



**ORIGINAL RESEARCH PAPER**

**General Medicine**

**HYPERFERRITINEMIA IN DENGUE**

**KEY WORDS:**

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**CASE REPORT**

A 22 year old student came to emergency during the first wave of covid 19 with complaints of sudden onset of high grade continuous type of fever. Associated with cold, cough, headache , body pains and abdomen pain. he had no other specific complaints.

On examination: temperature is 102.5degrees F.other vitals are stable.

Systemic examination is normal

All routine investigations were done along with covid 19 RT PCR and HRCT scan of the chest and was diagnosed as NS1 positive. Platelet count was monitored twice a day . Despite appropriate supportive therapy, the patient initially improved, but subsequently had clinical deterioration.

Patient was treated with single donor platelets transfusion and fluids .

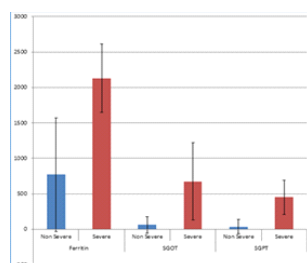
Ultrasound abdomen showed gall bladder wall thickening ,minimal ascites, pleural effusion, hepatomegaly, left epididymo-orchitis with funiculitis, left hydrocele with septations and internal echoes. Left varicocele. On further investigation for sudden drop of platelets it is identified that ferritin levels have increased more than 10 folds.

**Table 1 : day of fever and platelets count (lakhs/cumm)**

Day of fever	morning	evening
2	1.63	1.60
3	1.55	0.68
4	0.13	

**DISCUSSION**

Macrophage activation syndrome or hemophagocytic syndrome in dengue is a sign for severity assessment. It is the condition in which patient presents with nonremitting high grade fever, organomegaly and central nervous system dysfunction. Hyperferritinemia , hypoalbuminemia, cytopenia, coagulopathy, abnormal liver function tests, hypertriglyceridemia, hemophagocytosis, elevated serum sCD25 and Scd16 are the characteristic findings . A study on assesment showed that ferritin is better than liver enzymes for assesment as follows



Dengue is an uncommon cause of macrophage activation syndrome. T cells infected with dengue virus produce cytokines like tumor necrosis factor (TNF)- and interferon (IFN) gamma which contribute to the development of macrophage activation syndrome. It is characterized by excessive macrophage activation and cytokine release. This results in unchecked inflammation due to immune dysregulation. Glucocorticoids are used as the first line of treatment.

**CONCLUSION**

Ferritin and sCD163, hence, could be noted as important markers for monitoring dengue disease progression. Macrophage activation syndrome can occur even in the setting of infections not typically associated with it, such as classic dengue fever as in our case. This case highlights the need for increased awareness of such an association. Clinicians should be aware of this disorder in appropriate clinical settings because prompt recognition and early institution of appropriate therapy is the most important factor for recovery.

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