

## Horizontal Cells in the Zona Incerta of the Developing Human Telencephalon

It is usually presumed that most, if not all, cells in the developing human telencephalic wall during fetal life originate in the germinal layer, by mitosis, and proceed to travel towards the external surface of the growing brain. Thus, with one process attached, or pointing to, the germinal layer and the other toward the cortical anlage, the long axis of these cells is vertical to the telencephalic

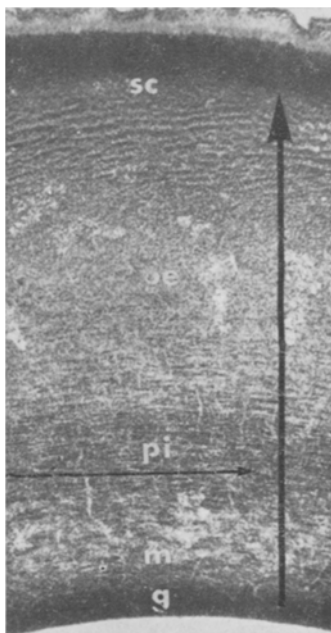


Fig. 1. This is a photograph of the telencephalic wall in a human fetus, age 14 weeks. The thick arrow stretching from the germinal layer (g) to the cortical anlage (sc) is the presumed direction of cells originating in the germinal layer. The thin arrow in the pars interna (pi) indicates the pattern of the long axis of the horizontal cells. The mantle layer is indicated by the letter (m) and the pars externa of the zona incerta is indicated by the letters (pe). Hematoxylin-eosin.  $\times 10$ .

wall. The moving cells thus cross successively the germinal layer, the mantle layer, the pars interna and pars externa of the zona incerta and reach the cortical anlage (Figure 1).

In a study of Golgi preparation of cerebral tissue from human fetuses ranging in crown rump length from 75 to 130 mm (12 to 16 weeks estimated ovulation age), cells were observed in the zona incerta whose long axis is horizontal to the surface of the brain. These cells are presumed to be neurons because of their size, the length and extent of their ramifications. During the 2nd, 3rd and 4th months there is a gradual creation of a vascular system within the neural parenchyma of the telencephalic wall<sup>1</sup>. Budding capillaries originate in the meninges, cross the cortical anlage, reach the zona incerta where they form branches parallel to the cortical surface, referred to as parallel or horizontal vessels. From these horizontal vessels vertical branches originate, cross the mantle and reach the subependymal area. It is presumed at this time that the horizontal cells in the zona incerta described here move in the direction of the blood vessels, as is usually the case in most developing tissues. The purpose and eventual destiny of these cells are unknown.

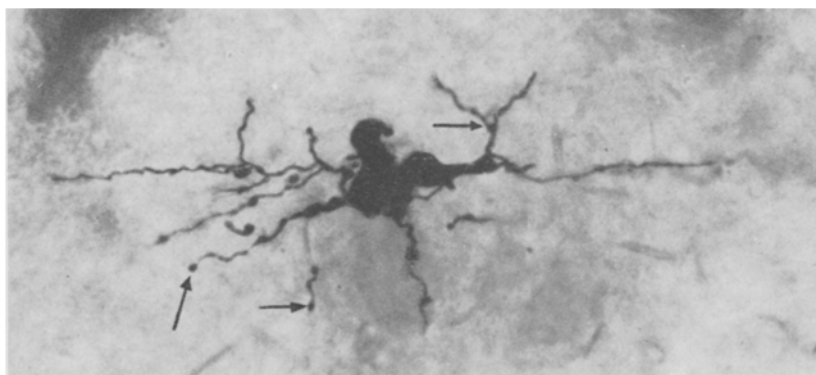
**Résumé.** Durant le 4<sup>me</sup> mois de la vie foetale humaine, il existe dans la zone incerta du télencéphale, des cellules dont l'axe est parallèle à la surface du cerveau, c'est-à-dire perpendiculaire à la majorité des autres cellules nerveuses. Cette position serait en rapport avec la position, parallèle aussi, des vaisseaux dans cette région du cerveau. Le rôle et le destin de ces cellules sont inconnus.

S. DUCKETT

*Department of Neurology and Pathology,  
Jefferson Medical College of the  
Thomas Jefferson University  
Philadelphia (Pennsylvania 19107, USA),  
14 February 1973.*

<sup>1</sup> S. DUCKETT, *Acta Anat.* 80, 107 (1971).

Fig. 2: A horizontal cell as seen in a Golgi preparation. The arrows point to some boutons-en-passage.  $\times 300$ .



## The Effects of Antineoplastic Agents on the Respiratory Activity of Murine Lymphocytic Leukemia L1210<sup>1</sup>

The effects of several established antineoplastic agents on the oxygen consumption of murine lymphocytic leukemia L1210 in vitro have been studied and compared to the antitumor activity of each compound in an attempt

to determine if oxygraph analysis can be utilized to effectively screen chemical compounds for antitumor potential.

**Materials and methods.** Murine lymphocytic leukemia