

# Snakebites by the Sheltopusik (*Pseudopus Apodus*) Locally Called Petilus Snake to Humans; A Case Report

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## Abstract

**Background:** The vast territory of Iran, due to climate diversity, is a host for various animal species. Snakes may be considered a significant threat to health of the rural regions of Iran. Sheltopusik (*Pseudopus apodus*), the largest member of the family Anguina, is one of the species of lizard that is considered to be a harmless animal species. This lizard is often mistaken for a faunistic community of reptiles in the area and is well-known as Petilus Snake. To the best of our knowledge, no reports of injury from bites or attacks of this species have previously been published.

**Case presentation:** The present case report is the first report of describing the attack of a sheltopusik to a 40-year-old white female farmer. Due to the lack of primary identification of the damaging animal, it was initially confused with the snakebite, leading to unnecessary administration of anti-venom and tetanus prophylaxis.

**Discussion:** The main reason for this event was the lack of reporting a similar medical harm in the area and the snake-like appearance of the lizard. Acquaintance with this kind of damage to the human health and tissue contusion by the hit can help rational management of such patients without conventional modalities for snakebite like antivenom.

**Conclusion:** The physicians practicing in emergency wards and rural clinics in the area, as the first place of referral, should be trained on proper management of this group of patients to achieve the best clinical outcome.

**Keywords:** Iran ; Sheltopusik; Snakebite; Petilus

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## INTRODUCTION

The vast territory of Iran, due to climate diversity, is a host for various animal species. Meanwhile, snakes as part of the ecosystem, may be a threat to the health of people who live nearby due to occupational or geographical conditions (1-3).

Snakebite is a health issue all around the world, since snakes live in symbiosis with humans especially in the tropics and agricultural lands. More than 50 million cases of snakebite occur in the world each year, resulting in up to 125,000 deaths and permanent disabilities. Most snakebites happen in spring and summer (2). It is an urgent medical emergency that could be life threatening and require appropriate immediate actions to attenuate injury and save lives (4).

This animal is constantly being seen and found in ponds nearby, grasslands, around animal husbandries and inside hedges in northern areas of Iran. The sheltopusik is distributed from the East and South-East of Europe over the Southwest of Asia and Central Asia (5, 6). Due to its snake-

like appearance, this lizard is often mistaken for a faunistic community of reptiles in the area. This may produce a state of fear of this animal and the possibility of harm to an individual or animal. One characteristic that can help identify it is the presence of lateral zipped-shaped grooves extending mainly from mouth side to anus. They are usually seen in pale reddish brown and green pepper olive color and usually with lighter head and abdominal areas. This reptile feeds on insects, especially locusts, insect larvae, earthworms, molluscs, small vertebrates, birds and reptiles' eggs. The mature sheltopusik can reach a length of about 1 meter and sometimes up to one meter and a half (6).

As mentioned previously, the snakebite is an important issue in health system, which can cause serious pain, panic, anxiety and even death in people who are exposed to it. Identification of the wildlife damage in the area and the clinical signs of animal bite or attack help diagnose and manage the patient properly. In this case report, we describe a case of sheltopusik's attack that was initially confused with the snakebite.

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**CASE REPORT**

A 40-year-old white female farmer, previously in good health, was bitten on posterior right shin. The accident happened while she was harvesting the product. She noticed pain and local swelling almost immediately. At admission, she complained of intense pain in the bite area making her unable to walk properly. She was admitted to Razi Hospital in Qaemshahr, Iran, 1 hr after the bite, before any treatment had been given.

On physical examination, the patient was pale and fully conscious, and had a normal temperature (37 °C), a cardiac rate of 80 beats/min, blood pressure of 100/60 mmHg and respiratory rate 17 breaths / minute. The bitten limb was numb, swollen and red. It was 4 cm larger than the asymptomatic opposite side. However, the location of the snake fang was not detected. The patient mentioned no previous history of medical conditions or allergy. The patient's laboratory findings are listed in Table 1. Since the patient had minimal envenomation according to snakebite severity scores (SSS) (7, 8), she only received four vials of pentavalent anti-venom and tetanus prophylaxis. The supportive treatment of the patient included fluid therapy with physiological saline, 1g acetaminophen and 50 mg pethidine for pain relief.

One day after the antivenom therapy, the numbness in the injured area was resolved and the patient was able to walk, but she was still suffering from a persistent pain in the affected area. Although the location of bite was uncertain, a

more accurate history taken from the patient indicated that the snake had hit her. An ultrasound examination revealed accumulation of serum inflammatory fluid in soft tissue with flat substrate. No large fluid/hematoma or abscess was observed. The patient's description of the injurious reptile and her use of local name of Petilus Snake led to the identification of the animal. Administration of anti-venom was discontinued. The patient was discharged on the second day of hospitalization with full recovery and a good general condition. She was referred to outpatient services one day after discharge to complete her course of treatment. Physical examinations showed normal neural reflexes. Although the severity of pain, swelling and bruising was reduced significantly, they did not resolve completely in the affected area in our case (Figure 1). The injured shin was yet 1 centimeter larger than the opposite leg. Chlordiazepoxide (5 mg three times/day) was prescribed to attenuate the anxiety caused by the event, and acetaminophen codeine (300mg/20mg as needed) to relieve the pain.



**Figure 1.** Swelling location, injured shin

**Table 1.** The patient's laboratory findings

Laboratory test	Day 1	Day 2
PT	12	-
INR	1	-
PTT	35	-
BS	100	-
Blood urea (13-43mg/dl)	28mg/dl	-
Creatinine (0.6-1.2mg/dl)	0.7mg/dl	-
Potassium (K) (3.5-5.5)	5	-
Sodium (NA) (135-145mEq/l)	140 mmol/l	142.9mmol/l
WBC	73000/μl	-
RBC	4850000/μl	-
HGB	13.2g/dl	-
HCT	37.8%	-
MCV	77.9fl	-
MCHC	34.9g/dl	-
PLT	226000/μl	-
C.P.K.1 (<145 U/l)	130U/l	-
Urine analyses	Normal	-
pH	-	7.384
pCo2	-	36.9mmHg
HCO3	-	22.mmol/l

**DISCUSSION**

The snakebite is a potential medical emergency that requires immediate measures. Regarding the patient's status, receiving early antivenom infusion could be vital. However, this therapeutic approach may occasionally cause systemic hypersensitivity reactions (5). The appearance of delayed bruises can be attributed to the migration of deep bleeding to the surface. Lizard attack on human has been likely just wrapping entirely around the patient's leg, which was described by our case as a hit. Concerning this patient, she was considered as a snakebite case due to the lack of primary identification of the damaging animal, leading to unnecessary anti-venom and tetanus prophylaxis. The main reason for this event was the lack of reporting a similar medical harm in the area and the snake-like appearance of the lizard. Acquaintance with this kind of damage to the human health and tissue contusion by the hit can help rational management of such patients without conventional modalities for snakebite like antivenom. Given the fact that attacked patients experience anxiety and panic, relieving stress in these

patients is very critical for the first encounter. According to local beliefs, considering this reptile to be harmless, it is obligatory to inform the regional people for injury-preventive modalities.

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### CONCLUSION

The physicians practicing in emergency wards and rural clinics in the area, as the first place of referral, should be trained on proper management of this group of patients to achieve the best clinical outcome.

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