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RESEARCH ARTICLE

SYMMETRICAL PERIPHERAL GANGRENE IN PATIENTS OF DENGUE FEVER: A RARE CASE PRESENTATION

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ABSTRACT

Introduction: Dengue fever caused by dengue virus can unlikely present as different organ manifestation and rarely as peripheral gangrene. **Case report**: We report a case of 40 years old female who developed peripheral gangrene of toes following dengue infection. Patient was admitted in medicine ward with complain of fever with chills following which on day 7 patient developed black discolouration of toes rapidly progressive & involving all the toes. On detailed clinical examination and relevant investigation, we found that the cause of peripheral gangrene was dengue fever. **Discussion**: Peripheral gangrene is a rare presentation in patients of dengue fever. And its early identification is crucial for timely management. we managed our patient with broad spectrum antibiotics, IV fluids, High dose steroids, anticoagulants and supportive treatment. **Conclusion**: Peripheral gangrene in dengue associated with vasculitis is very rare and can cause significant morbidity and mortality. So its timely diagnosis and management is crucial.

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INTRODUCTION

Dengue fever is caused by dengue virus, which is transmitted via aedes mosquito (aedes aegypti and aedes albopictus). Dengue virus has four different serotypes (DENV 1-4).[1,2] Repeated infection with different dengue serotypes present with more severe form. >50% of world population exposed to the virus infecting human being including developed countries and about 3 billion people in 112 countries are exposed to dengue virus. Dengue is prevalent in tropical and subtropical regions. Dengue infection can present in various forms, mild asymptomatic to severe form as dengue haemorrhagic fever, dengue shock syndrome including various organ manifestations.[3,4] Dengue can unlikely present as different organ manifestations including myocarditis, encephalitis and rarely as cutaneous small vessel vasculitis, DIC and peripheral gangrene.[5,6,7] This is a rare case report of a patient admitted in our ward with symmetrical peripheral gangrene due to severe acute dengue infection.

CASE REPORT

A 40 years old female patient was admitted in medicine ward in maharana bhupal hospital, Udaipur with history of fever with chills for 7 days and abdominal pain for 7 days. On day 7,patient complained of burning pain in both feet manifest as black discolouration of toes noticed by her relatives. Black discolouration started in 2nd toe of right feet and gradually involved all the toes in 1-2 days. On General physical examination patient was conscious and oriented to time, place and person. Patient was febrile (38.2 ^{0}C). patient vitals were- Pulse rate was 92/min, Blood pressure was 104/80 mmhg, Respiratory rate was 20/min, SPO2 was 98% at room air. She had no pallor, icterus, cyanosis, clubbing, edema and lymphadenopathy. On examination, blackening of skin over all the toes of both feet, started in 2nd toe of right feet and gradually involved all the toes in next 1-2 day. After 3 days, on examination patient was not feeling any sensations in toes even on painful stimulus. There was clear demarcation of gangrene. All peripheral pulses were felt. Systemic examination was

normal. All the routine investigation, fever profile, autoimmune profile, D-dimer, PT-INR was sent. A provisional diagnosis of acute febrile illness with vasculitic gangrene was made, suspecting dengue fever, malaria or scrub typhus or septicemia and management was started accordingly. On investigations CBC shows Hb (10.5g/dl), TLC count (4360/mm3), Platelet (1,65000/mm3) and LFT shows Serum bilirubin (0.8mg/dl), SGOT(66U/L), SGPT (68U/L), ALP (117U/L) . RFT shows Serum creatinine (0.4mg/dl), Serum Urea (23mg/dl). PT-INR was (13/ 1.0), Aptt was (40), D-dimer was (240 ng/ml), ANA was (0.44), dsDNA was (0.28), Cardiolipin antibody was (IgG <2, IgM 7.5), Beta2 glycoprotein IgG 4.2 U/ml was, protein C was (124) and Protein S was (80). Dengue IgM was positive. Scrub typhus IgM and MPQBC were negative. Colour doppler and CT angiography of lower limb vessels were normal. After excluding all other possible causes of vasculitic gangrene, we thought it to be due to dengue infection. And made our diagnosis as dengue fever with vasculitic gangrene. We started treatment with IV antibiotics, IV fluids and high dose steroids and anticoagulants. Fever was subsided on day 10. Gangrene of toes was fully blown developed with clear demarcation within 3 days and amputation was planned. Patient was discharged on request on day 12.

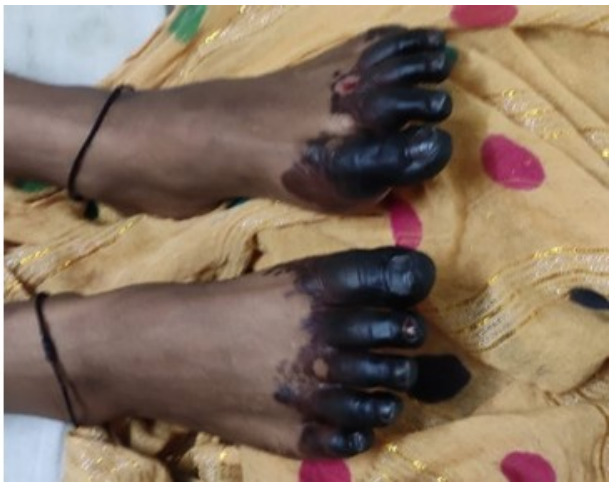

Figure 1. Symmetrical gangrene

DISCUSSION

Dengue fever is caused by dengue virus transmitted via aedes mosquito, aedes aegypti and aedes albopictus.[2] Dengue infection is prevalent in tropical and subtropical regions. It can manifest as mild form to very severe form including various organ manifestation termed as dengue expanded syndrome.[8] Clinical features of dengue fever are fever, headache, myalgia, retroorbital pain, maculopapular rash. Dengue can also present in form of shock syndrome, ARDS, Myocarditis and rarely with gangrene due to vasculitis and DIC.[5,6,7] A patient of dengue fever was admitted in our ward with complain of fever. She started developing gangrene of toes on day 7 of fever and developed full blown gangrene with clear demarcation within 3 days. It started as black discolouration in one toe and gradually involved all the toes. We thought it to be due to vasculitis secondary to dengue fever and high dose IV steroids was started with supportive management. All the relevant investigations were done.

Colour doppler study of lower limb vessels was normal excluding large vessel obstruction. After excluding all the other possible causes of gangrene like autoimmune vasculitis, APLA, DIC etc. We thought it be due to dengue fever and made our definite diagnosis as dengue fever with vasculitic gangrene. We managed the patient with IV antibiotics, IV high dose steroids and platelet counts were normal so also started on anticoagulants and supportive treatment. Fever was resolved and general condition of patient was improved, but patient developed full blown gangrene of toes within 3 days and accordingly amputation was planned. We discharged the patient on request. This is the rare presentation of dengue fever.

CONCLUSION

Dengue can present with various manifestations. Vasculitic gangrene is the rare presentation of dengue fever, so if a patient present with fever and after few days if she started developing purpuric patches or black discolouration of extremities, complained by patient as severe burning pain, we should always suspect this as differential diagnosis. By early diagnosis and management, we can save the life of patient and decrease morbidity and mortality due to dengue fever.

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