



# IL-6 Levels in Prediction of Severity of Dengue Fever

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*To the Editor:* Interleukin-6 (IL-6) may be associated with the generation of anti platelet and anti endothelial autoantibody, coagulation defects leading to bleeding and plasma leakage in dengue infection [1, 2]. This study included 60 children aged 6 mo–18 y, categorized into non-severe dengue (NSD) and severe dengue (SD) according to WHO 2009 Dengue Severity Criteria to assess whether IL-6 levels can predict severity of dengue fever. The mean IL-6 levels were assessed on 1st and 4th day of admission by using enzyme-linked immunosorbent assay kits from Krishgen Biosystems. Out of 60 patients, 15 (25%) belonged to SD on day 1 of admission, 10 (16.67%) belonged to SD on day 4 of admission and 6 (10%) patients expired within 4 d of admission. IL-6 levels of  $616.1680 \pm 449.0418$  pg/ml (Mean  $\pm$  Standard Deviation) on day 1 of admission and  $747.2799 \pm 558.9062$  pg/ml (Mean  $\pm$  Standard Deviation) on day 4 of admission corresponded to SD, *p* value being 0.0176 and 0.0025 respectively. Sehrawat et al., also found a significant higher level of IL-6 among the patients with SD [3]. Also, IL-6 levels on day 1 of admission of  $>265.4565$  pg/ml is observed in predicting mortality with the sensitivity of 67.30%, specificity of 75.00%, negative predictive value (NPV) of 26.09% and positive predictive value (PPV) of 94.59% and on day 4 of admission, IL-6 levels of  $>495.7575$  pg/ml is observed in predicting mortality with the sensitivity of 84.62%, specificity of 100.00%, NPV of 20.00% and PPV of 100.00%. Suharti et al., also found increased IL-6 in dengue shock syndrome (DSS) non-survivors [4]. Hence, it can be concluded that IL-6 levels at presentation can predict severity of dengue and its clinical outcome with high diagnostic accuracy. Thus, IL-6 levels of  $>450$  pg/ml on day 4 of admission should raise high index

of suspicion for poor clinical outcome (mortality) in dengue fever.

## Declarations

**Ethics Approval** IEC, JNMC, Belgaum; No. IEC MDC/DOME/167 dated 25/01/2021.

**Conflict of Interest** None.

## References

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Additional material related to this study is available with the online version at [www.indianpediatrics.net](http://www.indianpediatrics.net)

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