儿童股骨头坏死不同治疗方法的对比研究

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摘要　采用非手术治疗、钻孔减压、髋关节滑膜切除、开窗减压松质骨植骨、缝匠肌骨瓣移植和吻合血管腓骨移植等方法治疗儿童股骨头坏死 215 例，其中 161 例经过 1～15 年的系统随访观察。依据 Catterall X 线分期，以髋关节功能和 X 线片改变为评定标准，观察不同分期的不同方法治疗适应症。

关键词　儿童　股骨头坏死　治疗

应用非手术治疗和不同方式的手术治疗儿童股骨头坏死 215 例，获得随访且资料完善者 161 例。在疗效观察的基础上，依据 Catterall[1] 儿童股骨头坏死的 X 线分期，探索不同分期的不同治疗方式，报告如下。

临床资料

161 例中男 133 例，女 28 例；年龄 4～16 岁；病变部位：左髋 80 例，右髋 73 例，双髋 8 例；病程最短 1～3 年；病史：有外伤史者 73 例，类似髋关节炎史者 62 例，原因不明者 26 例；观察方式：除病史和髋关节功能外，X 线观察股骨头坏死程度及术后股骨头恢复的形态，测量 Wiberg 氏 C－E 角，Sheton's 线，髋臼指数，股骨头骨骺高度及关节间隙宽度等。

治疗方式

石膏制动保守治疗 11 例，股骨头钻孔减压 12 例，髋关节滑膜切除 19 例，股骨头颈部开窗植松质骨 30 例，缝匠肌骨瓣移植 15 例，吻合血管腓骨移植 74 例。

随访结果

161 例随访时间为 1～15 年，根据髋关节功能和 X 线改变作为评价疗效依据；优：髋关节功能恢复正常，双下肢等长，行走跑步均无疼痛，股骨头呈球形，股骨头骨骺发育正常。良：髋关节功能恢复正常，无疼痛，股骨头骨骺发育接近正常，股骨颈稍增宽，股骨头呈球形，双下肢等长，内旋、外展受限在 10°～20°之间。可：股骨头骨骺有不同程度增长，股骨头增大，髋臼包容不全，或股骨头变形和部分塌陷，有少量碎裂片或囊腔，股骨颈部增宽，无疼痛，略有跛行。差：髋关节症状无改变，股骨头骨骺有继续破坏，髋关节内收、外展受限超过 20°。

随访结果显示，任何一种治疗方法均有其优良率，各种方式治疗的优良率又与其分期有一定的关系，Catterall X 线分期 I、II 期的疗效明显高于 III IV 期。不同治疗方法的疗效随访结果见表 1。

表 1. 不同治疗方法的疗效与分型关系表

治疗方法	例数	优				良				可				差				优良率%
		I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	
石膏制动	11	4	1			2	1					1				2		72.7%
钻孔减压	12	3	2			2	2					2				1		75%
滑膜切除	19	3	3			3	2			2	3			1	2			57.8%
开窗植骨	30	5	7	6		4	3	2				1			1	1		90%
缝匠肌骨瓣移植	15	5	2	1		2	1	1				2				1		80%
吻合血管腓骨移植	74	12	15	16		9	8	3	3		2	3			1	2		89.1%
合　计	161		85				48					16				12		82.6%

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讨　论

按照 Catterall X 线分期标准将不同方法治疗儿童股骨头坏死的结果进行疗效评价，以便对该病的治疗提供更多的途径选择。以石膏制动 3～6 个月左右的非手术疗法，对 I、II 期病例，有显著疗效，这与早期股骨头病理改变轻，头臼包容较好，通过制动为其自愈提供静态修复环境不无关系。由此说明，石膏制动促其早期病例自然修复仍不失为一种行之有效的方法。

髋关节滑膜切除为国内较早治疗儿童股骨头坏死的方法之一，本组病例疗效佳者，亦为 I、II 期病例。III 期以上者，随访提示均有不同程度跛行、疼痛，功能受限也较明显。通过长期观察认为，除个别滑膜炎性反应明显者予以切除外，一般可以选择其它方法治疗，切与不切滑膜对其疗效并无明显影响。

缝匠肌骨瓣移植主要切取髂前上棘骨块植入股骨头颈部，虽取得一定疗效，但髂前上棘连带骨骺软骨被切除，经观察儿童骨盆发育形成相对不对称。缝匠肌移位对儿童下肢肌肉平衡发展亦有一定影响。因此，连同儿童骨骺的带血管骨移植应慎重，本组已放弃此方法。

股骨头经皮钻孔以达到减压目的，对于 I、II 期病例可以作为治疗选择之一。对于股骨头开窗植入松质骨，将股骨头外上方凿成骨洞，环钻清除股骨头内外上方囊变骨组织，在“C”臂型 X 线监视下达骺板远端，但不通过骺板，然后植入髂骨外板松质骨碎屑，窗口处覆盖一大小适宜的髂骨外板，缝合固定在关节囊下方。此方法通过减轻股骨头内压，改善股骨头内骨结构，促使周围血管增生活跃，同时又刺激骨骺远侧柱状细胞化骨，干骺端增殖，以利坏死骨骨骺的修复。该方法简单、易行，对于 Catterall I、II、III 期者均适宜。

吻合血管腓骨移植取小腿中上 1/3 部位，腓骨连同腓骨动静脉植入股骨头颈部前外上方，腓骨动静脉与旋股外动静脉相吻合[2]。股骨头骨骺的增殖主要依赖于关节囊内动脉环伸向骨骺的血管及圆韧带动脉。股骨头骨骺的坏死无论什么原因，缺血与其有着密切的因果关系。植入带血运的腓骨为其提供了新的血供来源。腓骨植于骺板远端可刺激骺板生长活跃。同时，腓骨为坚质骨，支撑力强，增强了股骨颈部的应力，可预防股骨头颈部变大变粗，甚至畸形，有利于压缩和变形的股骨头骨骺再塑形。适应于 Catterall II III IV 期病例。对于股骨头骨骺与髋臼覆盖不一致者，可同时附加骨盆截骨或粗隆下外展截骨，以改善股骨头的负重点和包容状态。

经过 1 年～15 年观察不同类型的儿童股骨头坏死采用不同方式的治疗结果，认为，无论任何分期的病例，都应积极治疗，不能因少数幼年早期病例不治自愈而放弃治疗。非手术治疗适应于 I 期病例。II 期以上病例应做相适应的手术准备。开窗植骨疗效显著，适合 I、II、III 期病例，但由于病例数有限，尚需进一步观察。吻合血管腓骨移植有一定优越性，适应于 II、III、IV 期病例。

参考文献

1. Catterall A, Legg－Calve'－Perthes Syndrome. Clin Orthop 1981, 158: 41.
2. 王坤正．毛履真．陈君长等．手术治疗 Legg－Perthes 病疗效观察．中华小儿外科杂志 1992; 13 (3): 159.

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Abstract of original Articles

Extradiscal Injection of Collagenase in The Treatment of Herniated Lumbar Disc — A Therapeutic Analysis of 240 Cases

Zhang Guomin, Wang Zhimin, Li Wenxian, et al.

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263 cases of lumbar disc herniation were treated with extradiscal injection of collagenase. All patients with typical clinical symptoms and signs were diagnosed by CT scanning or MRI, and all of them without therapeutic effect with conservative therapy. Among them, 240 cases had been followed up clinically for 3 — 12 months. The results showed that the cure rate, effective rate and ineffective rate were 62%, 92% and 8%, respectively. The theoretical foundation of extradiscal injection of collagenase was expounded that collagenase could dissolve the herniation of lumbar disc but did not affect to adjacent structures. The mechanisms of pain response after discolysis were analysed. The writers thought that the therapeutic effect of discolysis is closely related to the choice of the indication, the accuracy of the injection site, and the dosage of collagenase. Extradiscal discolysis is a safe, convenient and efficient method for treating herniated lumbar disc.

Key words Collagenase Discolysis Protrusion of inter vertebral disc Extradisc

(Original article on page 3)

The Comparative Study of Various Therapeutic Methods for Femoral Head Necrosis in Children

Wag Kunzheng, Li Zhiying, Yu Quansheng, et al.

The Second Affiliated Hospital, Xi'an Medical University, Xi'an (710004)

215 cases of femoral head necrosis in children were treated with non — operative therapy, drilling decompression, synovectomy of hip joint, fenestration decompression and cancellous bone grafting, transplation of satorius muscle — bone flap, and trans — plation of anastomotic blood vessel — fibula, respectively. Among them, 161 cases were followed up for 1 — 15 years and systematically observed. According to Catterall's X — ray stages, and taking the function of hip joint and the changes of femoral head in X — ray film as the criteria of evaluation, the indication of various therapeutic methods in different stages were observed.

Key words Children Necrosis of femoral head Treatment

(Original article on page 7)

Effects of Qianlinghuo Heji on Osteoporosis Induced by Ovariectomy: An Experimental Study

Tao Youlue, Fang Liang, Zhang Zhian, et al.

The Second People's Hospital of Fujian Province, Fuzhou (350003)

Qianlinghuo Heji (Epemedium Leptorrhizum Agent) is a mixture of Chinese medical herbs on osteoporosis. The rats'models of postmenopausal high turnover osteoporosis were established three months after ovariectomy, and then divided into three groups: the Chinese drug group, nilestriol group, and model group. After treating for three months, the results showed that the ration of fasting urine calcium/urine creatinin and urine hydroxyproline/urine creatinin in Chinese druy group and in nilestriol group are obviously decreased than that in model group ($P<0.05$ and <0.01, respectively); the serum estradiol, bone mineral capacity and bone mineral density in both the Chinese drug and nilestriol groups are increased than that in model group; the level of serum bone gal protein in Chinese drug group is higher than that in nilestriol and model groups ($P<0.05$); and the activity of serum alkaline phosphatase in nilestriol group is lower than that in Chinese drug and model groups ($P<0.05$). The results indicated that Qianlinghuo Heji can prevent the rats with osteoporosis from losing bone material and thus protect the bone.

Key words Osteoporosis Chinese drug Qianlinghuo Heji Rat Ovariectomy

(Original article on page 9)

Hemodynamic Study of Manipulative Treatment of The Experimental Osteoarthritis of Knee Joint

Wang Jiwei, Shi Weibin, Du Ning, et al.