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THE AUDITORY RECEPTOR OF THE EPILEPTIC HAMSTER STRAIN GPG/VALL. R.Cantos (1), R. Riquelme* (2), N. Garcia-Atares (3), M.L. Sala (1), M.D. López (2) and J. Rueda (1). (1) Dpto. Histol., Fac. Medicina., Instituto de Neurociencias., Univ. Alicante; (2) Dpto. Biol. Cel. y Patol., Fac. Medicina., Univ. Salamanca; (3) Dpto. Anat. Fac. Medicina. Univ. Valladolid. SPAIN.

In the present work, basic morphological techniques have been used to study the auditory receptor of the hamster strain GPG/Vall, which shows genetic audiogenic seizures. Nothing is known about the auditory structures altered in such animals. The present results dealt with the description of the peripheral end of the auditory pathway, as a first attempt to characterize its changes in the mentioned animals.

In six hamsters (*Mesocricetus auratus*) of the GPG/Vall strain, the cochleae were removed, fixed with a mixture of aldehydes and embedded either in glycolmetacrilate or Epon. The cochleae of three other animals were studied by means of SEM. Hamsters of the same species were used as controls.

The overall morphology of the cochlea was not modified in the epileptic hamster. However, a number of changes were observed in both the organ of Corti and the spiral ganglion. The sensory epithelium appeared flattened in its lateral portion, where the outer hair cells disappeared except, occasionally, in the basal coil. The supporting cells of this area also showed an abnormal morphology. Inner hair cells were present along the cochlea, except in the very apex. The tectorial membrane appeared slightly swollen, and vacuoles were observed in the interdental cells, suggesting changes in the molecular composition of the membrane or in its hydration status. The spiral ganglion had a lower density of neurons than in normal animals.

These data suggest that, in absence of the outer hair cells, the auditory pathway could be overstimulated, participating in the genesis of the seizures.

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