Burden of Scrub Typhus in a tertiary level Hospital in year 2018 with special reference to its seasonal trend: A record base Study

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Abstract— *Scrub Typhus is a public health importance because of its complication. It is prevalent in many parts of India. So this record base study was conducted to find out burden of scrub typhus in a tertiary level hospital in year 2018 with special reference to its seasonal trend. Total 106 cases of Scrub Typhus came in year 2018 with maximum cases (34 i.e. 32.08%) in September followed by August, December, November, October, April, January, march, may, February, June and July. In February, June and July fortunately none of case was there. In Seasonal trend peak was with 63 (59.43%) cases in August and September i.e. in Monsoon season.*

Keywords: Scrub Typhus, Seasonal Trend.

I. INTRODUCTION

The term "scrub" is used because of the type of vegetation (terrain between woods and clearings) that harbors the vector. The word "typhus" is derived from the Greek word "typhus," which means "fever with stupor" or smoke.[1]

Scrub typhus is an important cause of acute undifferentiated febrile illness in several parts India.[2] *Orientia tsutsugamushi*, the etiological agent of scrub typhus is an obligate intracellular Gram-negative *coccobacilli* belonging to the family *rickettsiae*., The larvae of trombiculid mites are the implicated vector and reservoir of the bacteria and can efficiently transmit it to their offspring transovarially.[3]

Scrub typhus is also a acute febrile illness like as malaria, enteric fever, dengue, leptospirosis, infectious mononucleosis etc.[4] This disease is may result in severe complications such as acute respiratory distress syndrome, septic shock and multisystem organ failure often culminating in death in morbid patients if remains untreated. Acute kidney failure associated with scrub typhus has also been reported in the tropics.[5]

Globally, over one billion people are at risk for scrub typhus and an estimated one million cases occur annually.[4] The disease is largely prevalent to southeastern and eastern parts of Asia i.e. in India, Pakistan, Indonesia, Maldives, Myanmar, Nepal, Sri Lanka, Thailand and other islands in the region.[5]

In India, it is present in whole of the Shivalik ranges from Kashmir to Assam, Eastern and Western Ghats, and the Vindhyachal and Satpura ranges in the central part of India. There are many outbreak time to time in Darjeeling, South East Himalayan region etc.[6,7,8,9]

This disease is also prevalent in areas such as sandy beaches, mountain deserts, and equatorial rain forests. Certain areas such as forest clearings, riverbanks, and grassy regions provide optimal conditions for the infected mites to thrive. These small geographic regions are high-risk areas for humans and have been called scrub typhus islands.

In recent years, a number of studies have been published recording the re-emergence of scrub typhus in parts of North and North-East India.[10,11,12]

So this study is aims to find out burden of scrub typhus in a tertiary care hospital with special reference to its seasonal trend.

II. METHODOLOGY

This record base study was conducted to find out the burden of Scrub Typhus in Medicine department of SMS Medical College Jaipur (Rajasthan) India, in year 2018.

This study was conducted on data obtained from records of seasonal diseases reports received monthly in year 2018. Every report was observed and data related to Scrub Typhus was compiled as master chart.

Statistical Analysis: Data were complied and statistically analyzed by using Microsoft excel 2010 worksheet. Results were expressed in percentages and proportion.

III. RESULTS

In present study, on observing and analysing the all seasonal diseases reports total 106 cases of Scrub Typhus came in year 2018. (Table 1)

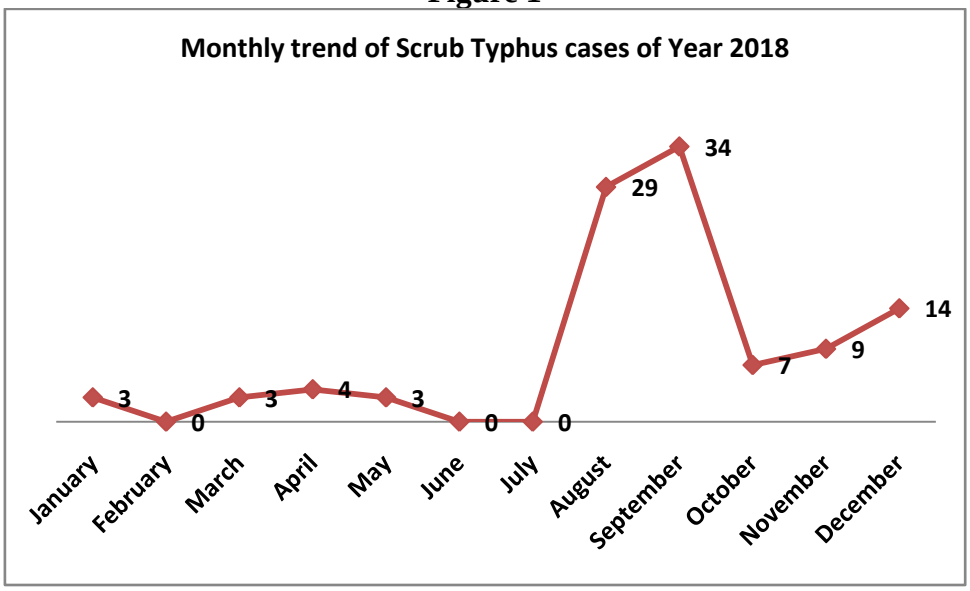
When monthly distribution of these cases were analysed there was maximum cases (34 i.e. %) in September followed by August, December, November, October, April, January, march, may, February, June and July. In February, June and July fortunately none of case was there. (Table 1)

Table 1
Month wise distribution of Scrub Typhus Cases of Year 2018

S. No.	Month	Number	Percentage
1	**January**	3	2.83
2	**February**	0	0.00
3	**March**	3	2.83
4	**April**	4	3.77
5	**May**	3	2.83
6	**June**	0	0.00
7	**July**	0	0.00
8	**August**	29	27.36
9	**September**	34	32.08
10	**October**	7	6.60
11	**November**	9	8.49
12	**December**	14	13.21
	Total	106	100.00

When seasonal trend was observed it was found peak in August and September with 63 (59.43%) cases i.e. in *Monsoon* season. (Figure 1)

Figure 1



IV. DISCUSSION

It was observed that total 106 cases of Scrub Typhus came in year 2018 with maximum cases (34 i.e. %) in September followed by August, December, November, October, April, January, march, may, February, June and July. Out of total 106 cases 63 (59.43%) cases in August and September i.e. in Monsoon season.

Oberoi A et all[13] also reported the proportion of scrub typhus cases 13% among all fever cases tested that too maximum in the months following the monsoon leading to winter i.e. August to December. Mathai *et al*.[14] also reported an increase in scrub typhus cases during the cooler months.

The disease also has a predilection for the cooler months which coincides with an increase in shrub vegetation that in turn favors the growth of the vector and the same has been reported in international studies also.

Transmission of scrub typhus disease occurs throughout the year in the tropical areas, whereas in the temperate zones, transmission is seasonal. Occurrence of *L. deliense* is influenced by rainfall, with more chiggers attached to the rodents in the wetter months of the year, which may be the reason for clustering of cases during the rainy season as shown by Gurung *et al*[15] also along with the present study. However, outbreaks have been reported during the cooler season.[6-9,16]

In recent years, a number of studies have been published recording the re-emergence of scrub typhus in parts of North and North-East India.[10,11,12] Most of these are however, hospital-based studies, which have their own limitations but there is a paucity of community-based studies which may reveal much more about Scrub typhus.

V. CONCLUSION

Present study concludes that total 106 cases of Scrub Typhus came in year 2018 with maximum cases (34 i.e. %) in September followed by August, December, November, October, April, January, march, may, February, June and July. In February, June and July fortunately none of case was there. In Seasonal trend peak was with 63 (59.43%) cases in August and September i.e. in Monsoon season.

CONFLICT OF INTEREST

None declared till now.

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