

Sibson 筋膜导致胸廓出口综合症

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摘要 本文分析了 1987~1995 年手术治疗 45 例胸廓出口综合症病人,经手术证实引起胸廓出口综合症之主要病因中除通常所述的斜角肌病变、颈肋、胸小肌出点处病变和肋锁间隙病变外。还有一种病因,即胸膜上筋膜(Sibson 筋膜)卡压臂丛下干而导致胸廓出口综合症。其中 7 例行手术探查肘,未发现其他卡压因素,仅发现臂丛下干表面覆盖一层薄的筋膜,遂对此筋膜进行了松解,术后症状明显缓解,因此认为此膜系卡压因素。

关键词 胸廓出口综合征 胸膜上筋膜

臂丛神经血管受压征指臂丛神经尤其是下干和锁骨下动、静脉在胸廓出口部因各种原因受压,从而引起上肢或颈、肩痛症,无力,肌萎缩或肢端缺血为特征的症侯群,通常称为胸廓出口综合症。我院在 1987~1995 年 3 月收治了 45 例,均予手术。在手术中发现其中 7 例并无斜角肌异常,也无颈肋及肋锁间隙异常。但臂丛下立表面覆有一层薄的筋膜,致下干无活动余地,将此筋膜松解,术后患者即感症状明显缓解。因此我们认为此筋膜系引起臂丛下干卡压原因之一。

临床资料

本组 7 例中,女性 5 例,男性 2 例。年龄 17~50 岁,平均 25 岁。右侧 5 例,左侧 2 例。病史 3 月~4.5 年。

1. 主要临床表现:为臂丛神经下干受压为首发症状,即患肢麻木、乏力、易倦,体感觉异常,手内肌萎缩。

2. 特殊试验结果:①斜角肌挤压试验(Adson Test):此组病人均为阴性。②肩过度试验(Wright Test):摸及桡动脉搏动后将患肢被动过度外展和屈肘,搏动减弱或消失为阳性。此组病人均为阴性。③挺胸试验(Eden Test):嘱患者尽量将肩部移向后下方,如立正姿势,桡动脉改变为阳性。此组均为阴性。④运动试验(Roos Test):嘱患者外展屈肘 90°,前臂旋前,双手持

续作屈指运动,不能坚持 1 分钟者为阳性。此组病人均为阳性。⑤锁骨上窝叩击试验(Mosleg Test):检查者用中指反复叩击患者锁骨上窝丛,出现手指麻木或异样为阳性。此组病人 6 例为阳性 1 例为阴性。

3. X 线检查未见颈椎、锁骨部有异常改变,电生理测定患侧较对侧潜伏期延长 1 毫秒以上。

手术探查卡压原因

所有手术均采用锁骨上入路。术中未见前中斜角肌异常,其间隙对臂丛下干也没有构成长压。肋锁间隙宽敞,也未形成卡压。但在臂丛下干表面,可见一层坚韧而薄的筋膜覆盖于表面,使上干紧贴第一肋,没有一点活动度,松解该筋膜后,症状明显缓解,并逐渐恢复。本组病例是在 1 例经他院手术治疗胸廓出口综合症无明显疗效,又在我院再次手术探查时发现此卡压原因而受到启发。因此认为凡有胸廓出口征症状患者,经手术探查如未发现前中斜角肌异常,颈椎、肋骨异常,并无明显卡压迹象者,均采用胸膜上筋膜松解术,效果较佳。

讨论

1. 胸膜上筋膜解剖特点:陈履平等在胸廓出口的临床解剖研究中^[1]曾提到胸膜上筋膜,但未注意到此膜的解剖特点,以及此膜对构成长压的因素。在局部解剖教科书中^[2]对胸膜上

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筋膜作了详述。

胸膜上筋膜又称 Sibson 筋膜,是一层薄的筋膜,胸膜顶向上达第 1 肋骨颈平面,由两侧肺尖前面呈锥形附着于颈 7 横突。由颈 7 椎体和横突及第 1 胸椎延伸向下达第 1 肋骨内侧缘后缘坚固锐利如一弦,其内缘变薄,逐渐消失于颈部结缔组织中。后缘与颈 7 横突至第一肋颈之间有一裂隙,颈 8 和胸 1 神经根通过此间隙,如此间隙变窄,即对臂丛下干形成压迫。

2. 此类胸廓出口综合征之卡压特点:胸廓出口综合征(TOS)的病理基础是胸廓出口的解剖变异^[3],如颈肋、原始第一肋骨、肋锁间隙狭窄、前斜角肌肥大或止点变异,上臂过度外展引起胸小肌张力增大,肩下垂或胸廓出口异常纤维束带等原因,而导致臂丛神经血管受压,出现 TOS。经我们观察 TOS 患者大多兼有神经和血管受压症状,但以神经受累为主。因此我们认为大多数的 TOS 病人的症状是由于臂丛下干受压或激惹所引起,而前臂内侧皮神经感觉异常是确诊 TOS 的重要诊断依据^[4]。本组病例均有前臂内侧皮神经感觉异常,伴有沿尺神经分布的感觉异常和麻木,以前臂尺侧和第 4~5 指最为常见,重者伴前臂及手内在肌萎缩。由于颈 8 和胸 1 神经根通过 Sibson 筋膜后缘与颈 7 横突至第 1 肋颈间隙。而锁骨下血管不通过此间隙,故血管未被卡压。因此病人不会出现 Adson 征、Wright 征和 Eden 征阳性症状。因此在手术探查时,对单纯表现神经受压,而又未见到明显卡压因素的病人,要考虑到 Sibson 筋膜卡压的可能性,而常规行松解术,以减除 Sibson 筋膜的卡压。

3. 有关诊断问题:关于 TOS 的检查方面报道不少,其检查法均为 Adson 征、Wright 征、Eden 征、Roos 征及 Mosleg 征,一般用上述检查法即可确诊。Roos^[3]认为 EAST(elevated arm stress test)试验 TOS 最为可靠。即病人取坐位,挺胸、屈肘,抬起双上肢(“投降”姿势),缓缓握拳和松拳 3 分钟。正常人除有轻度疲劳外无任何症状,而 TOS 病人自试验开始即感患肢沉重疲劳,逐渐手指麻木,臂、肩部疼痛或手部发白,

受试后不久患肢即不自主地突然坠落。此试验类似 Roos Test。

我们认为在 TOS 病人中,如因 Sibson 筋膜引起卡压而出现症状者在上述检查法中不会出现桡动脉搏动减弱或消失,因 Sibson 膜未构成对锁骨下血管的压迫,故 Adson 征、Eden 征、Wright 征均为阴性,反出现 Roos Test 及 Mesleg Test 征阳性。

有文献报道肌电图和神经传导速度测定对诊断 TOS 价值较小^[5]。但我们认为它可作为临床提供佐证及明确臂丛神经损害的范围和程度也有助于排除其他神经疾患和用于术后随访,应予采用。CT 和 MRI 检查对鉴别诊断有意义,能除外颈椎间盘突出和脊髓肿瘤等。普通 X 线检查有助于观察有无颈肋或肋骨、锁骨异常等有关骨性病变。

4. 有关治疗的问题:非手术治疗难以治愈本病。手术的目的是充分松解胸廓出口,去除对血管和神经方面的压迫。对以臂丛下干受损为主的 TOS 病人,宜采用锁骨上横切口,充分显露前、中斜角肌及臂丛,常规切断前、中斜角肌,以得到充分松解,再充分显露 Sibson 筋膜、观察臂丛下干的活动范围,若无活动度,则要充分松解此筋膜减除对臂丛下干的压迫,使 TOS 得到治疗。

总之,在术中如未发现其他卡压因素,应作为常规检查松解 Sibson 筋膜。

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Abstract of Original Articles

Traumatic Intransient Spinal Cord Damage without Compression Zhao Kai, Xu Rongming, Zhang Jian. *Affiliated Sir Run Run Shaw Hospital, Zhejiang Medical University, Hangzhou* (310016)

The intransient spinal cord damage without compression is seldom occurred in spinal cord trauma. 22 cases with such damage, out of 423 spinal cord injury cases were followed up and their diagnosis, treatment, and probable etiology were analysed from 1984 to 1994. (1) MRI can reveal the early changes of spinal cord injury and it is important for estimating the prognosis and determining the treatment; (2) Such damage can be induced by hyperextension injury and other mechanism; (3) Vascular injury, hemorrhage, and intramedullary deposit of metabolic product are playing important roles in the process of such damage; (4) There is no significant difference of therapeutic effect between non-operative treatment and simple spinal canal decompression. The combination of intramedullary and extramedullary decompression under operating microscope is advantageous to the recovery of such damage. The active treatment could not be abandoned, even in the complete spinal cord damage.

Key words Spinal cord damage MRI
Intramedullary and extramedullary decompression
Metabolic product

(Original article on page 3)

Thoracic Outlet Syndrome Induced by Sibson's Fascia Tian Cunping, Wang Ruiqing, Yin Yunsheng, et al. *The First Affiliated Hospital of Shanxi Medical College* (030001)

45 cases of thoracic outlet syndrome were treated with operation and analysed from 1987 to 1995. The main causes of thoracic outlet syndrome were demonstrated with operation that in addition to the commonly mentioned cervical rib, pathological changes of scalene muscle, pectoral muscle and costoclavicular space, there was a kind of etiology, i. e. the thoracic outlet syndrome was induced by long time compression of suprpleural fascia (Sibaon's fascia) on the inferior trunk of brachial plexus. In the process of operative

exploration, it was found in seven cases that only a thin layer of fascia covered over the inferior trunk of brachial plexus, without any other factor of long compression. As this fascia had been relaxed, the syndrome was significantly eliminated. Therefore, it was considered that this fascia is a factor for long compression.

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Key words Thoracic outlet syndrome Sibson's fascia

Study on Biomechanics of Plane Triangle Needle for Treating Olecranal Fracture Du Dongpeng, Yu Jinxiang, Li Yizhong. *The First Hospital of PLA, Lanzhou City, Gansu Province* (730030)

Good therapeutic effect was obtained in the treatment of olecranal fracture with plane triangle needles made with Kirschner pins. For comparing with other commonly used methods, 64 models of olecranal fracture, made with same material, were divided into 4 groups and fixed with plane triangle needle, tension band, screw, and steel wire with figure of 8 respectively. Based on the biomechanical test, the plane triangle needle fixation for olecranal fracture was the best in anti-tension and anti-shear among all four kinds of fixation. For this reason, we thought it was in the first place of methods for fixation of olecranal fracture.

Key words Olecranal fracture Plane triangle needle Biomechanics

(Original article on page 8)

Histomorphometric Study on the Effect of Gusong II on Bone Turnover in Ovariectomized Rabbits Shi Weibin, Du Ning, Fu Shicong, et al. *Shanghai Institute of Traumatology and Orthopaedics, Shanghai Second Medical University* (200025)

The effects of Gusong II on experimental postmenopausal osteoporosis in ovariectomized New Zealand white rabbits were assessed histomorphometrically and compared with that of nylestriol. The results demonstrated that BV/TV, OBI, dLs/BS and BFR increased in both group A (OVX—Gusong II) and group D (OVX—nylestriol) as compared with group B (OVX) and/or group C (Sham). Group A