

BOTHROPIC ACCIDENTS

João Luiz Costa Cardoso, Hospital Vital Brazil, Instituto Butantan, São Paulo.

Bothropic accidents represent about 90% of snakebite envenomation in South America⁷.

In 1989, 20,748 snakebite accidents were notified to the Brazilian Ministry of Health. The majority, 67,3% of the cases were attributed to the genus *Bothrops*.

Of the 20 recognized species 4 are most commonly responsible for human accidents: *B. jararaca*, in the South-Southeast; *B. moojeni*, in the Midwest; *B. erythromelas*, in the Northeast and *B. atrox* in the North Brazil. *Bothrops atrox* is widely distributed in the Amazon region, where over 90% of accidents are attributed to this species³.

Rosenfeld⁶ introduced simplified diagnostic criteria based on pathophysiological characteristics of envenomation, which are used up to now.

From a medical point of view, there are three recognized activities responsible for the major characteristics of bothropic envenomation: "proteolytic", haemorrhagic and coagulant. "Proteolytic" disturbances are the most important clinical alterations initially characterized by solid oedema and local pain. Blister and necrosis/ abscess may occur sometimes leading to disabilities. Recent data show that *Morganella morgani* is identified in over 40% of abscess cultures².

Haemorrhagic phenomena such as gengivorragia and purpurae have been correlated to the presence of haemorrhagins although their exact implication must be further studied in patients.

Coagulation disturbance caused by South American snake venoms have been recently revised.⁴

Acute renal failure (ARF) is considered to be the major cause of death in bothropic envenomation. In a report of 63 patients with ARF following snakebite, 32 (51%) were caused by *Bothrops* while 31 (49%) were caused by *Crotalus*. Seven patients (7/32) bitten by *Bothrops* in this first group showed renal cortical necrosis¹.

According to the Ministry of Health the lethality rate of snakebite in Brazil is 0,5%⁵.

Serumtherapeutic treatments are still based on empirical criteria. Further studies are needed in order to establish better schedules based on scientific findings.

REFERENCES

1. AMARAL, C.F.S.; REZENDE, N.A.; SILVA, O.A. da; RIBEIRO, M.M.F.; MAGALHÃES, R.A.; CARNEIRO, J.G.; CASTRO, J.R.S. Insuficiência renal aguda secundária a acidente botrópico e crotálico. Análise de 63 casos. *Rev. Inst. Med. trop. S. Paulo*, 28:220-227, 1986.
2. ANDRADE, J.G.; PINTO, R.N.L.; ANDRADE, A.L.S.; MARTINELLI, C.M.T.; ZICKER, F. Estudo bacteriológico de abscessos causados por picadas de serpentes do gênero *Bothrops*. *Rev. Inst. Med. trop. S. Paulo*, 31:363-367, 1989.
3. HAAD, J.J.S. Las serpientes del género *Bothrops* en la Amazonia Colombiana. *Acta med. Colomb.*, 14:148-165, 1989.
4. KAMIGUTI, A.S. & CARDOSO, J.L.C. Haemostatic changes caused by the venoms of South American snakes. *Toxicon*, 27:955-963, 1989.
5. MINISTÉRIO DA SAÚDE/SNABS. *Acidentes Ofídicos* N° 40, mimeo, 1989.
6. ROSENFELD, G. Symptomatology, pathology and treatment of snake bites in South America. In: BUCHERL, W.; BUCKLEY, E.; DEULOFEU, V. ed. *Venomous animals and their venoms*. New York, Academic Press, 1971, v. 2. p. 345-384.
7. WORLD HEALTH ORGANIZATION. *Progress in the characterization of venoms and standardization of antivenoms*. Publication, N° 58. Geneva, 1981.