INCIDENTAL DIAGNOSIS OF DENGUE FEVER IN A CASE OF GINGIVAL BLEEDING

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ABSTRACT
Dengue Fever is an acute, viral illness characterized by sudden onset of fever, severe headache, eye pain, muscle and joint pain and rash. Swollen lymph nodes, petechiae, nosebleeds and bleeding gums also occur frequently. Gingival bleeding if present is mostly acute and profuse. Here we present a case of dengue fever in 26 yrs old male patient in which mild gingival bleeding was present in maxillary anterior region which appeared to be a case of inflammatory gingival enlargement, but the bleeding aggravated and became uncontrolled as attempt was made to remove local deposits from teeth. Immediate blood investigations were carried out and the reports revealed thrombocytopenia and anemia. Patient was advised investigations to rule out dengue fever (DF) and laboratory findings confirmed dengue fever.
Key Words: Dengue fever, hemorrhage, thrombocytopenia.

INTRODUCTION

Dengue is now a global threat and is endemic or epidemic in almost every country located in the tropics. The viruses of dengue fever (DENV) are flaviviruses and include serotypes 1, 2, 3 and 4. The main vector for transmission is Aedes aegypti species of mosquitoes.[1,2] Dengue fever is characterized by sudden onset of fever, severe headache, eye pain, muscle and joint pain and rash. Swollen lymph nodes, petechiae, nose bleeds and bleeding gums also occur frequently.[3] Dengue Hemorrhagic Fever (DHF) is more serious form of DF, characterized by sudden onset of fever as well as bleeding from mucosal surfaces, liver enlargement and in severe cases, circulatory failure.[4] DHF is associated with abnormal blood clotting, thrombocytopenia and evidence of plasma leaking through capillaries. Patients who develop gastrointestinal bleeding have a higher mortality rate than those who do not. Dengue Shock Syndrome (DSS) include all of the criteria for DHF described above as well as life-threatening hypotension.[5]
Here we report a case of patient presenting with mild gingival bleeding diagnosed as dengue hemorrhagic fever.

CASE REPORT:

A 26 years old male patient reported to the Department of Periodonticsin Dental College Azamgarh with spontaneous oozing of blood from gums in upper front region. Patient gave history of fever, weakness, and mild pain in eye, muscle and joints since 3 to 4 days. No history of any systemic disease, rash or echymosis was reported.
On clinical examination oozing of blood was seen from the gingival margin of

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upper anterior teeth (Fig-1). Patient had enlargement of marginal and interdental gingiva in both upper and lower anterior region, due to the presence of local deposits it appeared to be a chronic inflammatory gingival enlargement. We tried to remove local deposits with ultrasonic scaling but the bleeding aggravated. All attempts were made to control gingival bleeding but satisfactory hemostasis was not achieved. We sent the patient for routine hematological investigations. His report revealed the platelet count 31,000, TLC 3100/cumm, DLC (P48, L51, and E1), hemoglobin 8.0%. Patient was immediately advised investigations to rule out dengue fever (DF) as there was the outbreak at that time in the city.

Laboratory findings of patient's sera were positive for dengue non-structural protein-1 antigen and also for anti-dengue immunoglobulin M (IgM) and anti-dengue immunoglobulin G (IgG) antibodies.

The patient was immediately referred to the department of medicine and he was admitted as a case of dengue fever. The patient responded well to the treatment, there was complete cessation of gingival bleeding within 24 hrs and within 48 hrs platelet count came to normal (1.51 lakhs). Patient was discharged after 72 hrs of admission.

After 6 weeks routine hematological investigations were repeated, all the tests were within normal limits. The patient was treated as a case of chronic inflammatory gingival enlargement after confirming with biopsy. Complete supra gingival and sub gingival scaling was done. After 1 week of oral prophylaxis inflammatory component of gingival enlargement subsided completely (Fig-2) but for fibrotic component of gingival enlargement external bevel gingivectomy was done. Healing was uneventful. Post operatively after 6 months absolutely normal gingiva was present (Fig-3).

DISCUSSION:

DENV has positive single stranded ribonucleic acid genome packaged inside a core protein, surrounded by an icosahedral scaffold and covered by a lipid envelope.[2] The vector (mosquito) can serve as biological host in which the virus replicates before it is transmitted in to the target host (patient) or the vector acting only as transmitting vehicle leading to only mechanical transmission. In both cases, the vector directly injects the virus into capillary blood vessels of the host. After entering into the blood stream, the virus replicates in sufficient quantity to induce the febrile response.[6, 7]

During the early febrile stage, clinicians cannot predict which patients will progress to severe disease. Later, during defervescence, symptoms such as bleeding, thrombocytopenia of <100,000 platelets mm^{-3}, ascites, pleural effusion, haematocrit >20% and clinical warning signs, such as severe and continuous abdominal pain, restlessness, persistent vomiting and a sudden reduction in temperature associated with profuse perspiration, adynamia and sometimes fainting, can be indicative of plasma extravasation and the imminence of shock. At this point, patients should receive fluid replacement to avoid haemodynamic instability, narrowness of blood pressure and hypotension[7].

The acquired immune response to dengue infection consists of the production of antibodies that are primarily directed against the virus envelope proteins. The response varies depending on whether it is a primary or secondary infection.[8] A primary antibody response is seen in individuals who are not immune to dengue and a secondary immune response is observed in patients who have had a previous dengue infection. A primary infection is characterized by a slow and low-titre antibody response. Immunoglobulin (Ig)M antibodies are the

first isotype to appear, by day 3–5 of illness in 50% of hospitalized patients and by day 6–10 of illness in 93–99% of cases. The IgM levels peak 2 weeks after the onset of fever and then generally decline to undetectable levels over the next 2–3 months. By contrast, during a secondary infection, high levels of IgG antibodies are detectable.[3,7]

The pathogenesis of hemorrhage in DHF could be multifactorial and includes vasculopathy, platelet deficiency and dysfunction and blood coagulation defects. Thrombocytopenia occurring in dengue hemorrhagic fever arises from both decreased production and increased destruction of platelets.[9] Moreover, there is impairment of platelet function, which can cause vascular fragility leading to hemorrhage, an important mechanism of plasma leakage in dengue hemorrhagic fever.[3]

Khan etal reported a case of acute gingival bleeding as a complication of dengue hemorrhagic fever[10]. The case presented here is different from other reported cases as there was mild gingival bleeding instead of acute gingival bleeding reported in literature and the characteristic signs and symptoms of DHF were also absent.

CONCLUSION:

This case report emphasis on including dengue in the differential diagnosis of any patient presenting with gingival bleeding either mild or severe, with or without characteristic signs and symptoms of dengue fever specially when there is dengue outbreak. A dentist thus can help in the early diagnosis of dengue fever and can early predict severe thrombocytopenia saving life of the patient

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FIGURES:

FIGURE:1

FIGURE:2

FIGURE:3