GLUT1

see Glucose Transporter Type 1 Deficiency Syndrome.

pituitary neuroendocrine tumors from 203 patients were collected from January 2013 to April 2017, and immunohistochemical analysis was used to detect the expression of GLUT3 and GLUT1 in tumor specimens. GLUT3-positive expression in the cystic change group was higher than that in the non-cystic change group (P = 0.018). Proportions of GLUT3-positive staining of microadenomas, macroadenomas, and giant adenomas were 22.7% (5/22), 50.4% (66/131), and 54.0% (27/50), respectively (P = 0.022). In cases of prolactin adenoma, GLUT3-positive staining was predominant in cell membranes (P =0.000006), while in cases of follicle-stimulating hormone or luteotropic hormone adenoma, Mei et al. found mainly paranuclear dot-like GLUT3 staining (P = 0.025). In other hormonal adenomas, GLUT3 was only partially expressed, and the intensity of cell membrane or paranuclear punctate staining was weak. In contrast to GLUT3, GLUT1 expression was not associated with pituitary neuroendocrine tumors. Thus, the results indicate that the expression of GLUT3 in pituitary neuroendocrine tumors is closely related to cystic change and hormonal type. This study is the first to report a unique paranuclear dot-like GLUT3 staining pattern in pituitary neuroendocrine tumors [1)].

1)
Mei T, Zhang J, Wei L, Qi X, Ma Y, Liu X, Chen S, Li S, Wu J, Wang S. GLUT3 expression in cystic change induced by hypoxia in pituitary neuroendocrine tumors. Endocr Connect. 2018 Dec 1. pii: EC-18-0444.R1. doi: 10.1530/EC-18-0444. [Epub ahead of print] PubMed PMID: 30521480.