

Desert Malaria “Curse of Thar Desert” -A unique geographical endemecity of malaria and combating it with modern technology.

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Summary:

Desert Malaria, yes you have read it right!!! .This study focuses on Malaria endemic in Thar Desert- Most populated desert in the world. Malarial endemecity in desert environment is a unique and rare geographical presentation of this disease, as malaria is common in areas where there is rainfall, water stagnation like ponds, field's etc.,.The objective of the study is to highlight the unique clinical presentation, lab findings and reason behind the existence of malaria in desert .Most importantly we would like to share our innovative idea to eliminate breeding sites using Quadcopters and drones.

Methods:

Study type –Prospective observation study, Study duration- Oct to Dec 2020, Sample size-103 cases. Inclusion criteria–All malaria positive patients. Exclusion criteria–Cases Referred to higher medical centres in view of complication.

The patient's demographics, Clinical Presentation, lab parameters, treatment, and outcome were collected in a systematic way and analysed. The findings of our study was compared with the malaria cases from different parts of the country.

Tools used for breeding site identification- Quadcopters and Drones with HD cameras, area to be surveyed was vast >30km, it was very difficult to do a manual survey in the harsh desert climate.

ResultsAll malaria were identified as plasmodium vivax, mean age group of the study population was 36 (min-21 and max-56 years),78% of the patient had all the four 4 symptoms of fever, chills ,headache and body ache .Atypical isolated symptoms of abdominal pain ,vomiting , myalgia, severe joint pain was observed in 22% .Mild hepato-splenomegaly indicated in 77% and 2 % of cases had AKI (Mild).**Lab parameters representation of the population: Anaemia: 88%** (of which 5% had severe anaemia),**leucopenia: 40%**,**leucocytosis: 6%****Thrombocytopenia:87%**, **Elevated bilirubin level:53%** and **Transaminitis:36%**.

The survey of the entire area was done within a week using new technology and all the breeding site was eliminated same day of identification. Drastic drop in malaria reporting was noted post our intervention.

Conclusion:We conclude that desert malarial presentation of plasmodium vivax is unique in clinical presentation and lab derangement compared to other vivax malarial cases .Using technology like quadcopters and drone for identifying breeding sites played a major role in eliminating them and curtailing the cases drastically in a very short span of time in an effective way.