

# Etiology and outcome of "Fever and Respiratory Distress" in adult patients presenting to medical emergency

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## INTRODUCTION

- Fever with respiratory distress is among the most common complaints of adult patients presenting to the emergency department
- Infective aetiologies of ARDS (dengue, enteric fever, rickettsiosis, leptospirosis) if recognised and treated early are curable
- Scant data available in literature

## OBJECTIVES

- To study the etiology and outcomes among patients presenting with "Fever and Respiratory Distress" to Medical Emergency

## METHODS

300 patients presenting to the hospital with fever  $\leq$  14 days with Respiratory distress within one week of fever

**ARDS** was defined as presence of bilateral opacities on chest radiograph with a PaO<sub>2</sub>/FIO<sub>2</sub> ratio less than 300 with PEEP or CPAP more than 5cm H<sub>2</sub>O

Patients with ARDS due to pneumothorax, heart failure, atelectasis, pulmonary thromboembolism or pleural effusion were excluded

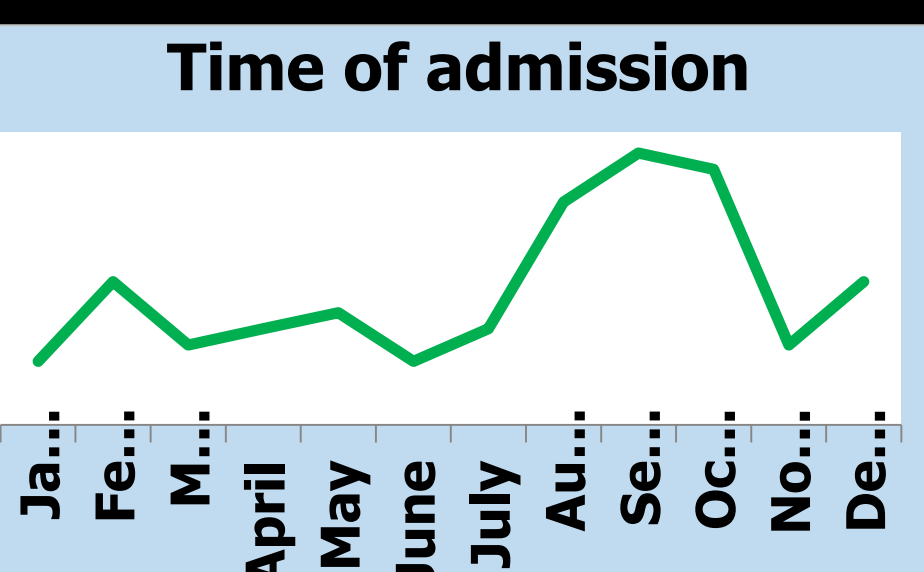
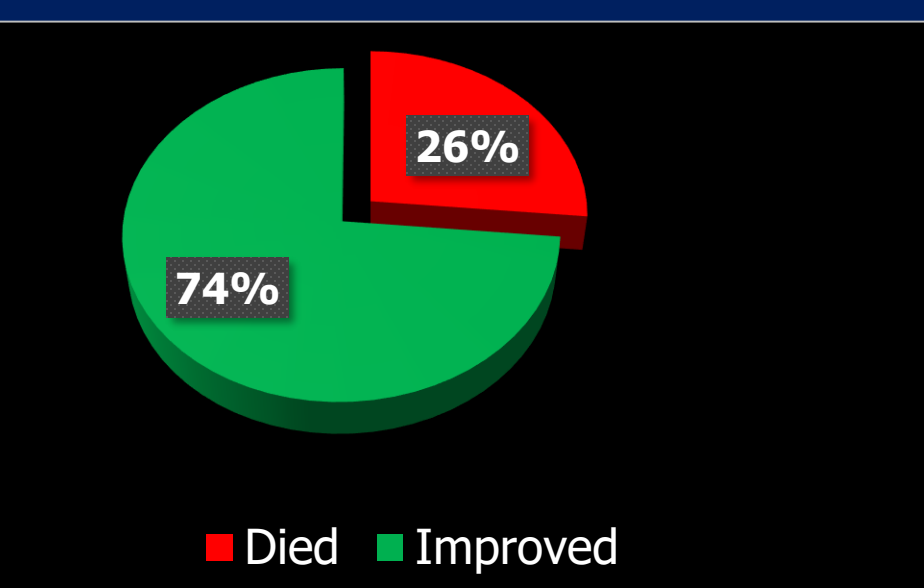
**102** patients with "Tropical ARDS" enrolled  
 SOFA and APACHE score calculated

All enrolled patients followed till discharge or 28<sup>th</sup> day

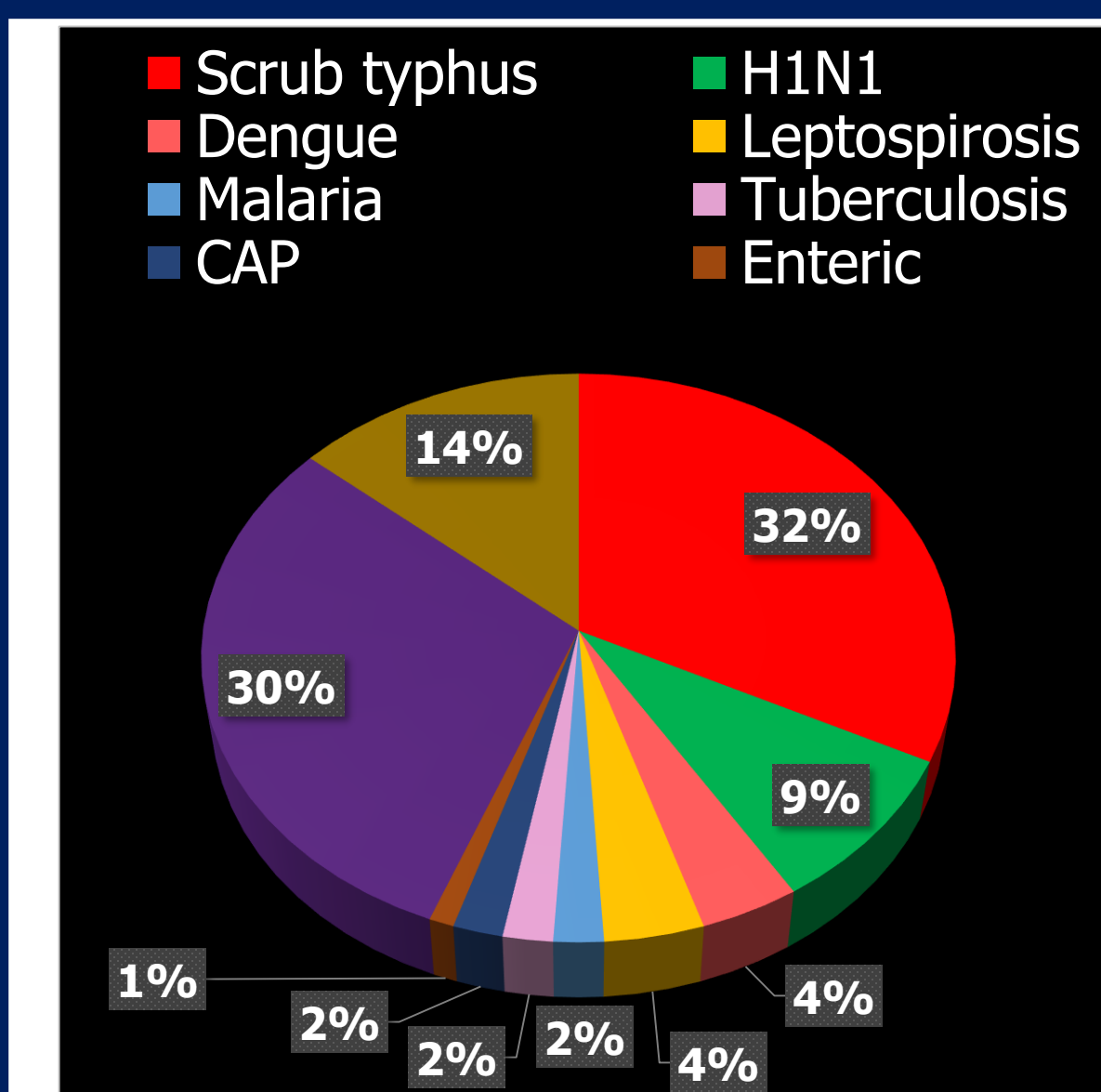
### Patient Groups

- **Malaria**-Positive peripheral smears or RDT
- **Scrub typhus**- Positive Scrub Typhus PCR(serum or on eschar) or IgM
- **Leptospirosis** -IgM ELISA or MAT positivity
- **Enteric fever** - positive blood cultures
- **Dengue** – Positive NS1 antigen test or IgM ELISA
- **H1N1 Influenza**: Positive RT PCR for pandemic H1N1 influenza
- **Community acquired pneumonia**: sputum or Endotracheal aspirate culture growing CAP organisms
- **Probable sepsis**
- **No Diagnosis**

## RESULTS & DISCUSSION



- 41.2% males/58.8% females
- 46% cases in post rainy season
- Diagnosis(Acute fever with ARDS)**
  - **Scrub typhus(32.4%)**
  - **Coinfections (13.7%)**
    - H1N1 influenza in 8.8% cases
    - 30.4% patients undiagnosed
- Ceftriaxone (81.4%), Doxycycline (64.8%), Azithromycin (67.6%) common empirical antibiotics used
- 46 patients ventilated



Additional Clinical features at presentation	Scrub	H1N1	Lepto spirosis	Dengue	P value
<b>Cough</b>	54.5%	100%	25%	75%	0.031
<b>Jaundice</b>	48.5%	0	0	0	0.007
<b>Abd pain</b>	45.5%	0	25%	0	0.030
<b>Rash</b>	3%	11.1%	0	75%	0.000
<b>Sore throat</b>	0	44.4%	0	0	0.000
<b>Icterus</b>	42.4%	0	0	25%	0.045
<b>Conjunctival suffusion</b>	36.4%	0	0	0	0.043
<b>Eschar</b>	18.2%	0	0	25%	0.392
<b>Low GCS</b>	27.3%	12.5%	100%	0	0.007
<b>Liver injury</b>	57.6%	0	50%	75%	0.013
<b>Thrombocytopenia</b>	87.9%	0	100%	75%	0.000
<b>coagulopathy</b>	30.3%	33.3%	50%	50%	0.773
<b>SOFA&gt;6</b>	72%	11.1%	100%	50%	0.005

## CONCLUSIONS

- **Scrub typhus** constituted the majority of patients with fever with ARDS cases followed by H1N1
  - *No definite diagnosis in a 30% of patients*
- **Predictors of organ dysfunction** included male gender, old age, long duration of invasive ventilation, absence of thrombocytopenia, arthralgia, high levels of serum procalcitonin and low GCS
- **APACHE 2 had a better mortality predicting value when compared to SOFA Score**
- **Scrub typhus** had significant association with Female gender, age, young age, post monsoon season, jaundice, icterus, abdominal pain, pedal edema, conjunctival suffusion, coated tongue, hepatomegaly, splenomegaly, thrombocytopenia and elevated liver enzymes
- **H1N1** had significant association with old age, spring season, cough, sore throat, absence of thrombocytopenia, absence of jaundice and SOFA score <6

### Co infections(n=14)

Leptospirosis + Scrub typhus	4
Dengue + Malaria	3
Dengue + Scrub typhus	5
Scrub typhus + Malaria	1
Tuberculosis + Leptospirosis	1

### Organ Dysfunction at admission

Organ Dysfunction at admission	No of patients
GCS<15	27(26.2%)
ARDS	102(100%)
Hypotension MAP<70	14(13.7%)
AKI (Creatinine >1.5	42(41.2%)
Jaundice(Bilirubin > 1.5)	42(41.2%)
Coagulopathy	41(40.2%)
Thrombocytopenia(<150000)	66(64.7%)