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Corticosteroid actions on dengue immune pathology: A review article

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Dengue infection causes significant morbidity and mortality in over 125 countries worldwide, and its incidence is on the rise. Currently, no therapeutics is available beyond supportive care while untreated complicated dengue fever can have a 50% mortality rate. In fact corticosteroids are used therapeutically for a broad spectrum of diseases including autoimmune and allergic inflammatory diseases and organ transplant rejection. However, it was expressed that only a few studies were undertaken to prove the effectiveness of corticosteroids in dengue infection although the immune pathology of dengue has been within the range of immune pathology of other diseases treated effectively by corticosteroids for several decades. After reviewing the research on the pharmacological and immunological basis of the research findings of steroids and dengue respectively, the first receptor and molecular level evidences of steroid pharmacology mediated immune pathological treatment hypothesis for dengue is presented here. This hypothesis regards different doses, routes of administration and particular groups of steroids that contribute to suppress immune pathology of dengue at different stages of dengue infection and level of immune dysfunction. Indeed this article explains strong supportive evidences of action of corticosteroids in dengue pathology receptors and molecular levels and provides important steps for emphasize on the obscured or neglected therapeutically valued actions of corticosteroids in dengue pathology including inhibition of dengue virus replication. Therefore it is suggested that a gold standard steroid protocol for each phase of dengue pathology may cure or subside the dengue disease. This would be remedy for 5 million cases of dengue hemorrhagic fever and prevent 0.22 million deaths that will definitely occur within the next decade (2018-2028). It warrants clinical testing.

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