

## **ELECTRON MICROSCOPE STUDIES OF BRAIN TISSUE IN PSYCHOSIS**

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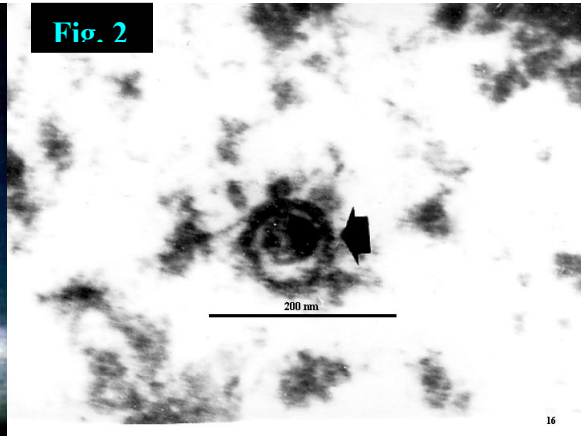
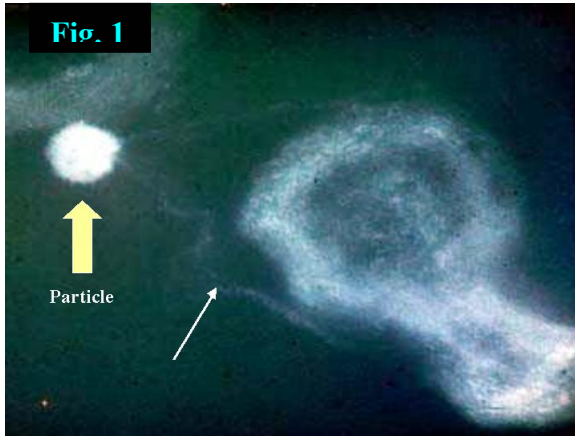
**Introduction.** Schizophrenia research through images has been characterized by the application of new technologies with this purpose. Their fundamental objective has been to look for regions of interest (ROI) that can be related with the disease. The results obtained up to present indicate that the left temporal lobe is among the regions of more interest specially its medial structures with decrease of the volume of the amygdale, hippocampus and para-hippocampal gyrus. In the neocortex the superior temporary gyrus. An immediate consequence of these results would be to investigate at cellular level by means of other techniques the mentioned structures. There are relatively few post-mortem studies of this region of the brain in schizophrenia especially when optic and electron microscopy techniques have been used. Up to where we know only a post-mortem study exists in the medical literature in schizophrenic patients where it has been studied by means of these techniques the primary auditory cortex, the amygdale and the hippocampus of the left cerebral hemisphere. **Patient and methods:** In this work additional results of this study are presented in 16 schizophrenic patients with different clinical forms of schizophrenia and in 10 controls without antecedents of psychiatric or neurological disease. Both groups were studied by means of optic, electron-microscope and immuno-electron microscopic techniques.

**Results and conclusions.** A retrospective analysis is made of the results obtained from imaginologic studies carried out so far in the calls regions of interest (ROI) and its relationship to the results obtained by us and the viral hypothesis outlined for the illness.

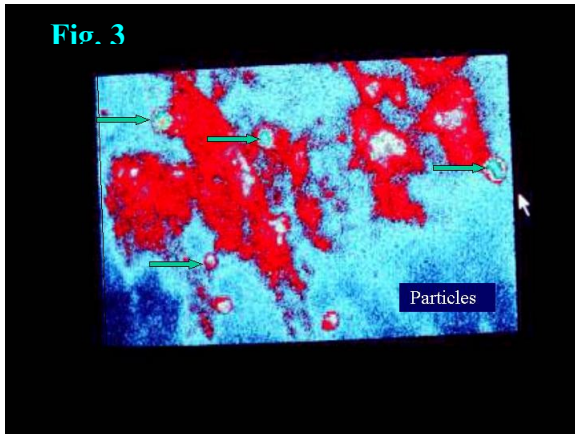
**Key words.** schizophrenia, image, post-mortem, amygdale, hippocampus, auditory cortex, virus, electron microscopy.

### **References**

1. Mesa CS. Rev Neurol 2001; 33: 619-23.
2. Shenton ME et al., Schizophr Res 2001; 49: 1 –52.
3. Dickerson FB et al., Arch Gen Psychiatry 2003; 60: 466-72.
4. Suzuki M et al., Psychol Med 2005; 35:549-60.



**Fig. 1** Immuno-electron microscopy with anti-herpes simplex hominis type I antibody. Particle (vertical arrow) related to membrane structure (oblique arrow).  
**Fig. 2** Intranuclear particle (arrow) with viral morphology. A central core and a capsule are present. Left amygdale. Paranoid schizophrenia.



**Fig. 3** A digital analysis allowed us to be distinguished the particles (arrows) from the chromatin  
**Fig. 4** Nuclear bodies within the nucleus of a neuron from a sample of the amygdale. Schizophrenia.