

100 例额叶非额叶肿瘤患者威斯康星卡片分类作业的比较研究

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摘要 本文采用威斯康星卡片分类测验 (WCST) 对 48 例额叶肿瘤患者, 26 例额叶肿瘤患者, 26 例顶枕叶肿瘤患者, 5 例额颞或颞顶肿瘤患者进行作业的比较研究。结果表明: 额叶组及顶枕叶组的成绩明显低于对照组及颞叶组, 左脑损害组与右脑损害组比较成绩无明显差异, 肿瘤的大小、良恶性对作业成绩无明显影响。提示: 额叶、顶枕叶受损时被试的概括分类能力更容易出现障碍。

关键词 脑肿瘤 威斯康星卡片分类测验

国外一些研究表明威斯康星卡片中分类测验 (WCST) 对发现额叶损害有特殊的敏感性^(1~5)。本文采用 WCST 对额叶肿瘤患者进行测试, 并设置颞叶、顶枕叶肿瘤组做比较研究。由此更多地了解额叶受损时心理功能障碍的特征。

材料与方法

1. 一般资料: 选自 1989 年~1991 年经 CT 或手术明确诊断的 100 例脑肿瘤患者。额叶组 48 例, 颞叶组 26 例, 顶枕叶组 26 例, 额颞或颞顶肿瘤 5 例 (只放在左、右脑成绩比较时用), 左脑损伤 56 例, 右脑损伤 49 例。被试均为右利手。测试于术前进行。测试时病人无颅压高症状。一般状况良好, 无失语。另选择年龄、性别及文化程度相当的正常人做对照组。被试情况见表 1。统计表明各组年龄、受教育年限无明显差异。

2. 调查内容: WCST 分类盒上面摆有四张刺激卡。画有不同颜色、形状、数量的图形。反应卡 128 张。按规则由不同数量、颜色、形状的图形组成。指导语: “你认为手里卡片是属于哪一张刺激卡就放在它下面

的槽子里。我只告诉你放对了还是错了。”指导语中不能给被试任何有关颜色、形状、数量的提示。分类顺序为颜色、形状、数量, 重复一次。一次分类中被试连续十次分类正确转换下一个形式的分类。作业设六项评分: (1) 完成分类次数。(2) 全部错误数。(3) 坚持性错误数。(4) 坚持性反应数。(5) 非坚持性错误数。(6) 概括力水平百分率。统计方法为方差分析及 *t* 检验。

表 1 被试年龄、受教育年限情况 ($\bar{x} \pm s$)

组别	n	年龄	受教育年限
对照组	30	40.13 ± 11.04	9.93 ± 4.41
额叶组	48	38.42 ± 10.14	9.10 ± 4.34
颞叶组	26	36.19 ± 10.84	9.94 ± 4.14
顶枕组	26	37.23 ± 12.21	9.23 ± 2.98
左脑组	56	37.09 ± 10.14	9.38 ± 3.85
右脑组	49	37.73 ± 11.31	9.31 ± 3.98

结果

1. 额叶组、颞叶组、顶枕叶组间与对照组成绩比较, 见表 2。

表 2 不同部位脑肿瘤组间及与对照组间 wcst 比较 ($\bar{x} \pm s$)

组别	n	完成分类次数	全部错误数	坚持性错误数	非坚持性错误次数	坚持性反应数	概括力水平百分率
对照组	30	5.1 ± 1.4	32.2 ± 20.7	18.2 ± 13.6	14.8 ± 9.4	21.3 ± 15.7	60.4 ± 17.4
额叶组	48	3.5 ± 1.4	54.5 ± 20.2	25.7 ± 14.3	28.8 ± 10.7	29.9 ± 17.6	40.0 ± 18.5
颞叶组	26	5.2 ± 1.3	31.2 ± 16.4	17.2 ± 7.5	16.8 ± 9.1	18.7 ± 9.1	60.0 ± 14.5
顶枕组	26	3.8 ± 2.0	52.7 ± 19.0	26.8 ± 12.2	25.9 ± 11.1	31.9 ± 16.1	42.3 ± 18.9

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2. 左脑损害组、右脑损害组间及与对照组成绩比较, 见表 3。

3. 对照组 (对)、额叶组 (额)、颞叶组 (颞)、顶枕叶组 (顶枕)、左脑组 (左)、右脑组 (右) 组间均值比较 (t 值) 见表 4。

4. 脑肿瘤性质及大小对作业的影响。根据病理结果患者分恶性性组 ($n_1=56$) 良性组 ($n_2=44$) 以肿瘤体积大小患者分大肿瘤组 (肿瘤直径 $>5cm$) $n_3=39$, 小肿瘤组 (肿瘤直径 $<5cm$) ($n_4=40$) t 检验结果良恶性组间, 大小组间作业成绩无显著差异。

5. 左额组 ($n=24$) 与右额组 ($n=24$) 作业成绩相差不显著。

讨 论

已有研究指出概括能力的减退及行为的不良灵活性常见于大脑额叶受损的病人⁽⁷⁾。国外报道当脑损伤累及额叶的患者的 WCST 成绩最差^(1~6)。本文被试均为脑肿瘤患者, 损害局限。结果表明额叶组在 WCST 六个项目中成绩最差。明显低于颞叶组与对照组。52% 额叶患者完成分类次数为 0~3 (全部完成次数为 6)。颞叶组 12%, 对照组 14%。说明额叶损伤时被试的分类概括能力更容易受到影响。结果与国外

研究相同^(1~6)。Milner 1963 年的研究提出坚持性错误数是 WCST 中区分脑损伤是否累及额叶的最敏感指标⁽²⁾。Robinson 1980 年提出坚持性反应数最为敏感⁽¹⁾。本文结果提出额叶组的非坚持性错误数比坚持性错误数略多。坚持性错误数的增高说明额叶患者在完成作业时表现出较强的病理惰性及粘着性。非坚持性错误数增高的原因可能为 WCST 首先是评价人的分类概括能力。如果被试最初的分概括能力已经受到严重损害, 他们就较难建立相对稳定的分类原则并顺其固执地坚持下去。这点与国外研究有分歧。由此提示将 WCST 中坚持性错误数做为区分脑损伤是否涉及额叶的最敏感指标还有待于更多的研究证实。

WCST 有无大脑功能一侧化的现象尚有争议。Milner 报告 71 例癫痫患者做局部脑切除前后的 WCST 结果指出左、右脑损害组无明显差异⁽²⁾。Drewe 1971 年比较四种不同病因脑损害病人。发现大多数项目中左额比右额差⁽³⁾。Robinson 1981 年的研究提到 WCST 中右额比左额明显差⁽¹⁾。本文结果左、右脑组间; 左、右额组间均无明显差异。可能左脑抽象概括能力有相对优势, 右脑在对颜色、形状及数量的认知中有较重要的作用。所以任务完成可能需要

表 3 左、右脑损害组、对照组间 wbst 比较 ($\bar{x} \pm s$)

组别	n	完成分类次数	全部错误数	坚持性错误数	非坚持性错误次数	坚持性反应数	概括力水平百分充率
对照组	30	5.1 ± 1.4	32.2 ± 20.2	18.2 ± 13.6	14.8 ± 9.4	21.3 ± 15.7	60.4 ± 17.4
左脑组	56	3.7 ± 1.9	51.2 ± 20.8	23.2 ± 11.4	27.2 ± 17.0	27.1 ± 14.1	44.5 ± 19.2
右脑组	49	4.1 ± 1.8	47.3 ± 20.6	25.5 ± 14.2	22.2 ± 13.8	28.2 ± 18.0	46.8 ± 19.5

表 4 对照组、不同侧组、不同部位组 wbst 比较 (t 值或 t' 值)

组别	n	完成分类次数	全部错误数	坚持性错误数	非坚持性错误数	坚持性反应数	概括力水平百分率
对、额	78	4.0123***	4.7029***	2.3058*	4.3667***	2.1956***	4.7926**
对、颞	56	0.9273△	0.1268△	0.5736△	0.9327△	1.2596△	0.9738△
对、顶枕	56	2.4107*	3.1538**	1.8623△	3.5678**	1.8328△	2.1856**
额、颞	74	3.5778**	3.5826**	2.9220**	3.3256**	2.9831**	1.0102**
额、顶枕	74	0.8652△	0.5362△	1.0112△	0.1562△	0.9732△	0.7563△
颞、顶枕	52	2.2767*	2.5356*	2.2168*	2.4456*	1.2863△	2.1978*
对、左	86	3.2978**	3.7563**	1.8623△	1.2130***	0.2762△	3.5123**
对、右	79	2.4978*	3.4823**	2.1867*	2.0721*	1.9912*	3.3178**
左、右	103	0.3527△	1.0879△	1.1321△	1.2538△	0.5738△	1.3279△

*** $P < 0.001$ ** $P < 0.01$ * $P < 0.05$ △ $P > 0.05$

双侧脑的协同活动。

除额叶损伤时 WCST 出现障碍外,顶枕叶组病人在完成该项心理测验也存在一定困难。有些研究指出顶叶损害可能影响患者的感知觉、空间知觉能力。有报告证明顶叶损伤时被试在寻找途径的作业中操作不好与额叶损伤时类似⁽⁸⁾。这些功能缺陷是否会间接影响顶枕叶病人的 WCST 作业有待于进一步的探讨。颞叶的主要功能与记忆关系更为密切。颞叶受损时 WCST 成绩明显好于额叶组与顶枕叶组。本组结果表明肿瘤良恶、大小对作业无显著影响。说明 WCST 与脑病变发生部位关系更敏感。

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硬脊膜外星形细胞瘤一例

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患者 女, 21岁。因胸部束带感1年伴双下肢麻木、无力1月余于1991年8月25日收入院。神经系统检查:双下肢肌力Ⅳ级,自腹股沟以下双下肢各种浅感觉减退,以右下肢为重。腱反射活跃,腹壁反射下腹部减退。双下肢病理征阳性。胸腰椎正侧位片未发现异常。胸部正位片未见异常。CSF化验结果:脑脊液无色透明,压力为14.7kPa(150cmH₂O),潘氏试验(-),白细胞2×10⁶/L。奎氏试验示椎管部分梗阻。上行性椎管造影示T₁₀下缘造影剂呈削尖状阻断,杯口显示不明显,脊髓略向右后移位,阻断部位蛛网膜下腔两侧变窄。诊断

脊髓压迫症(硬膜外占位)。5天后行椎管探查,切除T₁₀棘突及椎板,见脊髓硬膜外脂肪消失,脊髓后方、两侧方未见占位。在硬脊膜前方探及2cm×2cm×1.5cm大小暗紫色肿物,包膜完整,肿瘤与硬脊膜及左侧脊神经前根相粘连。遂行肿瘤切除及包膜部分切除。切开硬脊膜,见脊髓搏动良好,脊髓四周未见占位,脑脊液上下通畅,遂缝合硬脊膜。术中证实术前诊断。肿瘤肉眼可见呈胶冻样,柔软,呈暗红色。病理诊断:星形细胞瘤Ⅰ级。术后感觉障碍渐消失,双下肢肌力渐恢复正常,术后25天步行出院。嘱病人定期复查。随访6个月已参加田间轻体力劳动。

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morphological producing basis of spikes.

(Original article on page 89)

Diagnosis and treatment of non-colloid neuroepithelial cysts in the ventricles of the brain

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Seven patients with non colloid neuroepithelial cysts in the ventricles of the brain were hospitalized between 1992 and 1993. Among these cystic lesions, three were located in the trigone of the lateral ventricle, three in fourth ventricle, and one in third ventricle. The cysts in the trigona showed local cystic mass and enlargement of occipital horn in CT scans and MR images. The cysts of the third and fourth ventricle revealed cystic mass with similar density and signal of cerebrospinal fluid in CT scan and MR image. The diagnosis of non colloid neuroepithelial cysts is more appropriate to the lesion of ependyma and choroid plexus demonstrated pathologically because the tissues originate from neuroepithelia. Our experience suggested that the cysts should be removed, the peritoneal-cyst shunt was not effective surgically for remove obstruction of ventricular system and pressure of the brain stem.

(Original article on page 92)

A compared investigation of frontal and non-frontal tumor on Wisconsin card sorting test

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Wisconsin card sorting test (WCST) was administered on one hundred and five cases of brain tumor patients including 48 frontal tumor, 26 temporal tumors, 26 parietal-occipital tumor, 5 several lobes involved tumors and 30 normal subjects. The results indicated that (1) The performance of WCST in frontal and

parietal-occipital tumor groups were poorer significantly than in the temporal tumor and normal groups. (2) There was no difference between left brain tumor group and right tumor group on all indices of WCST. (3) The levels of the test were not affected by size and classification of benign tumor or malignant tumor. The result of this study suggested that the abstraction ability of patients with frontal and parietal-occipital tumor was easily impaired than the patients with temporal tumor and normals.

(Original article on page 95)

Endovascular embolization of large arteriovenous malformations combined with surgery

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Twelve patients with large cerebral arteriovenous malformations (AVMs) were treated with endovascular embolization followed by surgical removal. Clinically eight patients presented with seizure, two patients had experienced intracranial hemorrhage, and two patients had neurological deficits. seven AVMs were located in left hemisphere, and five AVMs in right hemisphere. In these patients, the size of AVMs were all above 6 cm in diameter except one. Deep feeders were observed in four patients, and deep draining veins were in seven patients. Selective embolization with IBCA and threads were performed in all patients. obliteration of the AVMs nidus over 90 percent in one patient, 70 percent to 90 percent in seven, 50 percent to 70 percent in two patients, less than 50 percent in two. The interval between the embolization and surgery were seven to ten days. All patients obtained complete surgical removal. Comparing the embolization followed by surgery and surgery