

among children <11 years of age indicate transmission potency and risk of severe disease episodes following secondary infections, even in young children.

There is an urgent need for appropriate interventions to control, diagnose and treat dengue, more sensitive public health surveillance and further research to identify the covariates in dengue disease.

<http://dx.doi.org/10.1016/j.ijid.2016.02.415>

Type: Poster Presentation

Final Abstract Number: 41.228

Session: Poster Session I

Date: Thursday, March 3, 2016

Time: 12:45-14:15

Room: Hall 3 (Posters & Exhibition)

Human ocular dirofilariasis due to *Dirofilaria repens*: an underdiagnosed entity or emerging filarial disease?



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Background: *Dirofilaria* are natural filarial parasites of dogs, cats and foxes. Human dirofilariasis is an accidental zoonotic infection caused by species *Dirofilaria* such as *D.immitis*, *D.tenuis* and *D.repens*. Human ocular dirofilariasis were initially reported from Kerala. But for a solitary case of oral dirofilariasis, it has not been reported from Tamil Nadu. We report a case of subcutaneous human dirofilariasis of the eyelid in a 37 years old woman caused by *D. repens*.

Methods & Materials: A 37 year old female from urban Chennai with no co-morbidities presented with painless swelling of one month in the right eyelid which had a waxing/waning course. No other ocular or systemic features. No history of animal exposure. Ocular swelling was soft, cystic, non tender. Blood counts were normal with no eosinophilia. Provisional clinico-radiological diagnosis of epidermoid cyst or lacrimal adenitis was made and she underwent excision of lesion. Macroscopic examination revealed soft tissue grey-brown mass. Microscopic examination revealed eosinophils and fragments of adult nematode. Outer surface of the nematode's cuticle revealed longitudinal beaded ridges and transverse striations and was identified as *D. repens* which was confirmed by CDC. Microfilaraemia and filarial antigen test was negative. She was treated with ivermectin and diethylcarbamazine.

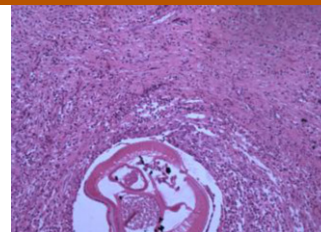
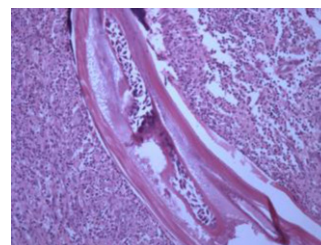


fig 2



Results: Subcutaneous dirofilariasis is mostly caused by *D. repens* in Asia. Patients usually present with inflammatory subcutaneous masses containing increased numbers of eosinophils, which may or may not be tender. Ophthalmic involvement may be periorbital, subconjunctival, or intraocular. Eosinophilia is not usually present. Diagnosis of dirofilariasis in humans remains difficult as the symptoms exhibited by the patient are varying and nonspecific depending upon the location of worm. Identification of the worm in biopsy confirms diagnosis. Chemotherapeutic agents appear to be ineffective. Surgical removal of the worm is the treatment of choice

Conclusion: A number of cases of human dirofilariasis from areas other than Kerala are being reported. Distribution of human cases of dirofilariasis seems to mirror the distribution of canine cases. Whether there a true increase in cases or were they earlier under reported, undiagnosed or unidentified due lack of awareness among the treating clinicians needs to be determined to know the actual prevalence.

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Final Abstract Number: 41.229

Session: Poster Session I

Date: Thursday, March 3, 2016

Time: 12:45-14:15

Room: Hall 3 (Posters & Exhibition)

Clinical profile and serological epidemiology of scrub typhus and spotted fever among hospitalized children at a tertiary hospital in South India



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Background: Scrub typhus, a re-emerging rickettsial disease caused by *Orientia tsutsugamushi*, is an important cause of febrile illness in the Asia-Pacific region. The present study was undertaken

to evaluate the epidemiology, clinical profile and outcome of serologically confirmed scrub typhus and spotted fever cases among children admitted to a tertiary care hospital in Bangalore.

Methods & Materials: Hospitalized children aged <18 years, with clinical features suggestive of rickettsial disease were included prospectively between January 2010 to October 2012. Routine laboratory tests including Weil-Felix test was performed on all children. Specific ELISA was done to detect IgM and/or IgG antibodies for confirmation of scrub typhus and spotted fever.

Results: Of 103 children with clinical features suggestive of rickettsial illness, ELISA test confirmed 53 cases for scrub typhus, 23 cases for spotted fever group and 14 with both scrub typhus and spotted fever mixed infection. The mean age was 7.3 (± 3.9) years and 44 (71.0%) were male. Majority of cases were from neighboring districts of Karnataka (50%), Andhra Pradesh (32.3%) and Tamil Nadu (17.7%). There was a clear seasonal trend; 53% of cases were seen soon after the rainy season during the months of August to November. Common clinical features included fever (100%) with average duration of 11 days, nausea and vomiting (44%) and rash (36%); eschar was rare. Anemia (63%), thrombocytopenia (52%), leukocytosis (51%) and elevated hepatic transaminases (61%) were also seen. Compared to the ELISA test, Weil-Felix test (OX-K titer of $\geq 1:80$) had sensitivity and specificity of 88.7% and 43.9%, and positive and negative predictive value of 70.5% and 72%, respectively. Treatment with chloramphenicol or doxycycline was given to the majority of the children. Complications were seen in 42% (13% had multiple complications), and included meningoencephalitis (28%), shock (10%), retinal vasculitis (10%) and purpura fulminans (7%); all recovered with no deaths.

Conclusion: These findings suggest that the burden of rickettsial infection among children in India is high, with a substantially high complication rate. Rickettsial specific ELISA tests can help in early diagnosis and early institution of appropriate treatment that may prevent life-threatening complications.

<http://dx.doi.org/10.1016/j.ijid.2016.02.417>

Type: Poster Presentation

Final Abstract Number: 41.230
Session: Poster Session I
Date: Thursday, March 3, 2016
Time: 12:45-14:15
Room: Hall 3 (Posters & Exhibition)

Seroprevalence of Scrub typhus and coinfection with leptospirosis in Chennai, Tamil Nadu



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Background: Scrub typhus is a rickettsial infection, caused by *Orientia tsutsugamushi*. It is a reemerging infectious disease all over the world. In recent years, resurgence of Scrub typhus was noted in India especially in Tamil Nadu. Leptospirosis, a zoonotic infection caused by pathogenic spirochetes, *Leptospira interrogans* complex is prevalent worldwide with high incidences in tropical and sub-tropical countries. Both infections present as acute febrile illness. The present study was undertaken with the objective to estimate the Seroprevalence of Scrub typhus and leptospirosis in patients presenting with Pyrexia of Unknown Origin (PUO).

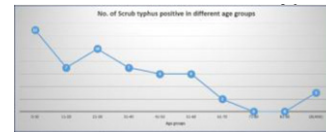


Fig. 1. No. of Scrub typhus positive in different age groups.

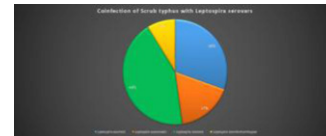


Fig. 2. Coinfection of Scrub typhus with Leptospira serovars.

Methods & Materials: This prospective study was conducted in the Leptospirosis testing laboratory of the Department of Experimental Medicine from November 2014 to April 2015. All the serum samples from patients with PUO received at the laboratory were tested for Scrub Typhus Antibodies using Inbios International, Inc. Scrub Typhus Detect IgM ELISA System. The tests were performed and results interpreted as per the manufacturer's instructions. Samples with OD value above 0.5 was considered as Reactive for Scrub Typhus. Microscopic Agglutination Test (MAT) was performed for diagnosis of Leptospirosis.

Results: A total of 354 serum samples were received during the study period. The age ranged from one to ninety years with mean 31.48 and SD 20.33. There were 40% males and 60% females. Among the 354 samples, 15% (30 males, 24 females) were positive for Scrub typhus by IgM ELISA. Highest seropositivity for Scrub typhus was observed in 0-10 followed by 21-30 years age groups. Out of the 354 sample, 43.7% were positive for Leptospirosis by MAT, with Canicola being the commonest serovar. Coinfection with Scrub typhus and leptospira was seen in 23 patients, Canicola was the commonest serovar of leptospira coinfecting with scrub typhus.

Figures 1 and 2

Conclusion: In this study, Seroprevalence of leptospirosis and Scrub typhus was 43% and 15% respectively. Coinfection with Scrub typhus and Leptospirosis was observed in 23 patients. Morbidity and mortality is high in both infections particularly when diagnosis and treatment is delayed. Early diagnosis of scrub typhus and leptospirosis is essential since antibiotic therapy provides the greatest benefit when initiated early in the course of illness.

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Time: 12:45-14:15
Room: Hall 3 (Posters & Exhibition)

Pharmacophore modeling, database mining and biological evaluation to identify novel structurally diverse compounds as potential anti-Ebola drugs



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Background: Ebola virus disease (EVD), also known as Ebola hemorrhagic fever, is a rare and deadly disease caused by infec-