

垂体腺瘤假包膜囊外切除术的临床研究

张铭芙 刘宁 李莹 孟祥喜 战华 苗健焯 王宁

【摘要】 目的 探讨垂体腺瘤行假包膜囊外切除术的临床意义。方法 选取2015年4月~2016年7月行经蝶窦入路切除垂体腺瘤的173例患者,根据假包膜囊外及囊内切除进行分组,对比其全切率、生物学治愈率及并发症情况。结果 173例患者中,90例发现假包膜(52.0%),其中无功能型和生长激素型垂体腺瘤假包膜发现率较高。囊外切除组肿瘤全切率(95.6%)高于囊内切除组(88.0%),但差异无统计学意义;功能型腺瘤中囊外切除组生物学治愈率亦较高(89.7%比71.4%),差异有统计学意义($\chi^2=4.279$, $P<0.05$);术中脑脊液漏发生率分别为47.8%和41.0%,术后脑脊液漏发生率为0;术后病理学证实假包膜有肿瘤细胞浸润。结论 垂体腺瘤假包膜囊外切除能够提高肿瘤全切率及功能型垂体腺瘤的生物学治愈率,且不增加术后并发症,是一种安全、有效的切除方式。

【关键词】 垂体腺瘤; 假包膜; 囊外切除

doi: 10.3969/j.issn.1009-6574.2017.03.011

Pseudocapsule based extracapsular resection of pituitary adenoma ZHANG Ming-fu, LIU Ning, LI Ying, et al. Department of Neurosurgery, the First Affiliated Hospital, Harbin Medical University, Harbin 150001, China

【Abstract】 **Objective** To investigate the clinical significance of pseudocapsule based extracapsular resection of pituitary adenomas. **Methods** Totals of 173 patients who underwent tumor resection from April 2015 to July 2016 were selected. All patients were divided into two groups according to pseudocapsule based extracapsular or intracapsular resection. Total removal rate, biology cure rate and complications were evaluated. **Results** In the 173 patients, pseudocapsule was found in 90 patients (52.0%) and mostly was found in non-functional and growth hormone secreting pituitary adenoma. No significant differences were found in total removal rate between extracapsular resection group (95.6%) and intracapsular resection group (88.0%). In patients with functional pituitary adenoma, biology cure rate of patients in extracapsular resection group was significantly higher than those in intracapsular resection group (89.7% vs 71.4%, $\chi^2=4.279$, $P<0.05$). The incidence of cerebrospinal fluid leak during surgery was 47.8% and 41.0% in extracapsular resection group and intracapsular resection group respectively. No cerebrospinal fluid leak was found after surgery. Postoperative pathology confirmed that pseudocapsules had tumor cell infiltration. **Conclusions** Pseudocapsule based extracapsular resection is effective and safety for pituitary adenoma. It could increase total removal rate and increase biology cure rate in patients with functional pituitary adenoma without increasing postoperative complications.

【Key words】 Pituitary adenoma; Pseudocapsule; Extracapsular resection

					1 对象与方法			
					1.1 研究对象	2015	4	~2016
								7
								231
					58			Hardy
					(n=19)	(n=2)		(n=29)
					173	79	94	49.1
					2~17			(NF)
					(PRL)		51	(GH)
					25			(ACTH)
					5			
					1.2 方法			
					1.2.1			

作者单位: 150001 哈尔滨医科大学附属第一医院神经外科(张铭芙、李莹、孟祥喜、战华、苗健焯、王宁); 哈尔滨市第一医院神经外科(刘宁)

通讯作者: 王宁 Email: ningwsfm@aliyun.com

(1) 3 6
 1
 MRI (2)
 1 7 3 6
 (FF)
 (T3) (T4) (TSH)
 -1(IGF-1)
 PRL
 GH GH 1 ng/ml IGF-1⁹
 1.2.2

1.3 统计学方法 SPSS 21.0
 χ^2 P 0.05

2 结果

2.1 各类型垂体腺瘤假包膜发现率比较 1
 90
 83 NF
 GH
 (P 0.05)

表1 各类型垂体腺瘤假包膜发现率比较(例, %)

肿瘤类型	例数	发现假包膜	未发现假包膜
NF	92	51(55.4)	41(44.6)
PRL	51	23(45.1)	28(54.9)
ACTH	5	2(40.0)	3(60.0)
GH	25	14(56.0)	11(44.0)
总计	173	90(52.0)	83(48.0)

注: $\chi^2 = 1.857, P=0.603$

2.2 各类型垂体腺瘤不同切除方式下全切率比较
 1() 2 86
 (95.6%) 17
 100%
 73 (88.0%)

2.3 各类功能型垂体腺瘤生物学治愈率比较 3
 81 65
 (P 0.05)

表2 各类型垂体腺瘤不同切除方式下全切率比较

肿瘤类型	囊外切除		分块切除		χ^2 值	P值
	例数	全切(例, %)	例数	全切(例, %)		
NF	51	47(92.2)	41	36(87.8)	0.199	0.730
PRL	23	23(100.0)	28	26(92.9)	1.710	0.495
GH	14	14(100.0)	11	9(81.8)	2.767	0.183
ACTH	2	2(100.0)	3	2(66.7)	0.833	1.000
总计	90	86(95.6)	83	73(88.0)	3.357	0.067

表3 各类功能型垂体腺瘤生物学治愈率比较

肿瘤类型	囊外切除		分块切除		χ^2 值	P值
	例数	治愈(例, %)	例数	治愈(例, %)		
PRL	23	21(91.3)	28	21(75.0)	1.324	0.250
GH	14	12(85.7)	11	7(63.6)	1.646	0.350
ACTH	2	2(100.0)	3	2(66.7)	0.833	1.000
总计	39	35(89.7)	42	30(71.4)	4.279	0.039

2.4 脑脊液漏发生率 77

90 43
 (47.8%) 83
 34 (41.0%) ($\chi^2=0.812$
 P=0.368)

2.5 术后病理结果 2()

3 讨论

1936 Costello² “ ”
 (Pseudocapsule)
 2006 Oldfield Vortmeyer¹
 2 mm
 2~3 mm

5 6 10 14

Lee¹⁰ 55.7%

52.0%

Lee
 (1) (2) (3)
 (4) (5)

10 Kim 14

5

Kawamata 5 Chamoun 15

Xie 16

Lee 10

GH

PRL

NF
55.4%

GH
56.0%

PRL

45.1%

PRL

Teramoto 17

Kim 14 1 000

(P=0.004)

17

100%

5 16 18 ACTH
10 11

6 7

GH

10

19

参 考 文 献

[1] Oldfield EH, Vortmeyer AO. Development of a histological pseudocapsule and its use as a surgical capsule in the excision of pituitary tumors [J]. J Neurosurg, 2006, 104(1):7-19.

[2] Costello RT. Subclinical Adenoma of the Pituitary Gland [J]. Am J Pathol, 1936, 12(2):205-216.

[3] 冯铭, 姚勇, 邓侃, 等. 经蝶窦入路垂体腺瘤切除术中肿瘤假包膜的意义 [J]. 中华医学杂志, 2013, 93(35):2 813-2 815.

[4] Kuwayama A. Treatment and long-term results of Cushing disease [J]. Folia Endocrinol Japon, 2003, 79:17-19.

[5] Kawamata T, Kubo O, Hori T. Surgical removal of growth hormone-secreting pituitary adenomas with intensive microsurgical pseudocapsule resection results in complete remission of acromegaly [J]. Neurosurg Rev, 2005, 28(3):201-208.

[6] Jagannathan J, Smith R, DeVroom HL, et al. Outcome of using the histological pseudocapsule as a surgical capsule in Cushing disease [J]. J Neurosurg, 2009, 111(3):531-539.

[7] Monteith SJ, Starke RM, Jane JA, et al. Use of the histological pseudocapsule in surgery for Cushing disease: rapid postoperative cortisol decline predicting complete tumor resection [J]. J Neurosurg, 2012, 116(4):721-727.

[8] Mason RB, Nieman LK, Doppman JL, et al. Selective excision of adenomas originating in or extending into the pituitary stalk with preservation of pituitary function [J]. J Neurosurg, 1997, 87(3):343-351.

[9] 中国垂体瘤协作组, 中国垂体腺瘤外科治疗专家共识 [J]. 中华医学杂志, 2015, 95(5):324-329.

[10] Lee EJ, Ahn JY, Noh T, et al. Tumor tissue identification in the pseudocapsule of pituitary adenoma: should the pseudocapsule be removed for total resection of pituitary adenoma? [J]. Neurosurgery, 2009, 64(3 Suppl):ons62-ons70.

[11] Qu X, Yang J, Sun JD, et al. Transsphenoidal pseudocapsule-based extracapsular resection for pituitary adenomas [J]. Acta Neurochir (Wien), 2011, 153(4):799-806.

[12] Ceylan S, Cabuk B, Koc K, et al. Endoscopic distinction between capsule and pseudocapsule of pituitary adenomas [J]. Acta Neurochir (Wien), 2013, 155(9):1 611-1 619.

[13] Prevedello DM, Ebner FH, de Lara D, et al. Extracapsular dissection technique with the cotton swab for pituitary adenomas through an endoscopic endonasal approach-how I do it [J]. Acta Neurochir (Wien), 2013, 155(9):1 629-1 632.

[14] Kim EH, Ku CR, Lee EJ, et al. Extracapsular en bloc resection in pituitary adenoma surgery [J]. Pituitary, 2015, 18(3):397-404.

[15] Chamoun R, Takashima M, Yoshor D. Endoscopic extracapsular dissection for resection of pituitary macroadenomas: technical note [J]. J Neurol Surg A Cent Eur Neurosurg, 2014, 75(1):48-52.

一站式全脑动态容积 CTP - CTA 成像对颅脑损伤后脑血管痉挛的诊断价值

余惠平 张和平 李进森

【摘要】 目的 探讨一站式全脑动态容积CT灌注成像(CTP)联合CT血管成像(CTA)成像在颅脑损伤后脑血管痉挛中的应用及临床意义。**方法** 50例可疑有症状性脑血管痉挛表现的患者接受一站式全脑动态容积成像,CTP检查结果与对侧镜像区进行比较。**结果** 50例颅脑损伤患者中48例患者CTP存在原脑损伤范围外的低灌注区,同临床症状相符,准确性达96%,同对侧镜像区进行比较,各参数脑血流量(CBF)、脑血容量(CBV)、平均通过时间(MIT)及达峰时间(TIP)差异皆有统计学意义;50例颅脑损伤患者其中42例患者3D-CTA存在颅内大血管痉挛。**结论** 一站式全脑动态容积CTP-CTA成像技术应用于颅脑损伤后脑血管痉挛,通过CTP显示脑实质低灌注区以判断脑实质微循环血管痉挛的存在,CTA判断脑实质外大血管痉挛的存在,即CTP联合CTA对颅脑损伤后脑血管痉挛的早期诊断、治疗方案的选择、疗效的评估均有重要临床价值。

【关键词】 颅脑损伤; 脑血管痉挛; 灌注; 血管成像

doi: 10.3969/j.issn.1009-6574.2017.03.012

Diagnosis value of one stop whole brain dynamic volume CTP-CTA imaging in cerebral vasospasm after traumatic brain injury YU Hui-ping, ZHANG He-ping, LI Jin-niao Department of Neurosurgery, Affiliated Quanzhou First Hospital, Fujian Medical University, Quanzhou 362000 China

【Abstract】 **Objective** To explore the application and clinical significance of one stop whole brain dynamic volume CTP-CTA imaging in cerebral vasospasm after traumatic brain injury. **Methods** Totals of 50 patients with suspected symptomatic cerebral vasospasm were treated with one stop whole brain dynamic volume imaging. The results of CTP were compared with that of the contralateral mirror area. **Results** In 50 patients, 48 showed low perfusion areas outside the scope of brain injury which was consistent with clinical symptoms. The accuracy rate was 96%. There were significant differences in cerebral blood flow (CBF), cerebral blood volume (CBV), time to peak (TIP) and mean transit time (MIT) compared to the contralateral mirror area. In 50 traumatic brain injury patients, 42 showed intracranial vasospasm of great vessels in 3D-CTA. **Conclusions** One-stop whole brain dynamic volume CTP-CTA imaging could be applied in evaluating cerebral vasospasm after traumatic brain injury. Microcirculation vasospasm in brain parenchyma could be detected by low perfusion cerebral area in CTP. Vasospasm of great vessels outside brain parenchyma could be detected by CTA. Therefore, CTP combined with CTA has significant clinical value in early diagnosis, selection of treatment options and evaluation of efficacy for cerebral vasospasm after traumatic brain injury.

【Key words】 Craniocerebral trauma; Cerebral vasospasm; Perfusion; Vascular imaging

1-2

作者单位: 362000 福建医科大学附属泉州第一医院神经外科

(Cerebrovascular Spasm CVS)

- [16] Xie T, Liu T, Zhang X, et al. Time to Revive the Value of the Pseudocapsule in Endoscopic Endonasal Transsphenoidal Surgery for Growth Hormone Adenomas[J]. World Neurosurg, 2016, 89:65-71.
- [17] Teramoto A, Sano K, Osamura RY, et al. [Immunohistochemical observations of the pituitary adenomas with the use of enzyme-labelled antibody method-on the residual pituitary gland and "capsule" of the adenoma (author's transl)] [J]. Neurol Med Chir (Tokyo), 1979, 19(9):895-902.
- [18] Ku CR, Kim EH, Oh MC, et al. Surgical and endocrinological outcomes in the treatment of growth hormone-secreting pituitary adenomas according to the shift of surgical paradigm[J]. Neurosurgery, 2012, 71(2 Suppl Operative):ons192-ons203.
- [19] 李振举, 邓侃, 王任直, 等. 伽玛刀治疗后的垂体腺瘤经蝶手术脑脊液漏的防治[J]. 神经疾病与精神卫生, 2016, 16(3): 320-323.

(收稿日期: 2016-12-02)