ELECTRONMICROSCOPICAL INVESTIGATION OF THE SMALL NEURONS IN TRIGEMINAL GANGLION

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SUMMARY
Trigeminal ganglion (TrG) in its essence represents gathering of pseudounipolar neurons, situated in trigeminal impression of the petrosal part of the temporal bone, wrapt in connecting tissue “sleeve” of trigeminal cavity of the dura and aracknoid maters in vicinity to back end of cavernous sinus. Peripheral tentacles of pseudounipolar cells participate in formation of the first, second and receptive part of the fifth cerebral nerve, and central tentacles form the receptive root entering in middle cerebellar peduncle aside the brainstem.

_key words:_ receptive cells, small neurons, trigeminal ganglion, pseudounipolar neurons.

INTRODUCTION
Trigeminal ganglion (TrG) is formed by pseudounipolar cells, satellite cells and their tentacles.

Ehrlih(1886) and Dogiel(1896) used methylene blue for staining, and using silver impregnation methods as that of Golgi(1898) and Bielschowsky(1907) confirmed pseudounipolar form of sensitive ganglia neurons. Altman and Bayer(1982) consider origin of sensitive ganglia cells, from the crest. Chan and Tam(1988) accepted later that the ectodermal placodes give rise of these cells Davies and Lumsden(1990) describe the development of (TrG) confirming its origin from neuronal crest and ectodermal placodes. Pseudounipolar neurons in (TrG) were described cytologically by Retzius(1880). Cells in the (TrG) vary in rather wide range of size of the same individual, so in the (TrG) of different species. Cells sizes vary from 10 µm to 110 µm. Perikarya present various forms: predominantly round, but cells with ellipsoid forms were described by Hatai(1901),and quoted by Bunge et al.(1967).

Goals and tasks
Goal of this presentation is to investigate human cytoarchitectonic and ultra-structure of (TrG) and presentation of small neurons using electron-microscopy.

Goals to perform are:
Electron microscopic investigation of human (TrG).
Discussion

Discovering cytoarchitectonic picture of (TrG) is in direct dependence from used methods. Despite multiple investigations with electron microscopic method (Stoyanova I., 2004; Wang H., Wei F., 2006), there are still some omissions in cytological aspect.

We made classification of the small neurons according to the form of the their perykarions and the cytoplasmic pigmentation.

1. Small light neurons
2. Small dark neurons
3. Neurons with elongated body cell
4. Neurons with polygonal body cell

Based on the classifications we used for the neurons in (TrG) from authors working on the problem i.e. Korner 1937, Andres 1961, Carmel and Stein and Lieberman 1976. We established that not every one of them is full and thorough and because of that we created a classification combining the knowledge of above mentioned authors, which devides neurons according their size, shape and the presence of cytoplasmic organel. We present only the part from the classification responsible for the small neurons.

In the following researches which we have appointed as our task thru the methods of morpholody we will follow the zones for which the neurons are responsible described in the article.

Fig. 1. Picture of small light neuron with presence of pigment. x 9000.

Fig. 2. Small dark neuron with diffused pigment. x 9000
REFERENCES:


Fig. 3. EM. picture of small dark neuron from human with presence of pigment. x 12000.