

经验交流

二种髌骨骨折内固定术比较

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摘要 53 例髌骨骨折患者分别接受粗丝线环扎内固定术(39 例)和张力带钢丝内固定术(14 例)治疗。术后三个月疗效对比显示,环扎组优良率高于张力带组;张力带组因术后克氏针尾触痛;活动功能的恢复反而普遍慢于环扎组。作者认为,对髌骨骨折在选择切开复位内固定时,粗丝线环扎术应为首选。

关键词 髌骨骨折 骨折内固定术 临床研究

我院 1988 年至 1993 年共收治髌骨骨折 119 例,其中骨折块严重移位的 53 例(53 膝)采用保留髌骨完整性的切开复位内固定术治疗,术式有粗丝线环扎内固定术和张力带钢丝内固定术。本文对这两种手术方式加以比较。

临床资料

本组 53 例中男 42 例,女 11 例;年龄最大 67 岁,最小 19 岁;左侧 34 例,右侧 19 例;坠落伤 20 例,跌伤 17 例,自行车或摩托车摔伤 16 例。

骨折类型及各术式例数(见表 1)。

表 1 骨折类型、各术式例数及术后三个月的疗效

术式及骨折类型	疗效(例)			
	优	良	中	差
环扎 { 横断性	6	11	2	
张力学带 { 横断性	1	4	1	

手术方法

粗丝线环扎法:硬膜外麻醉,在膝关节前部作一弧形横切口约 10cm 长,切口的两端相当于髌骨中部的水平线,中点止于髌骨下极处,显露骨折处,尽量保护与骨块相连的腱膜,清除骨折端及关节内血凝块和陈旧性积血,用刮匙刮骨折面,使之成为新鲜的粗糙面,将各骨折块对合复位,在粉碎性骨折中有游离小骨块则予摘除,以布巾钳暂时固定髌骨,检查骨折块对合情况,特别注意髌骨关节面是否平整。用 10 号粗丝线穿大圆针双线沿髌骨周边略靠后缘作半荷包缝合髌腱膜,于髌骨内、外侧同时拧紧,打结。分别修补、缝合股四头肌扩张部及髌前腱膜。

术后以石膏托固定膝关节于微屈位 4~6 周,术后一周作股四头肌锻炼,去石膏托后逐渐练习膝关节伸屈活动,配合中药熏洗、推拿、理疗等治疗。

(2)张力带钢丝内固定术:麻醉及骨折处显露同“粗丝线环扎法”,直视下对位,用直径 1.5~2.0mm 克氏针由髌骨中内 1/3 上端向下纵行穿入近端骨块,在骨块前后径中间进针,针尖到断面处暂停,将远近端骨块皮质缘准确对合,继续将针钻入,对粉碎性骨折可如此一针穿 3~4 块骨块,直到由下端穿出;另一针以同样方式在中外 1/3 穿入。一般,横断型骨折二针平行,粉碎性骨折则二针不一定平行,以兼顾骨块数量为主。用 18 号钢丝于髌骨前以“8”字形绕 4 个针端后拉紧打结。术后石膏托固定膝关节于微屈位 2~3 周,功能锻炼及辅助治疗同“环扎法”。一般在术后 4~7 个月骨折骨性愈合后再次手术取出内固定物。

疗效标准及治疗结果

优:骨折对位好,关节面平滑,骨折愈合,膝关节功能完全恢复,活动无不适。**良:**骨折对位较好,关节面基本平滑,“台阶”在 3mm 以下,膝关节伸屈功能大于 0°~120°(伸直位为 0°,以下同),活动无不适,骨折愈合。**中:**骨折对位尚可,关节面“台阶”等于 3mm,膝关节伸屈功能小于 0°~120°,大于 0°~90°活动稍感不适,骨折愈合。**差:**骨折对位差,关节面不平滑,“台阶”大于 3mm,或骨折块分离,伸屈功能小于 0°~90°,活动时疼痛,骨折迟缓愈合或不愈合。

随访时间及疗效:术后随访 3 个月至 2.5 年,平均 6 个月。术后 3 个月疗效见“表 1”。

讨论

髌骨在膝关节功能活动中所起的作用已被公认。髌骨骨折的治疗首先应以恢复髌骨形态完好,恢复髌骨功能为原则;应尽量避免髌骨部分或全切除。粗丝线环扎固定术与张力带钢丝固定术是目前常用的二种髌骨骨折修复手术,迄今已有较多的临床报导。

严重移位的髌骨骨折必伴有髌前腱膜和股四头肌扩张部的严重撕裂,术中缝合、修补这些软组织,有助于克服骨折端所受的张力,髌骨就可初步复位;粗丝线环扎则可使骨折块向髌骨中心聚集,对抗髌骨周围的

张力,进一步达到复位、固定的作用。术后石膏托外固定则可使骨折的固定更为可靠。由于粗丝线的弹性、韧性及强度适合,在骨折愈合的后期对股四头肌作用于髌骨的生理应力所产生的遮挡效应小,因而有利于骨折的塑形和改造,不易发生骨质疏松^[1]。不用第二次手术取出内固定亦是粗丝线环扎术的优点之一。该法对粉碎性髌骨骨折更为适用。

张力带钢丝固定于骨折复位后用 2 枚克氏针作平行贯穿固定,使骨折块不会发生侧向旋转及前后移位,能始终保持关节面平整,作钢丝附着,张力带钢丝在骨折张力侧环绕克氏针上、下固定,使骨折端承受的张力转移到张力带上,整个骨折端就仅存在单纯的压应力,使骨折面紧密接触,而获得坚强的内固定^[2]。术后短期应用或不用外固定,可以进行膝关节早期活动,其力学应用比环扎术更为合理。但张力带钢丝使用上

也有一定的局限性:其一,操作上比环扎术复杂;其二,在粉碎性骨折骨块较多时难以保证骨折块在完全复位情况下贯穿克氏针,术后如发现复位不良,又由于克氏针的存在而难以纠正;再者,常发生术后克氏针尾触痛而影响膝关节早期活动,本组几乎每例均有发生,较周氏^[2]报导的 60% 的发生率为高。

总之,我们体会丝线环扎术有操作简单,适用范围广,不用每二次手术取出内固定等优点;应做为首选。

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手法加中药外洗治疗小儿髌关节暂时性滑膜炎

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笔者自 1987 年~1993 年采用手法加中药外洗治疗小儿髌关节暂时性滑膜炎 57 例,疗效满意,总结报告如下。

临床资料:本组 57 例中男 38 例,女 19 例;年龄 1~13 岁;病程半天~10 天;疼痛放射部位为大腿前侧至膝部;全年均可发病,以春秋季节为多;57 例患儿均为单髌发病,过度劳累(蹦跳活动过度)者发病 32 例,轻度外伤者发病 8 例,受寒凉者发病 12 例,原因不明者发病 5 例。

症状及体征:突然跛行,以髌部疼痛为主,放射疼至大腿前侧至膝部,患髌无红肿。患肢较健侧为长,其长数最少 1cm,最多 3cm,4 字试验(+),托马氏征(-)。体温、血常规、血沉及 X 线检查无明显异常。

治疗方法:1. 手法:患儿仰卧位,助手固定患儿骨盆处,术者一手置于患儿膝部,一手握住踝关节,先缓慢屈伸患髌 2~3 次,然后尽量极度屈髌,令膝股贴于腹部,然后外旋、外展、伸髌伸膝动作,如此连续操作 2~3 次。

2. 中药外洗:当归 15g 红花 12g 灵仙 15g 五加皮 20g 川芎 15g 川牛膝 15g 独活 12g 海桐皮 15g 透骨草

30g 川椒 10g 乳香 10g 没药 10g 伸筋草 30g。将方内中药加水 2000ml,放铁盆内煮开,熏洗患髌。每日早晚各一次,每次 20~30 分钟,每剂药可用 2 天。

治疗效果:57 例患儿均治愈,最短者 2 天,最长者 15 天,平均 3.4 天。

体会:小儿髌关节暂时性滑膜炎,俗称“长腿病”,临床较为常见。每因儿童活动过度,或轻度外伤,或感受寒凉而发病。突然跛行、长腿是本病的特有症状。患髌滑膜病变后,关节内渗液发生改变,为减轻关节内压力,髌关节多呈外展外旋位,这时无论病儿自觉或外观患肢都显长,则表现为程度不一的跛行。患髌无红肿,血常规、血沉及 X 线检查均无异常,均说明本病是一种髌关节滑膜无菌炎性改变所造成的关节功能紊乱症。中医认为患髌为肌筋拘挛,经络闭阻,气血滞涩,筋脉失养所致,故在手法治疗上采用“摇筋骨,动肢节”之法,使患髌极度屈曲、外展、外旋、伸髌等动作,达到缓解肌筋拘挛,矫正患肢过长,配合中药外洗可改善髌关节的血液循环,消除髌关节滑膜无菌炎性改变所造成的关节功能紊乱症,达到了较好的治疗效果。

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Abstract of Original Articles

Observation of the rabbit tibial interfragmental gap in vivo by light guide fiber method

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In this article, changes of the healing process of rabbit tibial interfragmental gap treated with small splints and intramedullary nail fixation were observed. Through light guide fiber method, image pattern analysis measurements and radiographic analysis of the callus, the results showed that the mean value of fracture interfragmental gap decreased along with increasing of the time. There are also correlation between the tendency of changes of fracture and post-fracture time and burden of the limb ($p < 0.01$). Roentgenogram showed that the fractures were healed by the external bridge callus across the fracture site at sixth week. The results suggested that longitudinal displacement within $0.33 \pm 0.17 - 0.95 \pm 0.43$ mm of the experimental rabbit tibial fracture ends can facilitate bone healing.

Key words Fracture healing Fracture end gap Light guide fiber method Rabbit

Phagocytic function and heterogenicitic motive studies of surface wound healing

—Studies on the mechanism of Wei Nong Zhang Rou(2)

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Rabbit infected surface wound models were prepared. Wound exudation and surface wound cells were collected with modified Schilling stainless steel tube embedded in the hypoderm. The surface wound cells were stained with Wright-Giemsa stains. It was found that number of macrocytes(M) increased during process of the surface wound healing in external application of Chinese drug group, besides the wandering macrocytes were more than permanent ones. The differences were significant statistically. Through histochemical staining, there were very significant difference of the acid-phosphatase (AcP) and sugar metabolic rate-limiting succinate dehydrogenase (SDH) between surface wound healing and control group. It is suggested that external application of Chinese medicine can activate surface wound cells and elevate intracellular enzymic activity. It plays an important role in promoting surface wound healing.

Key words Surface wound healing Macrocytes Acid phosphatase Succinate dehydrogenase

A comparison between two kinds of internal fixation in treating fracture of patella

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Fifty-three cases of fracture of patella were treated with coarse silk thread cerclage internal fixation in 39 cases, and tension steel wire internal fixation in 14 cases. Three months postoperatively showed that the former was superior than the later. It is because in later group tail of the Kirschner pin brought a touching pain postoperatively, so recovery of the function was generally slower than the

former group. It is suggested that in the treatment of fracture of patellar the former method was first choice.

Key words Fracture of patellar Internal fixation of fracture Clinical study

Eighty-two cases of open tibio-fibular fracture treated with integration of traditional Chinese and modern medicine

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Better results were obtained in the treatment of **82** cases of open tibio-fibular fracture treated with integration of traditional Chinese and modern medicine. It is advised to let the open fracture becoming closed fracture after through debridement. During external fixation the patient kept in sitting position, let the affected limb hanging naturally in order to reduce the fracture ends in position correctly by means of gravity, then correct external fixation was applied instead of internal fixation. Application of drugs according to differentiation of symptom-complex in different stages and early functional exercises were emphasized.

Key words Fracture of tibia and fibula Integration of traditional Chinese and modern medicine

Compressive fracture of thoracic and lumbar vertebrae treated with buttock-shoulder style of training

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In this article, a kind of new functional exercise was introduced in the treatment of compressive fracture of thoracic and lumbar vertebrae. Twenty eight cases were treated. After a follow-up study of **3-41** months, satisfactory results were found in **24** cases. The characteristics of the exercise are small amplitude of movement, easy to be carried on, they were well accepted by middle and senile patients. The difference between the method and traditional therapy was introduced.

An analysis of reoperated cases following replacement of the femoral head in senile

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Twenty-nine reoperated cases following failure of replacement of the femoral head have been performed from March of **1979** to Feb. of **1992**. Regarding the main causes of reoperation, inappropriate between the head and acetabulum and loosening of the prosthesis; secondly breaking of prosthesis, infection and dislocation etc. were also mentioned. Prophylactic measures were suggested.

Key words Artificial femoral head Neck-shaft angle of the femur Anterior incline angle of the femur