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Research Article

DEEP VEIN THROMBOSIS IS A RARE THROMBOTIC COMPLICATION OF SNAKE BITE- A RARE EXPERIENCE

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ABSTRACT

We report acase of 39 years male adult who presented with snake bite. Hehad coagulopathy as his 20-minute whole blood clot was prolonged. He developed deep vein thrombosis in left lower limb despite of coagulopathy. He was managed with unfractionated heparin and warfarin.

INTRODUCTION

Snake bite is a common medical emergency in tropical countries. A hemotoxic snake bite commonly present with coagulopathy and bleeding manifestation. Thrombotic manifestation is not frequently observed. We present a young male who developed deep vein thrombosis in left lower limb following snake bite despite of coagulopathy. Management of thrombotic complication in presence of coagulopathy is a challenging situation Case: A 39 years young male presented with history of snake bite on medial aspect of right foot. He was bitten by snake at night while going to wash room outside of the house. He has noticed green colored snake. There was pain and bleeding from the site of bite. Patient had applied tourniquet at ankle and thigh which was removed within 30 minutes in local hospital. In local hospital, keeping in view of coagulopathy, he has been referred to our institute. On examination he was conscious, oriented to time, place and person, pulse 78/min., BP 130/70. On systemic examination, respiratory, cardiovascular and abdominal systems are normal. On local examinations welling was present in left lower limbup to knee. The 20-minute whole blood clot was prolonged. Considering coagulopathy 100 ml of ASV infusion was given. On the same day investigation were done which revealed Hb-16gm, TLC-13.7x10^3/cum, RBC-5.6 mil/cu, Platelets-2.60 lac, BUN-12, s.cr.-0.86, AST/ALT-55/34, bilirubin total-0.86mg, conjugated-0.13, total protein-6.5gm, albumin-3.8gm, PT>60, INR invalid, aPPT-41.7 prolonged and D-Dimer->20.

On second day of hospitalization, swelling in limb progressed to whole limb. Doppler ultrasonography was done and revealed thrombosis in Saphenofemoral vein (SFV) on left side. Coagulopathy was persisting even after total 300 ml of ASV infusion. For deep vein thrombosis unfractionated heparin 5000 IU SCtwice, a day was given along with oral anticoagulant warfarin. Swelling in left limb started decreasing on 3rd day of treatment. On discharge INR was 3 and whole blood clot was < 20 minutes. On follow up two weeks after, INR was 2.6, swelling regressed.

Figure 1 Picture of DVT left lower limb

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DISCUSSION

Snake bite is most commonly seen in tropical India, where people are involved in farming activities. There are more than 2000 species of snakes worldwide, around 400 are poisonous.[1]In India more than 20,00,000 Snakebites are reported annually, of which 35000 to 50000 peopledie.[2] Several studies have reported that the highest incidence and mortality from snakebite occurs in South Asia.[3]The complication following hemotoxic snake bite are diverse. There may be mild local reactions to fatal bleeding from DIC.Local reactions include swelling at bite site, localised cellulitis, rapidly spreading cellulitis, compartment syndrome with necrosis of muscles and soft tissues.[4]The compartment syndrome may lead to loss of affected limb if left untreated. Haematological abnormalities are of snake bite are very common, commonly seen with viper bites. These includes thrombocytopenia, DIC and prolong bleeding and clotting time due to coagulation factor abnormalities. The thrombotic manifestation is less commonly seen. In a study of viper bites in Sweden, DVT and myocardial infarction were among the less commonly reported complications.[5]In another study from Martinique, pulmonary embolism, cerebral infarction, and myocardial infarction are the thrombotic events seen commonly following Bothrops lanceolatus bite (a variety of pit viper).[6]In present case involvement of whole limb by swelling was clue to rule out the deep vein thrombosis. Once diagnosis of deep vein thrombosis was established, there was dilemma in management of DVT in the presence of coagulopathy. By searching the literature, there were very few cases of thrombotic complication of snake bite with coagulopathy published in past. As per literature we used unfractionated heparin and oral anticoagulant, which was uneventful.

The underlying mechanism for thrombotic complication is believed to be imbalance between pro-coagulant and anti-coagulant system in the body. Haemotoxic snake venoms cause abnormalities in the coagulation system and platelets leading to the syndrome of DIC. This condition is associated with excessive bleeding following uncontrolled activation of coagulation cascade resulting in consumption coagulopathy. The thrombotic complications are probably the result of initial phase where the coagulation cascade is activated. The location reaction to the venom may produce swelling and thrombosis of superficial veins, involvement of deep vein is unlikely in this setting. Moreover, deep of vein thrombosis of lower limb is seen in case of snake bite in upper limb[7]which may indicate systemic envenomation and coagulopathy has a definite role in development of DVT rather than local reaction. There is scant information related to use of anticoagulants in established DVT following snake bite. Using anticoagulant is a big challenging task in haemotoxic snake bite with prolong bleeding and clotting time.

It is like a double edge weapon, if we don't use patient may die of pulmonary thromboembolism, if we use may have life threatening bleeding manifestation. In one case report of DVTby Nagarajan *et al* used unfractionated heparin and warfarin successfully and later on put on warfarin for six months. In present case report, we also used unfractionated heparin and warfarin in spite of coagulopathy and it was uneventful. He was discharged from hospital, on warfarin with advice to monitoring INR twice weekly.

CONCLUSION

Thrombotic complications of haemotoxic snake bite are rare but should be considered in unusual clinical presentation. In setting of coagulopathy, management of thrombotic complication is also challenging task. This case was eye opener for us in haemotoxic envenoms snake bite.

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