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Case Report

A rare case of varicella gangrenosum in adult

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ABSTRACT

Varicella gangrenosum is a gangrenous ulceration of varicella lesions involving the skin and soft tissues of the body. It most commonly occurs in children less than 5 years of age and life threatening. This is a very rare complication of chicken pox in adults which deserves early diagnosis and management. 21-year-old male presented with blackish discoloration in the lateral aspect of right thigh for 5 days. He has positive history of chicken pox for his brother and sister following which he acquired it 15 days back. During that episode he had fever, headache and blisters which ruptured to heal by scab. But scab in right thigh coalesced to form the gangrenous area with serous discharge. On presentation he had no fever with local lesion and surrounding erythema. Patient underwent radical surgical debridement and regular dressing. Pus culture was sent which showed no growth. He gradually improved and the ulcer granulated well and split skin graft is done. Varicella gangrenosum is a life-threatening condition which can be either wet, moist or purpura fulminans. Patients who develop disseminated intravascular coagulation and have a grave prognosis. Surgical debridement is the only proven treatment which has led to better outcome. Only about 10 cases reported in literature so far regarding this condition.

Keywords: Varicella gangrenosum, Chicken pox, Purpura fulminans

INTRODUCTION

Varicella zoster virus (VZV) is a highly contagious herpes virus which causes both chicken pox, usually during childhood, and shingles, usually much later in adult life. The virus is transmitted from person to person by direct contact with the varicella or herpes zoster (HZ) rash, inhalation of aerosolised droplets from vesicular fluid of skin lesions of patients with varicella or disseminated HZ.

Varicella gangrenosum is a gangrenous ulceration of varicella lesions involving the skin and soft tissues of the body.[2] It most commonly occurs in children less than 5 years of age and life threatening. This is a very rare complication of chicken pox in adults which deserves early diagnosis and management.

We hereby report a rare case of varicella gangrenosum in adult. Because of the early surgical management, patient survived and good results were obtained.

CASE REPORT

A 23-year-old male who is a student by occupation came to the emergency department with complaints of blackish discoloration over the lateral aspect of the thigh for the past 5 days (Figure 1). He had multiple blisters all over the body 10 days back which healed with black scab (Figure 2). But the scab over the right thigh coalesced to reach the present size forming a blackish discoloration. He had a positive history of chicken pox in his 17-year-old sister before 15 days and he was too diagnosed of chicken pox and treated symptomatically. He was not started on acyclovir during the episode. He had fever and

headache during the episode. No history of any drug intake and insect bite.

Figure 1: Varicella gangrenosum lesion in thigh.

Figure 2: Scabs in left thigh.

On admission, he was dehydrated and afebrile. He was resuscitated with IV fluids and a dose of prophylactic antibiotic was given. He had healed scab all over the body and had tachycardia on presentation. There were no enlarged inguinal lymph nodes.

On examination, a black patch of size 7×9 cm was noted in the lateral aspect of right thigh with punched out edge and serous discharge was seen. Surrounding skin was oedematous and erythematous and mild pitting type of pedal oedema was noted in the right lower limb. There was local warmth and vascularity and sensation were normal in both lower limbs.

Routine blood investigations were done. White blood count was 14,000 mm^3 and other investigations were within normal limits. There was no impairment in coagulation profile and hence it rules out the possibility of disseminated intravascular coagulation in this patient.

Plastic surgery opinion was obtained and advised debridement. Patient was taken for emergency surgical wound debridement and debrided (Figure 3). Wound discharge was sent for pus culture and there was no growth. Blood, urine and sputum culture were sterile. Serology for HIV, hepatitis B and C were negative. Arterial and venous Doppler was normal on both lower limbs. D dimer was within normal limits.

Figure 3: Intraoperative picture during debridement.

Figure 4: Raw area after the debridement.

Regular dressing was done postoperatively and the wound improved significantly. Two pus cultures done after debridement were negative. Patient was under third generation cephalosporin and metronidazole antibiotic cover. Acyclovir tablet was given 800 mg 5 times a day for 5 days. Patient was discharged after 15 days and came for review. Wound shrunk in size (Figure 4) and hence split skin graft was planned and wound healing achieved.

DISCUSSION

Varicella gangrenosum is a gangrenous ulceration of varicella lesions involving the skin and soft tissue which is caused by secondary bacterial infection.

Three types of varicella gangrenosa have been described in the literature. There is a moist gangrene variant, which is thought to be caused by super-added bacterial infection most commonly beta-haemolytic *Streptococci*, *Staphylococcus aureus* and *Escherichia coli.* A second variant is a dry gangrene which is due to arterial thrombosis which is commonly seen in distal finger tips

of feet and hands. The third most severe variant is purpura fulminans, associated with thrombocytopenia and/or bleeding from mucous membrane and gastrointestinal tract.[3]

Sharma et al reported a similar case of varicella gangrenosa in a 21-year-old patient who had lesions over the abdomen. He went on to develop purpura fulminans and death.[4]

Judith et al reported a case in child and the author gave opinion that presence of gangrene with DIC, gangrene secondary to arterial thrombosis, or necrotizing fasciitis, aggressive surgical debridement is the treatment of choice. However, for patients with moderate lesions of moist gangrene, it is better to treat successfully with antibiotics and antiviral therapy.[5]

Our case belongs to wet type of varicella gangrenosum and hence patient recovered without developing disseminated intravascular coagulation and purpura fulminans. Though acyclovir was started for this patient, it is recommended to be started within 24 hrs of developing rash. This will decrease the duration, fewer skin lesions, accelerated lesion healing.[6] Valciclovir and famciclovir are the other drugs used.

CONCLUSION

This case is one of the few cases reported worldwide. A better understanding of this condition will help in the diagnosis and management of similar cases in future.

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