OR-01

COMPARISON OF NS1 ANTIGEN , IGM BY ELISA AND RNA DETECTION BY RTPCR FOR EARLY DIAGNOSIS OF DENGUE - A CASE STUDY

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Introduction
Increase in the prevalence of Dengue fever throughout the country in recent years has lead to morbidity & mortality in the tropical and subtropical regions of the world. Considering the limitations of all existing diagnostic methods such as serological tests, it has now become inevitable for the need of rapid, sensitive, specific, quantitative & robust molecular technique with high throughput methods for detection of dengue virus in early stages of the disease, specially from the onset of infection in acute phase.

Objective
The objective of this case study was to evaluate a Dengue virus NS1 Antigen detection ELISA (Panbio) and TrueprepTM Auto Cartridge based nucleic acid extraction followed by TruenatTM Chip based real time reverse transcriptase polymerase chain reaction (RTPCR), for detection of all four serotypes DEN1, DEN2, DEN3 & DEN4 of Dengue virus.

Material and Methods
Target sequence for this kit has been taken from 3' untranslated region (UTR) of the dengue genome. The region selected is specific to and represents all four Serotypes of dengue virus. 6 ul extracted RNA from TrueprepTM Auto was then dispensed into the master mix and processed for RTPCR by loading the mastermix on TruenatTM Dengue chip (Molbio Diagnostic Pvt. Ltd.) Based on the Cycle threshold (Ct) value of internal positive control (IPC), the validity of the test run is determined. The Ns1 Antigen ELISA (Panbio) kit was used as per the manufactures instructions. In this study 47 samples were analyzed out of which 12 samples were Ns1 positive & 10 samples were IgM tested .

Result and Discussion
All 12 Ns1 positive sample co-related with the RTPCR results with 100% sensitivity. Out of these 12 samples, 3 samples were highly positive as represented with the high viral load of 105 - 106 log. These 3 samples were collected on 3rd to 5th day after the onset of the symptoms from the patient. Whereas, out of the 10 IgM sample, 7 samples fallen under equivocal or gray zone & appeared Not detected on RTPCR. However, 3 samples were detected by RTPCR with 100% sensitivity, though the early ct values were not found.

Conclusion
The possibility of Not detected RTPCR results in the 7 IgM equivocal sample may be due to antibody development during the late febrile stage of the dengue virus. According to some studies, dengue viral load can assist in the development of Dengue hemorrhagic fever (DHF). In view of this RTPCR can be a good tool in assessment of Dengue fever. Also, it will be interesting to see effectiveness of Ns1 antigen testing in the secondary infection of Dengue virus as some studies suggest that RTPCR can be more effective in diagnosis of dengue in secondary infection. In terms of ease of performance and rapidity with quantification viral load per ml now RTPCR technique has become superior than NS1 ELISA though the combined cost for all four serotypes are cheaper than the NS1 ELISA.

OR-02

ROLE OF BONE MARROW ASPIRATION IN CHRONIC CASES OF MALARIA – A CASE STUDY.

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Introduction
Malaria is a major public health problem in India as well as in Chhattisgarh state. According to information of National Vector Control Program of Union Ministry of health and family welfare, Chhattisgarh recorded 92054 cases of malaria in 2016 and Plasmodium falciparum appears to be the most common. The finding of Plasmodium is important for the diagnosis and management of malaria. Here we report two cases of eventual Falciparum malaria presenting as PUO.

Case Series

Case -1
A six year male child presented with 2 weeks history of intermittent fever and chills. On examination there is mild splenomegaly and pancytopenia. Peripheral blood smear was negative for malarial parasite.

Case – 2
Another case of 55 year old male presented with off and on fever for 2 months with symptoms of chronic renal failure, Blood investigations reveal pancytopenia.
Investigations - Bone marrow aspiration of both patients done to know the cause of pancytopenia and PUO. Incidentally both aspirates show presence of ring stage trophozoites and gametocytes of P. falciparum.

Treatment
Rapid recovery was observed after treatment with antimalarials in both patients.

Discussion and Conclusion
Therefore, bone marrow aspiration should always be done in cases of pancytopenia with repeated