Department, Sri Jayewardenepura University.

Results: Fifteen patients were confirmed by PCR as having CL and 14 of them were also positive by RPA based MSL conducted in the field (93.33% sensitivity). Only 3/15 were positive with microscopy of SSS (20% sensitivity).

Conclusion: This pilot study shows RPA based MSL as a promising tool to diagnose CL at point of need.

PP130

A study of the outcomes of dengue infection in patients with diabetes mellitus

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Introduction and Objectives: Dengue and diabetes are major health concerns in many low and middle-income counties in the tropics and subtropics. Identifying the risk of diabetes on the clinical presentations and outcomes of dengue infection is of high relevance. However, the current epidemiological evidence is very limited. Therefore we explored the morbidity and mortality outcomes between diabetic and non-diabetic patients with dengue infection.

Methods: We undertook a retrospective analysis of 203 dengue patients admitted to National Hospital Sri Lanka during the dengue epidemic in 2017. The medical records of the recruited patients were reviewed for the following information: age, gender, the presence of diabetes, medications, clinical manifestations, complications, and laboratory examinations (platelet counts, white cell counts, hematocrit values and liver enzymes).

Results: Of 203 dengue patients 62% were females and 32 (8.9%) were patients with diabetes. Median (IQR) age was 35 (22-53) years. Patients with diabetes had significantly low platelet levels compared to those without diabetes (P=0.001, Mann-Whitney test). On admission alanine transaminase and aspartate transaminase levels were significantly increased in patients with diabetes compared to patients without diabetes. (P=0.005, P=0.001, Mann-Whitney test). Dengue complications, bleeding, shock and deaths, observed in patients with diabetes were 100% (x^2=16.8, P=<0.001), 57.1 %(x^2=6.5, P=0.01), and 66.7% (x^2=8.7, P=0.003), respectively