

## A CASE OF HUMAN RABIES IN THE URBAN AREA OF RIBEIRÃO PRETO, SP, BRAZIL

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### SUMMARY

A 39-year old male patient was admitted to the University Hospital of the Faculty of Medicine of Ribeirão Preto with signs and symptoms of sudden dyspnea, generalized myalgia and behavioral disorders. The initial suspicion was alcohol abstinence syndrome and the patient was referred for psychiatric and neurologic care. The evolution of the patient with a worsening of signs and symptoms, presence of crises of tachypnea, agitation, difficulty to swallow, irritability and hydrophobia, and his report of having been bitten by a suspected dog raised the hypothesis of rabies. The diagnosis was confirmed by examination of a corneal impression, biological tests in the cerebrospinal fluid (CSF) and saliva and visualization of Negri bodies in nervous tissue (direct immunofluorescence). The patient evolved with agitation, aggressiveness, and worsening tachypnea intercalating with apnea, and died on the 4th day after admission.

**KEYWORDS:** Rabies; human rabies.

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### INTRODUCTION

Rabies is a fatal disease caused by a Rhabdovirus belonging to the genus Lissavirus. This agent circulates in nature among different species and may infect humans when they contact an infected animal. In the urban setting, transmission to humans occurs more frequently through dog and cat bites in situations in which control programs are unable to prevent the circulation of the agent and measures of specific post-exposure protection fail<sup>2,3,4,6</sup>. Although universally distributed, the disease occurs more frequently in less socially favored areas in which the lower efficacy of control programs is added to the greater possibility of contact between humans and animals<sup>1,6</sup>.

### CASE REPORT

JLL, a 39-year old man born and living in Ribeirão Preto, a guard on a farm, was admitted to the emergency Unit of the University Hospital of the Faculty of Medicine of Ribeirão Preto (UHFMRP) on May 4, 1995, with complaints of sudden dyspnea of one day duration not related to effort, generalized myalgia, fever, and vomiting episodes. The initial physical examination revealed a conscious patient, oriented, afebrile, and tachypneic (35 bpm). A chest X-ray and blood counts showed

no alterations. While waiting for his tests, the patient presented behavioral disorders, with psychomotor agitation and exacerbation of tachypnea. Because of a history of alcoholism (½ to 1 liter of sugar cane liquor per day), the suspicion of abstinence syndrome was raised. The patient was unable to swallow the benzodiazepine tablet prescribed, stating that he could not do it. This motivated a request for evaluation at the Head and Neck Clinic, which ruled out any abnormality in this area. Psychiatric evaluation ruled out the abstinence syndrome and a laboratory investigation was recommended to rule out organic causes of the behavioral disorders.

Exams carried out on this occasion yielded the following results:

ECG: discrete bradycardia with no signs of ischemia or overload; Na, 138 mEq/l; K, 3.9 mEq/l; urea, 29 mg/100 ml; creatinine, 1 mg/100 ml; glycemia, 141 mg/100 ml; arterial blood gases: pH, 7.67; pO<sub>2</sub>, 119 mmHg; pCO<sub>2</sub>, 14 mmHg.

Since he continued to be agitated and to have generalized myalgia, headache and tachypnea and anguish attacks that worsened when he saw water, the patient was evaluated at the

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Neurology clinic, which ruled out specific deficits related to this area and requested a new psychiatric evaluation. A progressive increase in psychomotor agitation was observed on the following day, May 5, 1995. A new blood count showed 15,700 leucocytes, with 80% lymphocytes. Clinical examination permitted a good characterization of the signs of hydrophobia, with intense agitation at the mere sight of water. The Psychiatric staff then investigated a possible history of an animal bite with the patient and his relatives. The patient himself reported that he had been bitten by a dog approximately 30 days before, with a perforating-cutting lesion in the right index finger. He reported that he sacrificed the animal soon after and did not look for any type of medical care. There is no reference of any kind of preventive measure taken by the patient regarding rabies.

The hypothesis of human rabies was confirmed after the case was notified to the Epidemiologic Surveillance Nucleus of UHFMRP, first on the basis of epidemiologic and clinical data and then on the basis of positivity to a direct search for the rabies antigen in a corneal impression (direct immunofluorescence). This test, carried out in São Paulo at the Pasteur Institute, yielded a result within 24 hours, permitting a diagnostic confirmation while the patient was still alive. Equally positive were the biological tests carried out on CSF and saliva, as also was examination of nervous tissue fragments obtained post mortem, which revealed the presence of Negri bodies (direct immunofluorescence). The test of neutralization antibodies for rabies in the patient's serum showed a value of 0.14 IU/ml.

The patient continued to be hospitalized on the Infectious Diseases ward, starting at 9:30 p.m. on May 5, 1996, under sedation and IV hydration. He continued to have persistent tachypnea alternating with periods of apnea, and was disoriented but conscious, showing profuse salivation, with a few hypertensive crises and sporadic febrile peaks (38.6°C and 39.2° C). Twice he suffered attacks of intense agitation, during one of which he broke the windowpane trying to jump out the window. The periods of apnea increased and culminated in respiratory arrest and death at 2:30 p.m. on May 8, 1995.

#### COMMENTS

The distribution of human rabies in Brazil varies widely with geographic area. While the southern region has reported no cases since 1987, the northeast accounts for about 70% of the cases diagnosed in the country over the last few years<sup>1,6</sup>. In the State of São Paulo<sup>5</sup> cases were observed in 1990 (one in Itapira and one in Mogi-Guaçu), 1992 (one in Araras) and 1993 (1 in Araçatuba). The relative rarity of the disease in the State, together with the polymorphism of clinical manifestations usually present in the early stages of human rabies, were probably responsible for the diagnostic difficulties met in the present case. However, it should be kept in mind that the urban area of Ribeirão Preto was experiencing an epizooty of rabies

detected in 1995, approximately four months before the appearance of this human case. Although of reduced dimensions, this epizooty continues to be present and will be the subject of a future specific publication. Under these conditions, a more prompt diagnostic suspicion would have been expected. The difficulty in thinking about rabies in the present case demonstrates the gap still existing between surveillance and clinical care activities, with a consequent impairment of the assimilation of epidemiologically more relevant situations on the part of health care workers. Reducing this gap by providing clinicians with information about threats present in the community should be a priority task at epidemiologic surveillance services.

#### RESUMO

##### **Raiva humana na zona urbana de Ribeirão Preto, SP, Brasil**

Paciente masculino, com 39 anos de idade, foi admitido no Hospital Universitário da Faculdade de Medicina de Ribeirão Preto com sinais e sintomas repentinos de dispnéia, mialgia generalizada e distúrbios comportamentais. A suspeita inicial foi de síndrome de abstinência alcoólica e o paciente foi encaminhado para tratamento psiquiátrico e neurológico. A evolução do paciente foi com piora de sinais e sintomas, presença de crises de taquipnéia, agitação, dificuldade de engolir, irritabilidade e hidrofobia e o seu relato de ter sido mordido por um cão suspeito levou à hipótese de raiva. O diagnóstico foi confirmado pelo exame de esfregaço corneal, testes biológicos no líquido e saliva e visualização de corpúsculos de Negri no tecido nervoso (imunofluorescência direta). O paciente evoluiu com agitação, agressividade e piora de taquipnéia intercalada com apnéia e morreu no quarto dia após a internação.

#### REFERENCES

1. BRASIL. Ministério da Saúde. Fundação Nacional de Saúde. Centro Nacional de Epidemiologia. Coordenação Nacional de Controle de Zoonoses e Animais Peçonhentos - **Programa Nacional de Profilaxia da Raiva**. Brasília, MS, 1996. (Mimeografado).
2. CDC - Human rabies: Washington. **MMWR**, 44: 625-627, 1995.
3. GERMANO, P.M.L. - Avanços na pesquisa da raiva. **Rev. Saúde públ.** (S. Paulo), 28: 86-91, 1994.
4. ORGANIZACIÓN PANAMERICANA DE LA SALUD - La situación de la rabia en America Latina de 1990 a 1994. **Bol Ofic. sanit. panamer.**, 119: 451-456, 1995.
5. SÃO PAULO. Secretaria da Saúde do Estado. Centro de Vigilância Epidemiológica - **Manual de Controle da Raiva**. São Paulo, 1995.
6. SCHNEIDER, M.C.; ALMEIDA, G.A.; SOUZA, L.M.; MORARES, N.B. & DIAZ, R.C. - Controle da raiva no Brasil de 1980 a 1990. **Rev. Saúde públ.** (S. Paulo), 30: 196-203, 1996.

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