**Abstract**

**Inclusion Criteria:**
- Patients with a diagnosis of sepsis and bicytopenia (pancytopenia)
- Known hematological malignancies

**Methodology in Brief**
- All patients with a diagnosis of sepsis and bicytopenia underwent relevant tests according to HLH 2004 criteria to evaluate for HLH
- Patients fulfilling the criteria were further analyzed. Their clinical features, laboratory parameters, and microbiology investigations were recorded using structured proforma.
- Both the groups were compared based on their clinical and laboratory profile.
- Final outcomes (death/discharge) were recorded for all the patients.

**Results**
- Total number of patients fulfilling HLH diagnostic criteria was 28 (56%) with a mean age of 31.7 yrs and male:female ratio of 1:8.1
- The differences in parameters of the HLH diagnostic criteria among the two groups is shown in fig1
- Bacterial etiology(29%) was the most common triggering factor and malignancy was detected in 10% patients(fig 2)
- Steroids given to 60%(n=17) of HLH patients and etoposide was added in 2 patients.
- Five patients(n=17) were successfully managed by treating the underlying etiology without any immunosuppressive therapy.
- The mortality rate in patients with HLH vs without HLH was 42% and 31% respectively.

**Discussion**
- To the best of our knowledge, this is the first study from the Indian subcontinent systematically studying the frequency of HLH in patients with sepsis.
- HLH is a rare entity in India, as shown by a systematic review by Rajagopala et al. in 2012 showing 156 published cases with only 63 adults.
- The high frequency of HLH in our sepsis patients can be due to selection bias as our hospital is a tertiary care referral hospital.
- Patients who had a underlying treatable etiology (malaria, leishmaniasis, scrub typhus, dengue) had a favorable outcome compared to those with an unknown triggering factor.
- Patients with treatable primary infection were managed without steroid with favorable outcome.
- The mortality among HLH patient in our study was 42% this was seen more in patients with unknown underlying etiology, malignancy, chronic infections.
- High index of suspicion should be kept to look for HLH in sepsis patients with bicytopenia.

**References**