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Electron microscopic observation on neural circuitry reconstruction between host and implants following intracerebral implantation of fetal sustantia nigra*

Yang Hui, Cai Wenqin, Zhang Kecheng (Department of Neurosurgery, Xinqiao Hospital, Third Military Medical University, Chongqing, 400037)

Abstract Objective: To observe the neural circuit reconstruction and integration between host and grafts following intracerebral transplantation of cell suspensions of fetal substantia nigra. Methods: The ultrastructure of the zone between host and grafts was investigated by using optical microscope and electron microscope 3 months after the transplantation. Results: The number of synapses was increased. Conclusion: The function of the CNS is improved after transplantation. Combined with the results of EM observation that the small granular vesicles were increased, it is concluded that some of the grafted dopaminergic cells form synapse with the host to reconstruct the neural circuitry.

Key words fetal substantia nigra; intracerebral implantation; neural circuit reconstruction; Parkinson disease

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硬核白内障超声乳化术中真空的调节

The regulation of vacuum in phacoemulsfication of catract with hard nucleus

郑 汉* 刘 勇 石 宏 金 震 (第三军医大学附属西南医院眼科) 重庆,400038

白内障超声乳化(Phacoemulsfication 缩写 Phaco)手术中硬核的处理是一个难题。除了选用功能不断更新的先进乳化仪和采用各种新手术方法外,笔者认为在整个乳化过程中进行合适的真空调节也可以使硬核白内障的乳化过程变得安全和容易一些。

1 材料和方法

1.1 临床资料

本组共统计了术者近半年(1997.8～1998.1)50例共60眼Ⅳ～Ⅴ级核之老年性白内障手术病人。其中男23例(28只眼),女27例(32只眼),年龄61～80岁,平均70岁。患者不伴有角膜及前段色素膜疾病。仪器为美国眼力健公司Diplomax超声乳化仪。

1.2 手术方式

手术均选用球后及轮匝肌阻滞麻醉,做颞上方巩膜遂道切口及鼻上方透明角膜辅助穿刺口,粘弹剂维持前房,5～6 mm直径连续环形撕囊或开罐式截囊,水分离核。先以Phaco头在核上打遂道将核分成两半、四半或多块,此时真空设定在100～200 mmHg的中等水平。将核成功分开后,将真空调至300～400 mmHg,依次将分开的晶体核块吸起,拖至瞳孔中心处以阻塞爆破模式对吸起的晶体核进行超声乳化,并不断配合以辅助器械进行机械碎核,此过程中晶体核块一直由高真空将其控制在Phaco头上。当乳化接近尾声只剩下少量薄块或最后一小块晶体核时,将真空下调至100 mmHg左右,并采用低能量之Phaco方式将残余晶体核摘除。换至I/A(灌吸)方式后,先以400 mmHg左右真空清吸残留皮质,再以低于100 mmHg的真空抛光后囊膜。最后注入粘弹剂,囊袋内或睫状沟植入后房型人工晶体。

2 结果

60只硬核白内障眼56只眼顺利完成了超声乳化手术,4例发生后囊破裂,其中2例在粘弹剂的辅助下继续完成了超声乳化,2例改为ECCE方式娩出晶体核。58例实现了一期人工晶体植入,2例未能实现一期人工晶体植入。术后次日视力:0.1～0.4 32眼,0.5～0.6 28眼;术后3日视力:0.2～0.4 20眼;0.5～0.9 40眼。手术时间15～55 min,平均26 min。Phaco使用能量40 s至2 min 15 s。

3 讨论

由于各种原因,硬核白内障已成为中国白内障Phaco手术医生遇到的普遍问题[1～3],硬核白内障手术过程中常遇到的问

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* 郑 汉,男,36岁,主治医师,讲师,硕士

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Detection of the expression of MUC1 gene in normal human glandular epithelial cells with BC2 monoclonal antibody*

Wang Rongquan, Fang Dianchun, Liu Weiwen, Jin Huayuan, Lu Rong (Department of Gastroenterology, Southwest Hospital, Third Military Medical University, Chongqing, 400038)

Abstract **Objective**: To study the pattern of expression of MUC1 core protein in normal human glandular epithelial cells. **Methods**: The apomucin 1 protein of MUC1 was detected with BC2 monoclonal antibody and ABC immunohistochemistry. **Results**: MUC1 core protein was mainly distributed in the epithelium and the basement of gastric mucosa; it was found in the perinuclear area of the epithelial cells and dispersely distributed in the cytoplasm of the basal cells and the cells of glandular neck. The expression showed no difference between the tissues of the fundus and antrum of the stomach. There was weak diffuse positive cytoplasmic staining of the goblet cells and columnar cells in the duodenum and jejunum. Reactivity in the goblet cells was similar to that in the columnar cells. Weak expression of apomucin 1 was found in the crypt and superficial epithelial cells of the colon and glandular epithelial cells of uterine cervix and gall bladder. **Conclusion**: MUC1 core protein was widely expressed in normal human glandular epithelial cells but there was a heterogeneous reactivity in different organs.

Key words apomucin; immunohistochemistry

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（上接 409 页）

题有 3 个。第一是硬核白内障在撕囊时红光反射不好或无红光反射，囊膜也变得薄和脆，难以达到一个完整无弱点的连续环形撕囊。当撕囊不完整或截囊时，前囊口边的弱点极易成为 Phaco 操作中后囊破裂的源点。第二是硬核白内障往往核大，后囊下无多少皮质或无多少成形皮质，这样在反复转动核时后囊与核之间的保护大大降低，容易在转核过程中撕破后囊。第三是硬核需要较多的能量。过多 Phaco 能量的释放无疑会加重术中和术后角膜内皮及虹膜的反应。

笔者在术中体会，适时地调节真空水平将有利于解决硬核 Phaco 手术中遇到的 3 个问题[4,5]。第一，在分核时采用中真空、中等能量水平保持原位对晶体核进行打遂道和分核，分核块数为 4 块左右即行，当分核成功后即不再反复转动核以免撕破后囊。第二，采用高真空依次吸住被分开的各块晶体核，让其阻塞 Phaco 头，将其拖至瞳孔中央，配合阻塞爆破模式，以较高能量快速乳化吸住晶体核块。第三，当晶体核剩下最后薄块或一小块时，后囊很容易随液流被吸向 Phaco 头造成破裂，故此时应及时下调至低真空水平，约 100 mmHg 左右，再配合低能量 Phaco 彻底清除晶体核。第四，换至 I/A（灌吸）方式时，400 mmHg 左右的真空对一般皮质均可做到彻底清除，如果吸住后囊，只要及时吐出，也不会吸破后囊。需要抛光后囊膜时，则需将真空下调至 100 mmHg 以下，此时后囊可安全地在 I/A 头上不断地被抛磨而不会破裂。不同的病人还会有不同的具体情况，但整个手术过程中灵活不断的真空变化可使晶体核在我们的 Phaco 头上变得松紧从容，后囊安全可靠，实现手术者对 Phaco 手术全过程的安全控制。

关键词　白内障/外科手术；超声乳化；真空调节

中图法分类号　R776.1

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