2015, 1:20-23.］

［38］Guller Y, Giacino J. Potential applications of concurrent transcranial magnetic stimulation and functional magnetic resonance imaging in acquired brain injury and disorders of consciousness. Brain Inj, 2014, 28:1190-1196.

［39］Talacchi A, Santini B, Casartelli M, Monti A, Capasso R, Miceli G. Awake surgery between art and science. Part Ⅱ: language and cognitive mapping. Funct Neurol, 2013, 28:223 - 239.

［40］Li S, Zhang K, Lin Y, Jin JN, Jin F. Primary study on hand motor cortex mapping by using navigated transcranial magnetic stimulation. Zhongguo Xian Dai Shen Jing Ji Bing Za Zhi, 2016, 16:522-526.［李帅, 张恺, 林雨, 靳静娜, 金芳. 导航经颅磁刺激定位手运动功能区初步研究. 中国现代神经疾病杂志, 2016, 16:522-526.］

［41］Ille S, Sollmann N, Hauck T, Maurer S, Tanigawa N, Obermueller T, Negwer C, Droese D, Zimmer C, Meyer B, Ringel F, Krieg SM. Combined noninvasive language mapping by navigated transcranial magnetic stimulation and functional MRI and its comparison with direct cortical stimulation. J Neurosurg, 2015, 123:212-225.

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·临床医学图像·

RELA 融合基因阳性室管膜瘤

Ependymoma, *RELA* fusion-positive

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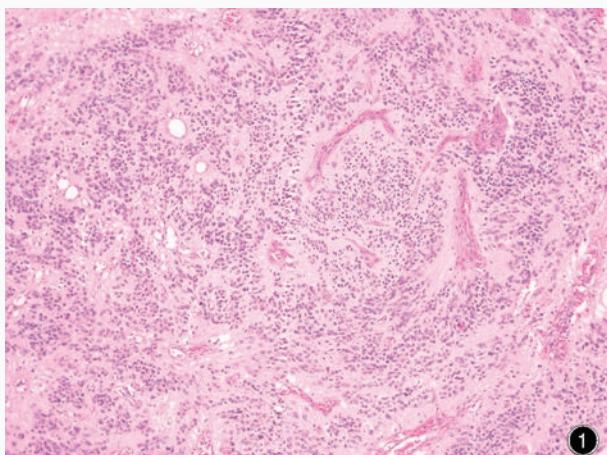
图1　光学显微镜观察显示,肿瘤细胞密度较高,可见假"菊形团"样结构,亦可见分支状血管　HE染色　×100　图2　光学显微镜观察显示,肿瘤细胞胞质弥漫性表达L1CAM,胞膜灶性表达L1CAM　免疫组织化学染色(EnVision二步法)　×200
Figure 1　Optical microscopy findings showed primary ependymoma with hypercellularity, perivascular pseudorosettes and fine branching vasculature.　HE staining　×100　**Figure 2**　Optical microscopy findings showed the tumor cells were diffusely positive for L1CAM in cytoplasm and focally positive for L1CAM in membrane.　Immunohistochemical staining (EnVision)　×200
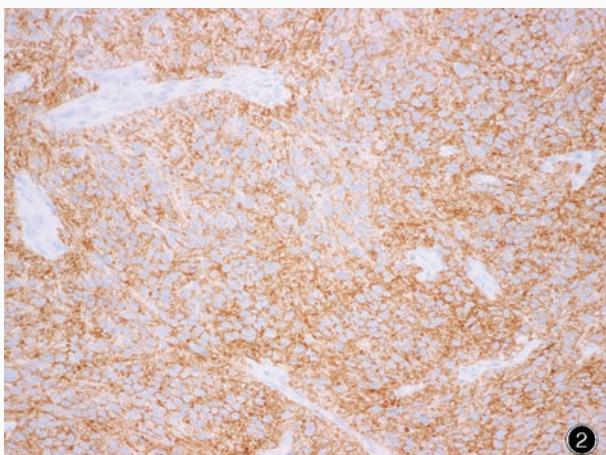
　　2016年,世界卫生组织(WHO)中枢神经系统肿瘤分类将*RELA*融合基因阳性室管膜瘤定义为一种以*RELA*融合基因为特征的幕上室管膜瘤,占儿童幕上室管膜瘤的70%,而在成人中比例较低。发生于颅后窝和脊髓的室管膜瘤无*RELA*融合基因。组织学形态无特异性,肿瘤呈现标准幕上室管膜瘤结构和细胞学特征,形成假"菊形团"样结构;可见特异性分支状毛细血管排列(图1)或细胞透明样变性。免疫组织化学染色,肿瘤细胞胞质表达胶质纤维酸性蛋白(GFAP)和上皮膜抗原(EMA)、弥漫性表达细胞黏附分子L1(L1CAM),胞膜灶性表达L1CAM(图2),且与*RELA*融合基因相关性良好。

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