test for measuring drug activity against ***Leishmania*** clinical isolates is lacking. At KIT Biomedical Research (Parasitology Unit), we have developed a quantitative colorimetric assay, whereby the activity of a ***Leishmania*** native enzyme is used to assess parasite viability. Enzymatic reduction of disulphide-trypanothione, monitored by a microtiter plate reader, was used to quantify the growth of ***Leishmania*** parasites. An excellent correlation was found between the optical density, as measured at 412nm, and the number of parasites inoculated. Pharmacological validation of the assay was performed against the conventional AlamarBlue® method for promastigotes or standard microscopy for intracellular amastigotes. The activity of a selected-compound panel, including several anti-leishmanial reference drugs, demonstrated high consistency between the newly developed assay and the reference method, and corroborated with previously published data. Quality assessment with standard measures confirmed the robustness and reproducibility of the assay, which performed in compliance with HTS requirements. This simple and rapid assay provides a reliable, accurate method for screening anti-leishmanial agents, at high-throughput. The basic equipment and manipulation required to perform the assay makes it easy to implement, simplifying the methodology for scoring inhibitor assays.

1101

BENZNIDAZOLE-RELATED ADVERSE DRUG REACTIONS IN BRAZILIAN PATIENTS WITH CHAGAS DISEASE

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There are only two drugs approved for the treatment of Chagas disease: benznidazole (BZN) and nifurtimox. Both present a wide spectrum of toxicity. BZN is the only one available in Brazil and the response rate and adverse drug reactions (ADRs) are extremely variable. There are few studies describing in details the ADRs during the treatment of adult patients with BZN. We have established a prospective cohort study that followed 93 ***Trypanosoma cruzi*** infected adults, (age between 18 - 65 years), with the chronic indeterminate form of the disease, with mild to moderate cardiac or digestive involvement, without advanced forms during BZN treatment (5mg/kg/day, up to 300mg/day for 60 days). Patients were evaluated in 3 schedules visits for adhesion and ADRs (approximately 15th, 30th and 60th day after treatment initiation). They were informed to call a dedicated line if they presented with ADRs, and they received prompt medical evaluation if needed. Of the 93 patients, 63 (67.7%) informed at least one ADR and 18 (19.4%) had to interrupt the treatment (4 temporally and 14 permanently). The majority of ADRs, 57 (90.5%) occurred during the first 15 days of treatment, 22 (34.9%) patients related ADRs on schedule visit day 30. The most frequent ADRs were related to skin (47%), gastrointestinal (47.6%) and peripheral nervous system (31.7%). ADRs were less common among individuals receiving a proton pump inhibitor, omeprazole (p=0.0002), OR=0.02 (CI 0.001-0.45), and more common among individuals using hydrochlorothiazide (p=0.047), OR=4.5, (CI 0.97-21.5). ADRs were not associated with age, gender, skin color, education and comorbidities, such as diabetes and hypertension. The ADRs symptoms disappeared after BZN interruption and the administration of drugs to manage the skin manifestations and gastrointestinal symptoms. Two patients with severe ADRs were hospitalized in the emergency for less than 24hs to receive intravenous glucocorticoids. There was no fatal event in this cohort. In conclusion, ADRs are common during BZN treatment, but they can be manageable with orientation and easy access to the physicians.

1102

CLINICAL AND HISTOPATHOLOGICAL CHARACTERISTICS OF CUTANEOUS LEISHMANIASIS IN A GROUP OF MILITARY PERSONNEL IN SRI LANKA

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Cutaneous leishmaniasis (CL) is a newly established vector-borne parasitic disease in Sri Lanka. Military personnel have an occupational risk for CL due to being stationed in endemic areas and exposure to vectors outdoors. This study describes the clinical and histopathological features of CL in a group of military personnel. Thirty five patients with smear positive for ***Leishmania*** amastigotes were included, their data analyzed for clinical features and skin biopsies processed routinely for histology, examined at a conference microscope and classified into 4 groups using modified Ridley criteria for Leishmaniasis as: I-parasitized macrophages with variable lymphocytes and plasma cells; II-parasitized macrophages with lymphocytes, plasma cells and ill formed histiocytic granulomata; III-a mixture of macrophages (with or without parasites), lymphocytes, plasma cells and epithelioid granulomata; IV-epithelioid granulomatous response with a few lymphocytes and plasma cells but no amastigotes. Lesions were categorized by duration, as acute (< 6 months) or chronic (≥ 6 months). Study group composed of all males with a mean age of 32.6 years (range 22-47) and lesion duration of 5.6 months (range 1-24). Number of lesions varied from 1 to 6 with majority (71.4%, n= 25) having a single lesion. Nodular (37.1%, n=13) and nodulo-ulcerative (25.7%, n=9) lesions in upper limbs (68.6%, n=24) was the commonest presentation. Twenty nine (82.9%) of the biopsies were positive also by histology. Twenty two (62.9%) were acute and 13 (37.1%) chronic. Group I, II, III and IV patterns were seen in 14 (40%), 12 (34.3%), 5 (14.3%) and 4 (11.4%) respectively and 9 (40.9%), 9 (40.9%), 2 (9.1%) and 2 (9.1%) of acute lesions and 5 (38.5%), 3 (23.1%), 3 (23.1%) and 2 (15.4%) of chronic lesions respectively. Necrosis was not seen in any of the lesions. Majority in this group of military personnel with CL had single lesions affecting the upper limbs and sought treatment within 2 years of appearance of lesions. The histological picture varied from diffuse infiltration of parasitized macrophages admixed with chronic inflammatory cells to ill-formed histiocytic granulomata.

1103

EVALUATING THE COST-EFFECTIVENESS OF DIFFERENT SCREENING STRATEGIES FOR HUMAN AFRICAN TRYPANOSOMIASIS IN THE DEMOCRATIC REPUBLIC OF THE CONGO

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Human African trypanosomiasis (HAT), caused by the protozoan ***Trypanosoma brucei gambiense*** is a neglected tropical disease that is endemic in many areas of sub-Saharan Africa. Interruption of transmission requires the early diagnosis and treatment of cases among suspects that are identified using a screening test. Screening for HAT has been performed using the card agglutination test for trypanosomiasis (CATT), but recently, rapid diagnostic tests (RDTs) have been developed that, unlike CATT, are thermostable and do not require electricity. In a clinical