

The human pineal gland and melatonin-regulating factors: Morphometry, cellularity and c-kit-positive cells

Glándula pineal humana, factores reguladores de la producción de melatonina: Morfometría, celularidad y células c-kit

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Introduction: The human pineal gland exhibits endocrine activity derived from the diencephalon and is divided into lobules by pial connective tissue. Its morphometry and cellularity might be set up during the early years of development (by cell proliferation and apoptosis). The presence of glia-derived astrocytes has been described in the pineal gland stroma. However, c-kit (CD-117) positive cells have not been described yet in this organ. **Aims:** In this study, the morphometry, cellularity and presence of c-kit + cells in the human pineal gland (which expresses the membrane receptor with protein kinase III activity) will be assayed. **Material and methods:** Human pineal glands distributed in 4 groups according to age: a) group 1, 1 to 6 years, n = 6; b) group 2, 12 to 17 years, n = 3; c) group 3, 20 to 30 years, n = 3; and d) group 4, 35 years old, n = 3; were fixed in pH 7.2 formol during 48 h. They were included in paraffin for histological examination, and a series of 5- μ m sections were