

**NEUROPATHOLOGICAL STUDY OF A NEW VIRAL ENCEPHALITIS:  
THE ENCEPHALITIS OF SÃO PAULO SOUTH COAST  
(PRELIMINARY REPORT)**

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**S U M M A R Y**

Seven cases of a new viral encephalitis are studied under the neuropathological point of view. The histological lesions are those common to all acute viral encephalitis. However, some topographical peculiarities were noted, such as the severe thalamic, dentate and hypothalamic nuclei damage.

In the Spring of 1975, an epidemic viral encephalitis developed in the south coast of São Paulo (Brazil). Clinically, it was an acute encephalopathy with sudden appearance of signs of intracranial hypertension, cerebellar symptoms and behavior disturbance<sup>2</sup>. The causal virus was isolated. It is a type B, arbovirus until now, unknown, similar to Dengue and Saint Louis viruses<sup>1</sup>.

This preliminary report analyses the neuropathological aspects of this new disease.

Seven cases have been studied and their pathological features are histologically and topographically the same. Under the histological point of view the basic lesions are those usually found in any acute viral encephalitis and are characterized by: 1) nodular or diffuse microglial proliferation; 2) perivascular inflammation within the Virchow-Robin space, and 3) changes in the nerve cells characterized by necrosis, neuronophagy and central chromatolysis.

The lesions determined by this encephalitis have peculiar topography and neuropathological features. The most affected structures are the thalamus which always shows inflamed necrotic areas (Fig. 1 a, b, c), the

dentate nucleus of the cerebellum (Fig. 1d), the hypothalamic nuclei and the locus niger. Other structures always affected by the inflammatory condition are the spinal cord (Fig. 2) (mainly the caudal segments), the whole brain stem (mainly at the level of the subventricular gray substance and the tegmentum) and the hippocampal cortex. The environment of the cerebral cortex and white matter, as well as the basal gray nuclei and the internal capsule is variable and not important. The cortex and the cerebellar white matter are nearly always normal.

**R E S U M O**

**Estudo neuropatológico de uma nova encefalite viral: a encefalite do litoral sul do Estado de São Paulo (Nota prévia)**

Sete casos de uma nova encefalite viral são estudados neuropatologicamente. As lesões histológicas elementares são comuns às outras encefalites virais agudas. Nesta, entretanto, a topografia lesional parece peculiar no que diz respeito ao muito importante comprometimento do tálamo, núcleo denteado e núcleos hipotalâmicos.

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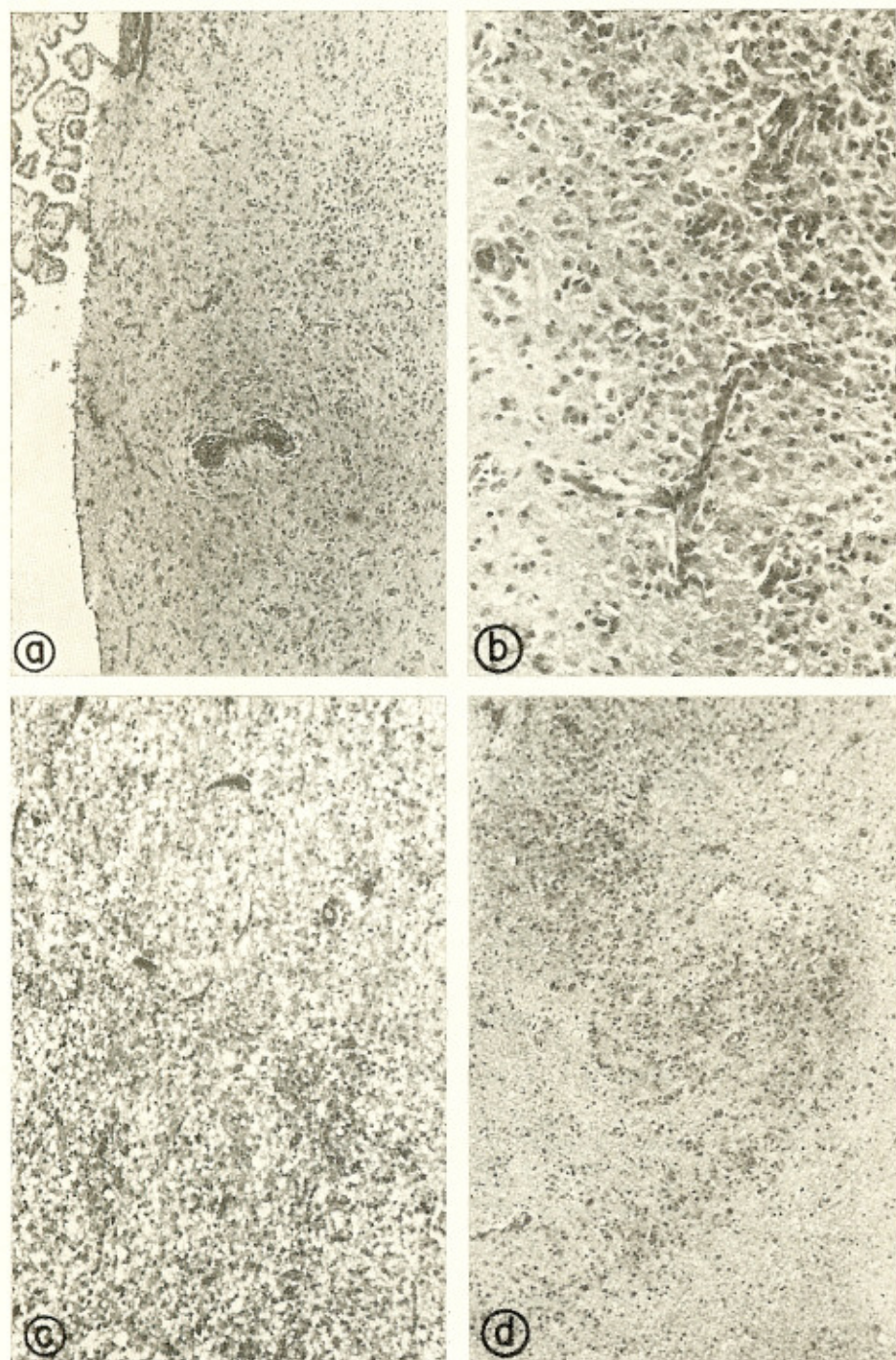


Fig. 1 — A) — Medial aspect of the thalamus. Widespread parenchymatous inflammation, lymphocytic perivascular cuffing and severe neuronal loss. H.E., 32 X. B) — Thalamus. Severe parenchymatous necrosis. The nervous tissue is replaced by macrophages. H.E., 205 X. C) — Thalamus. Severe necrosis leading to a spongy state. H.E., 80 X. D) — Dentate nucleus. Dense inflammatory infiltrate and almost complete absence of nerve cells. H.E., 80 X.



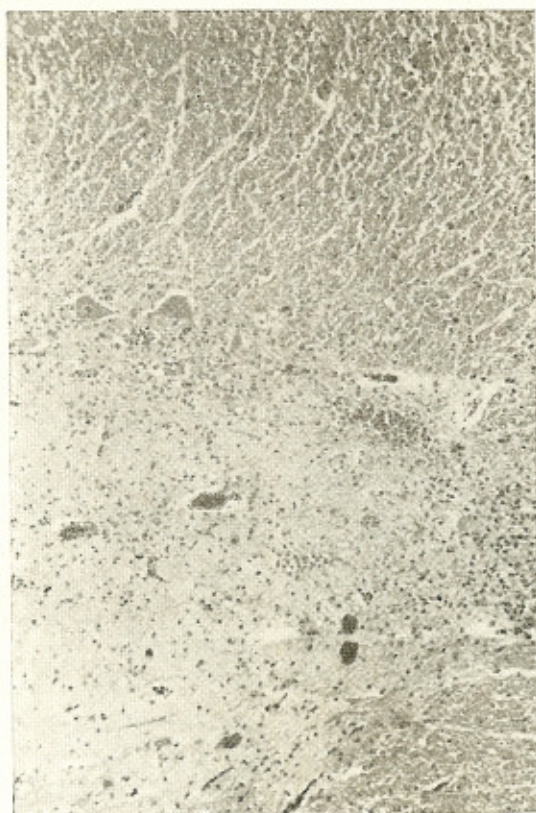


Fig. 2 — Spinal cord. Nodular and diffuse inflammatory infiltrate plus severe loss of nerve cells. Few discrete perivascular cuffings are also present. H.E., 80 X.

#### REFERENCES

1. LOPES, O. C. — Personal communication.
2. TIRIBA, A. da C. — Epidemia de encefalite atribuída a arbovirus, ocorrida no litoral sul do Estado de São Paulo em 1975. Contribuição para o estudo clínico. [Tese de Livre Docência]. São Paulo, Escola Paulista de Medicina, 1975.

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