Abstract:

**Introduction:** Co-infection of Malaria and Leptospirosis is common in the regions where both diseases are endemic. As the clinical features are non-specific and similar it is difficult to differentiate either of these illnesses. Also, both these illness can present with similar complications such as jaundice & renal failure. **Aim:** To assess the prevalence of co-infection of Leptospirosis and Malaria in patients admitted with fever. **Methods:** Patients with fever admitted to a Government facility in South India who tested positive for Plasmodium vivax / falciparum by Peripheral Smear / Quantitative Buffy coat (QBC) were investigated for co-infection with Leptospirosis utilizing MSAT (Macroscopic slide agglutination test- 2+ and above). All patients tested positive by MSAT were further confirmed by Microscopic Slide Agglutination Test (MAT) (titers of 1:80 and above). Patients positive for both malaria and Leptospirosis were taken up for the study and were evaluated for relevant clinical features and Lab profile. **Results and Discussion:** 220 Patients with malaria were analyzed and 48 (22 %) were found to be positive for Leptospirosis. Vivax malaria occurred in 36 patients, Falciparum malaria in 9 patients and 3 patients had both vivax and falciparum malaria in the 48 patients with leptospirosis co-infection group. Fever, Headache, Myalgia were the common symptoms of our Co-infection group & 19 % had Jaundice, 12 % had CNS manifestations, 10 % had Anemia, 4 % had Renal Failure. Uncomplicated Malaria & Leptospirosis were treated by Chloroquine and Doxycycline & Severe Malaria / Leptospirosis were treated by I.V Quinine / I.V Penicillin. This study had revealed that it is essential to evaluate for Leptospirosis in all patients with fever especially in endemic areas as Co-infection is common.

**Key words:** Malaria, Leptospirosis, Co-Infection