

Dengue Fever in Postoperative Period Following Hysterectomy

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Abstracts: Dengue fever (DF) including dengue hemorrhagic fever (DHF) and dengue shock syndrome (DSS) may lead to serious complications in the postoperative period. It is a potential danger of bleeding from the cut tissues. Separate guidelines are not available for the management of surgical patients with dengue fever. [Shah J et al NJIRM 2012; 3(2) : 180-81]

Key words: Dengue fever following hysterectomy, dengue fever including dengue hemorrhagic fever

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Introduction: The global prevalence of dengue has grown dramatically in recent decades. The spectrum of clinical illness ranges in severity from mild illness to death^{1,2}. Dengue fever is rarely reported as a cause of postoperative bleeding³

Case report: Mrs. XYZ, 42 years old women undergone total abdominal hysterectomy on 02.09.2011 for multiple uterine fibroids. Her all preoperative investigations were normal and no history of fever. No any intra operative complications. She was stable for initial two days. On the postoperative day three, she developed high grade fever and abdominal distension. Her BP started falling and abdominal distension was increasing. On examination, she was conscious, temperature 39.4⁰ C, pulse 116/min, BP- 90/60 mm of Hg, no pallor, normal respiratory and cardiovascular systems, per abdomen- distension and bowel sounds were present. No abnormality on vaginal examination. Differential diagnosis of secondary hemorrhage or septicemia with possibility of intestinal injury were kept and investigations done. Her reports were: Hb 11 gm/dl, TC 4000/dl, platelet count 56,000/dl, no malarial parasites on peripheral smear, liver and renal functions normal and coagulation profile normal. Ultrasound showed moderate amount of ascites and right sided pleural effusion. Ultrasound guided fluid was blood tinged, routine and microscopy of ascitic fluid was normal except plenty of RBCs. Considering the rainy season, serology for dengue antigen was sent, which came positive. Diagnosis of dengue shock syndrome was kept and she was shifted to intensive care unit, where she was managed with intravenous fluids under central venous pressure guidance. Platelet count dropped

up to 46,000/dl. Fever was controlled with cold sponging and antipyretics. She became afebrile after three days. She started improving after five days of intensive monitoring and platelet count started rising. She was shifted to ward and discharged in good condition on twelfth post operative days.

Discussion: Dengue, a major public health problem in the tropical and subtropical area with around 100 million cases each year, is responsible for 25,000 deaths worldwide. It is endemic in India. Every year during the period of July to November i.e. rainy season, there is an upsurge of cases of dengue. Dengue fever (DF) is caused by one of the four dengue virus serotypes of the genus Flavivirus, family flaviviridae, RNA virus. Infection with one type provides immunity to only that serotype for life. Dengue is transmitted to humans by the mosquito *Aedes aegypti*¹. This mosquito breeds in containers in and around houses. It is a day time feeder. Currently the incidence of the dengue fever is increasing. Clinical manifestations vary from undifferentiated fever to florid hemorrhage, termed as dengue hemorrhagic fever (DHF). DHF is an acute viral disease with myalgia, retro-orbital pain, headache, vomiting, maculopapular rash, leucopenia and thrombocytopenia. The WHO criteria for diagnosis of DHF include: (a) fever (b) hemorrhagic tendency with thrombocytopenia (c) evidence of plasma leak syndrome as evidence by hematocrit 20% or higher than expected and (d) pleural effusion and ascites. The severity in DHF depends on the quantum of plasma leakage; however, in interpreting hematocrit, the potential effect of pre-existing anemia, severe hemorrhage and dehydration needs to be taken into

consideration. All above with a weak, rapid pulse, narrow pulse pressure or hypotension, cold clammy skin and restlessness constitutes dengue shock syndrome (DSS)¹. The most critical phase of DF is defervescent i.e. third to fifth day of illness when the fever subsides but person develops life-threatening thrombocytopenia due to complement activation by viral antigen binding to the platelets^{1,3,4,5}. There is a strong evidence to suggest an increased risk of DHF with secondary dengue virus infection.

Laboratory diagnosis of dengue virus infection can be made by the detection of specific virus, viral antigen, and genomic sequence by a nucleic acid amplification technology assay and/or antibodies^{1,2}. Molecular diagnosis based on reverse transcription (RT)-PCR, such as one-step or nested RT-PCR, nucleic acid sequence-based amplification or real-time RT-PCR has gradually replaced the virus isolation method as new standard for the detection of the virus in acute-phase serum samples. Serological method is the most commonly used. Two patterns of serological response can be observed in persons infected with dengue virus: primary and secondary antibody response. A primary antibody response is seen who are infected for first time and secondary antibody response in individuals who had a previous flavivirus infection. For acute and convalescent phase sera, serological detection of antibodies based on capture IgM and IgG ELISA is useful. Those having primary infection detects only IgM antibody and presence of both IgM and IgG antibody suggest secondary infection^{1,2}.

There is no specific treatment against dengue virus¹. Conventional management includes rehydration therapy (preferably oral and/or intravenous fluid in severe cases), control of high fever by sponging and NSAIDs drugs are contraindicated due to bleeding diathesis¹. Severe cases require intensive monitoring. Serial hematocrit determinations are essential guide for treatment and it should be advised daily from the third day until the temperature has remained normal for one or two days. Platelet count is not predictive of bleeding. Dengue fever is rarely reported as a cause of bleeding after surgery. It is a potential danger of bleeding from the cut tissues⁵. In any postoperative cases with unexplained thrombocytopenia, locally endemic viral

hemorrhagic fever like dengue fever should be kept in mind and evaluated³. Although, no separate guidelines are available for surgical patients, those who continue to demonstrate thrombocytopenia should be hospitalized and observed carefully for impending circulatory shock⁴.

Conclusion: Dengue fever in postoperative period may lead to profuse bleeding from the surgical sites. Medical causes of bleeding such as locally endemic viral hemorrhagic fever should be kept in mind and evaluated especially when a surgical cause of bleeding is not found or suspected.

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