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Three-year-old boy with swelling and ecchymosis of the penis

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Case report

A three-year-old boy was presented to the emergency department 1 hour after pain, swelling and ecchymosis of the penis occured as he was playing nakedly following urination under a tree in the field where his family was working. When the patients was seen in the emergency department, the penis was swollen and dark red-purple discoloration was present in the whole skin of the penis (Picture 1). Physical examination findings were normal except for the penile findings. The patient was hospitalized considering the possibility of development of gangrene in the penile skin.

Picture 1. Prominent ecchymosis which might lead to necrosis in the penile skin at the time of presentation

Picture 2. 12 hours after the presentation the degree of ecchymosis was observed to decrease.

Picture 3. Coarsening and enduration in the place of ecchymosis after three days.

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Diagnosis: Bite of bumblebee

Although no bee needle was observed during examination of the penis, a mark of bite was found. Intravenous pheniramine maleate (1 mg/kg) which is a H1 receptor antagonist and methylprednisolone (2 mg/kg) were administered. Oral paracetamol was administered for analgesy. Vital signs were observed to be normal during follow up. Since he could urinate, no catheter was inserted. After three hours mild fading in the discoloration of the penile skin was observed and the patient was continued to be monitored. After approximately 12 hours the color faded further (Picture 2).

Three days later, erythema disappeared completely, but enduration in the penile skin could be felt by palpation (Picture 3). On the fifth day, the patient improved clinically and was discharged. No pathology developed on follow-up visits.

Discussion

Humans may be attacked by different animals and insects. The most commonly observed insect bites are caused by bee bites (1).

Bee bites may cause life threatening findings. The frequency of anaphylaxis caused by bee bites ranges between 0.4% ad 5% (2). In our country, the rate of anaphylaxis is about 2%. Although severe allergic response can be seen at any age, it is most commonly observed below the age of 20 (3,4). The most commonly observed signs and symptoms include severe, sharp pain, hyperemia and edema in the area of bee bite. The signs and symptoms generally start to improve frequently in 24 hours spontaneously.

The type of the bee can be determined by history and examination. Honeybee is easily defined, since it leaves its needle in the area of the bite. Removing this needle is efficient in decreasing the complaints (5). Bumblebees can attack both by biting and stinging.

In our case which was considered to be a local allergic reaction caused by bee bite, absence of a bee needle on the penile skin, but presence of a mark of bite suggested that the event was caused by a bumblebee.

Allergic reactions caused by a bee bite are observed in two types including early and delayed types according to the time of occurence of signs and symptoms. Early allergic reactions which can be observed in a range from angioedema to anaphylaxis generally occur in the first four hours. Delayed reactions which occur after a few days or weeks may lead to neurologic and vascular events including coagulation disorders, peripheral neuropathy, convulsion, vasculitis, skin reactions and serum sickness (6-9). In our case, an early type of allergic reaction in the form of marked edema and ecchymosis in the penile skin developed in a few hours. In the follow-up, no neurologic, hematologic or vascular delayed type allergic reaction developed.

In 60% of children the reaction is limited to the skin and anaphylactic shock or vascular symptoms are observed less frequently (4). In our case, wide local involvement was observed to be limited with the penile skin and prepicium and to regress with treatment. No finding of anaphylaxis or delayed reaction was observed.

Treatment of wide local reactions caused by bee bite include cold application, oral/intravenous analgesics, antihistaminics and short-term systemic corticosteroids. Systemic acute allergic reactions are treated like the other causes of anaphylaxis (7-10). For protection from bee bites garments with long sleeves should be worn at picnic and rural areas, colored clothing and aromatic odours should be avoided, home and enviromental wastes should be moved away without waiting, formation of bee nests should be prevented with insecticides in areas where bees are found with high numbers (2-4, 7).

Even though a bee bite does not lead to severe systemic reaction, it may cause threat to life locally. Development of local hyperreaction in the penis which is observed with a low rate in bee bite cases could have caused necrosis in the penile skin or tissue. However, cure was provided with antihistaminic and short-term corticosteroid without development of complications.

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