

HIGH RESOLUTION INFRARED THERMOGRAPHY IN MONITORING POISONOUS ANIMAL BITES IN URUGUAY

Introduction: The Toxicological Information and Advice Centre records bites by *Bothrops* and *Loxosceles* *Laeta*. There is difficulty in assessing local phenomena. Thermography is used in several medical specialties; non-contact thermography does not generate ionizing radiation. We describe its use in monitoring local inflammation due to poisoning. **Cases:** **1:** Man, 36 years old, bitten by *Bothrops* *Pubescens* on his left foot. After 18 days, he presented with severe pain, edema, redness, and warmth, with leukocytosis (15.8×10^3 /L) and CRP levels of 43 mg/L. **2:** Man, 46 years old, bitten on the inner part of the right thigh by *Bothrops* *Alternatus*. On the 4th day, intense pain, extensive edema, hematoma with blisters. Leukocytes of 10.8×10^3 /L, CRP of 10 mg/l. **3:** 65-year-old woman, anterior thoracic injury, 10 days of evolution with liveloid plaque and ulcer. **4:** Male, 33 years old, bite lasting 8 days, left index finger, second phalanx with distal cyanosis, coldness and areas of necrosis.

Discussion: The cases present thermal asymmetries with ΔT values greater than 1°C , reported by Medeiros et al 2017. Case 1 presents a $\Delta T = 4.02^\circ\text{C}$, Machado et al 2023, report clinical cases with ΔT values greater than 2.2°C and their relationship with infection markers. Case 2 presents $\Delta T = 1.36^\circ\text{C}$, Sabitha et al 2021 describe inflammatory patterns with ΔT less than 1.5°C . In case 3, the liveloid plaque presents a thermal pattern with areas of perfusion and hypovascular areas, $\Delta T = 1.72^\circ\text{C}$. These can be attributed to changes in the local microcirculation with ΔT described by Medeiros et al 2017. Case 4 the IR shows the presence of distal flow at the level of the second phalanx, with $\Delta T = 3.50^\circ\text{C}$, receiving conservative treatment and not requiring amputation. Thermography could complement the toxicologist's bedside assessment with objective data from ΔT , assessing possible risks of infection or necrosis, the thermal pattern of the liveloid plaque, as well as distal perfusion, avoiding unnecessary amputations in the extremities. A prospective study is being carried out in Uruguay to obtain statistical significance.

Keywords: *Bothrops*; Liveloid; *Loxosceles*; Delta T