·病例报告·

Turner综合征伴枕叶癫痫一例

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【关键词】 特纳综合征； 癫痫； 病例报告
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Turner syndrome with occipital lobe epilepsy: one case report

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患者 女性，16岁。主因眼前闪光2年余、加重伴头晕5 d，于2013年8月5日入院。2年前无明显诱因出现眼前闪光，呈持续性，未予重视，之后（约2011年1月）于夜间睡眠中出现四肢强直、双眼上翻、口吐白沫和牙关紧闭等症状，偶有舌咬伤情况。发作时神志不清，每次发作约持续数分钟，当地医院诊断为“癫痫”，予奥卡西平治疗后发作得到有效控制。2年后（2013年7月）因无月经和第二性征发育不全，外院诊断为“Turner综合征”，予雌激素替代治疗，口服戊酸雌二醇1 mg/d。治疗1周后出现“天旋地转”式头晕，持续发作，尤以体位改变时发作明显，不能活动，伴视物旋转、眼前闪光，不能睁眼，平卧后症状可缓解，发作时伴恶心、呕吐，呈非喷射状，发作后有畏光恐惧感，遂以“头晕待查”收入我院。患者既往体格健康，家族中无类似疾病病史，无不良环境接触史。

体格检查 患者体温35.4 ℃，脉搏82次/min，呼吸18次/min，血压110/80 mm Hg（1 mm Hg = 0.133 kPa）。意识清楚，一般情况可。左眼近视、矫正视力0.8，右眼弱视。身高153 cm，体重32.50 kg。发量少，后发际低。蹼颈，肘外翻，手指纤长；脊柱侧弯，双侧肩胛骨发育异常。双侧乳房呈幼女型，无腋毛，弓形足，会阴部无阴毛，外阴为幼稚型。直线行走较差。神经科专科检查未见明显异常。

辅助检查 外周血白细胞计数为6.05×10^9/L［$(4\sim10)\times10^9$/L］，红细胞计数4.61×10^{12}/L［$(3.50\sim5)\times10^{12}$/L］，血红蛋白140 g/L（110～150 g/L），血小板计数为257×10^9/L［$(100\sim300)\times10^9$/L］；总蛋白60 g/L（62～85 g/L），白蛋白为43 g/L（35～55 g/L），球蛋白为17 g/L（26～37 g/L）；谷氨酸转氨酶为19 U/L（5～40 U/L），天冬氨酸转氨酶为17 U/L（8～40 U/L），γ-谷氨酰转移酶为31 U/L（7～49 U/L）；总胆固醇3.20 mmol/L（3.59～5.17 mmol/L）。妇科B超检查显示，盆腔内条状低回声，始基子宫。头部MRI检查显示，右侧顶枕叶、侧脑室后角旁灰质异位，右侧顶枕叶脑回细小（图1）。脊椎MRI检查显示，神经根鞘囊肿、许莫结节、马蹄肾。清醒期脑电图可见同步阵发慢波、尖-慢复合波，以右侧较为显著；睡眠期脑电图显示，双侧频繁出现同步阵发性高波幅尖波、尖-慢复合波和（多）棘-慢复合波，以右侧较为显著（图2）。染色体检测结果证实Turner综合征（45XO核型）。神经心理学测验韦氏成人智力量表（WAIS）总评分为81分，言语理解能力、知觉推理、工作记忆和加工速度等认知功能均明显降低。头部PET-CT扫描显示，右侧枕叶局部^{18}F-FDG代谢和血流灌注明显升高，双侧额颞叶外侧皮质^{18}F-FDG代谢明显降低，右侧海马血流灌注较对侧显著升高（图3）。

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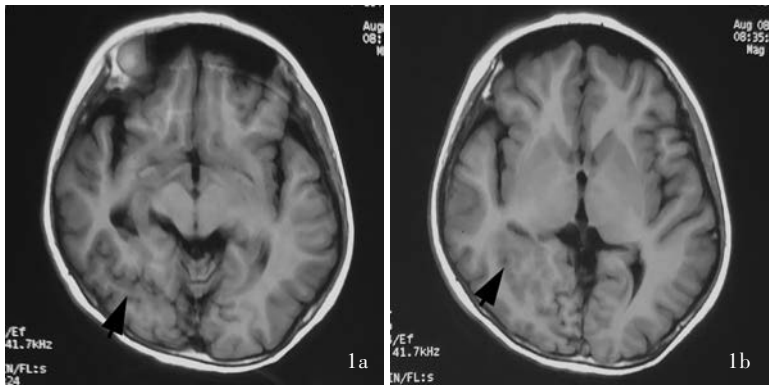

图1　头部MRI检查所见　1a　横断面FLAIR成像显示，右侧顶枕叶团块状等信号（箭头所示），右侧顶枕叶脑回细小　1b　横断面FLAIR成像显示，右侧侧脑室后角旁灰质异位（箭头所示），右侧顶枕叶脑回细小

Figure 1　Head MRI findings. Axial FLAIR showed crumby equisignals in the right parietooccipital area (arrow indicates) with smaller gyrus of right parietooccipital lobe (Panel 1a). Axial FLAIR showed the grey matter heterotopia beside the posterior horn of right lateral ventricle (arrow indicates) with smaller gyrus of right parietooccipital lobe (Panel 1b).

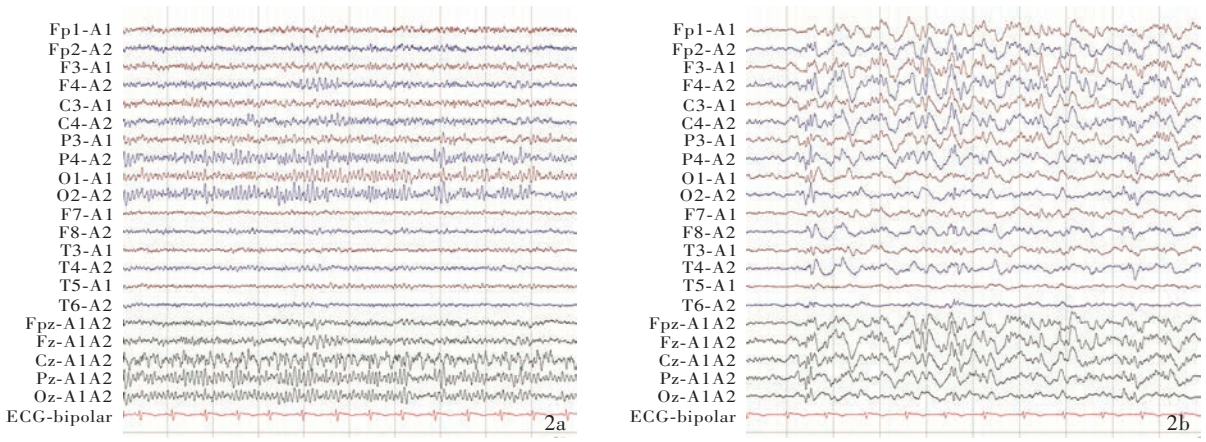

图2　24 h视频脑电图检查所见（参数：频率512 Hz，速度30 mm/s，高频滤波70 Hz，低频滤波0.30 Hz，带阻50 Hz；背景α节律正常，调频调幅可）　2a　清醒期可见尖-慢复合波，以右侧显著　2b　睡眠期频繁出现同步阵发性高波幅尖波、尖-慢复合波及（多）棘-慢复合波，以右侧显著

Figure 2　24 h video electroencephalogram (EEG) findings. (The frequency 512 Hz, the paper speed 30 mm/s, the high frequency filter 70 Hz, the low frequency filter 0.30 Hz, the band elimination 50 Hz. The α rhythm background was normal, the amplitude and frequency modulation were fine.) Sharp-slow waves in awake video-EEG were seen mainly on the right side of the lead (Panel 2a). The sleep video-EEG showed high frequency synchronous paroxysmal sharp wave, sharp-slow waves and spike-slow waves on both left and right sides, mainly on the right side of the lead (Panel 2b).

讨　论

Turner综合征（TS）即先天性卵巢发育不良症，为X染色体数目或结构异常所致的性染色体遗传性疾病[1]，临床表现为女性表型，躯干畸形（身材矮小、盾状胸、蹼颈、肘外翻），性腺发育不良（卵巢呈条索状、原发性闭经），外阴呈幼稚型，肾脏畸形，心血管畸形，听力障碍或脊柱异常等。该病系X染色体影响神经元发育的典型表现，是X染色体缺失所致，且伴脑结构和功能异常改变[2]。癫痫是脑结构异常导致的同步异常过度放电[3]。

Turner综合征是唯一出生后能够生存的染色体单体疾病，由X染色体全部或部分缺失所致[4]，可分为单体型、嵌合型、X染色体结构异常、X三体型和含Y染色体核型[5]。活产女婴发病率约为1/2000～1/2500[6]。Turner综合征患儿脑形态学存在明显异常，其X染色体上存在基因印迹效应，可影响大脑皮质厚度、表面积和皮质容积[7]；此类患儿有着相对较强的语言技能，但其计算力、视空间能力、执行和潜在的社会认知能力较弱[8]。经研究发现，单体型Turner综合征患儿右侧距状皮质、楔叶、楔前叶存在灰质萎缩；这些解剖结构分别与视空间能力、计算力、逻辑思维和运动感觉功能密切相关[9]。然而，对Turner综合征认知特征之表型的研究表明，X染色体完全缺失的女性患者存在白质特定区域畸变[10]。

该例患者临床表现和染色体检测均符合Turner综合征的诊断，主要表现为头晕发作时伴眼前闪光，结合清醒期脑电图所显示的同步阵发性慢波、

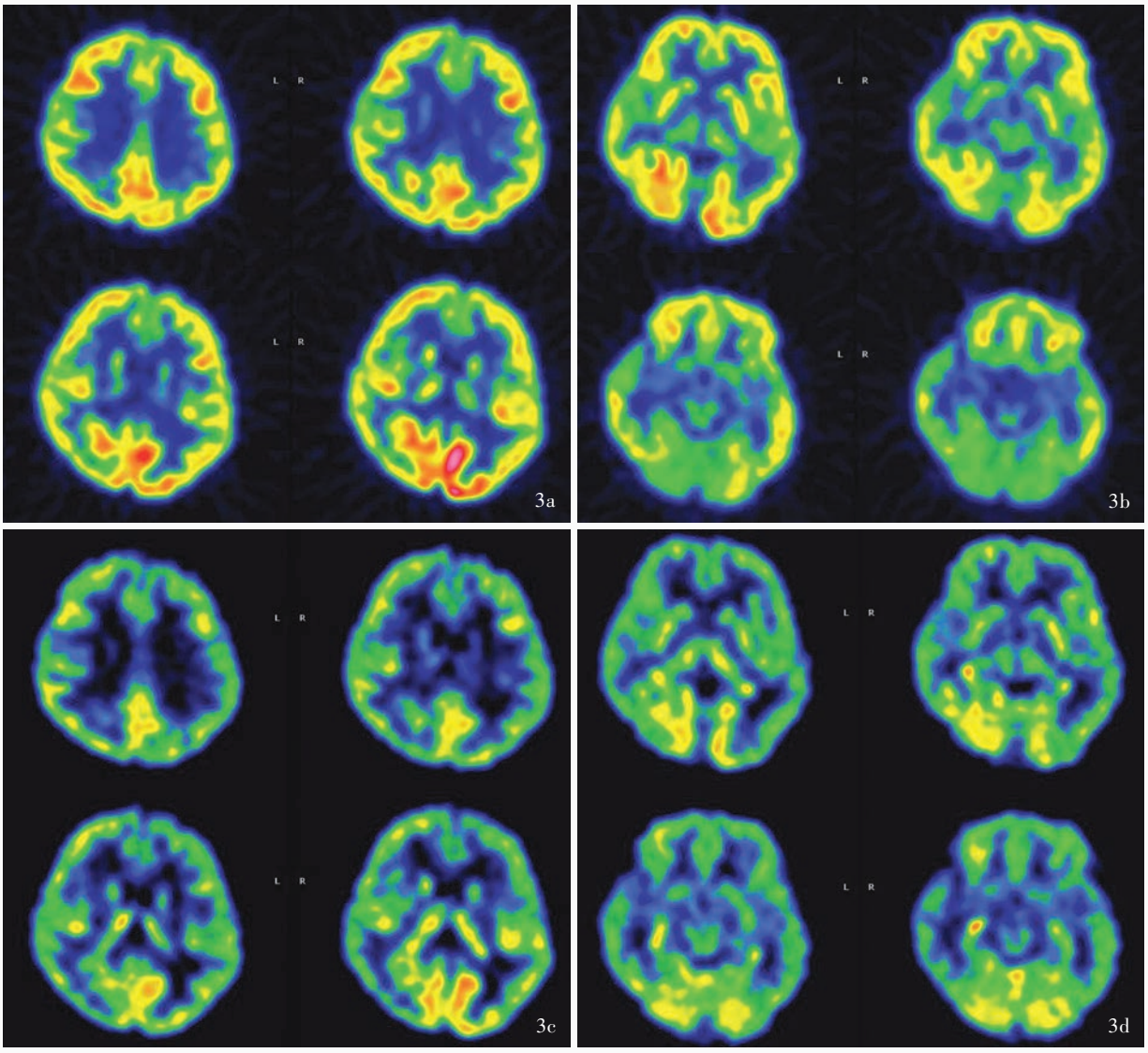

图3 头部PET-CT检查所见 3a 右侧枕叶局部^{18}F-FDG代谢浓集程度明显升高(红色区域所示),与邻近皮质近似 3b 双侧额颞叶外侧皮质^{18}F-FDG浓集程度弥漫性降低(蓝色区域所示),无明显偏侧;双侧颞叶内侧皮质海马区^{18}F-FDG浓集程度未见异常 3c 右侧枕叶局部血流灌注明显升高(红色区域所示) 3d 右侧海马区血流灌注较对侧升高(红色区域所示)

Figure 3 Head PET-CT findings. ^{18}F-FDG metabolism of right occipital lobe increased obviously (red areas indicate) and the degree of concentration was close to nearby cortex (Panel 3a). The degree of ^{18}F-FDG concentration in bilateral frontal and temporal lobes reduced (blue areas indicate) while the concentration in the hippocampus regions of the medial temporal cortex were normal (Panel 3b). The blood perfusion of the right occipital lobe increased obviously (red areas indicate, Panel 3c). The blood perfusion of right hippocampus was higher compared with the left (red areas indicate, Panel 3d).

尖-慢复合波且以右侧显著,头部PET-CT所显示的右侧枕叶代谢和血流灌注升高等表现,考虑为枕叶癫痫(右侧)。同时,该例患者夜间癫痫发作形式为全面性强直-阵挛发作,结合睡眠脑电图所显示的双侧频繁出现同步阵发性高波幅尖波、尖-慢复合波及(多)棘-慢复合波并以右侧显著,PET-CT扫描所显示的右侧海马区血流灌注较对侧明显升高,考虑枕叶癫痫(右侧)泛化至全脑。综合分析,最终诊断为枕叶癫痫。有研究显示,45X核型Turner综合征患儿顶枕叶灰质体积较正常儿童明显缩小,提示可能存在顶枕叶神经元发育障碍[9]。该例患者MRI显示右侧顶枕叶、侧脑室后角旁灰质异位,右侧顶枕叶脑回细小,考虑与X染色体缺失导致的神经元发育障碍有关。在发育过程中,神经元不能迁移到正常位置,故不能形成正常功能所需要的突触联系,而是在局部形成异常神经网络,诱发癫痫。有研究显示,在神经元迁移紊乱中,异位的灰质能够起到代谢共激活作用,进而诱发癫痫;灰质结节是与解剖

学上的皮质及异位相连的静息态区域最常见的共激活部位[11]。推测在X染色体上存在调控脑组织发育的基因。然而,X染色体上的基因与大脑各部位发育的关系尚待对Turner综合征各种亚型的进一步研究。

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