

论著

伴发脊髓空洞的脊柱侧凸患者竖脊肌肌纤维及运动终板的酶组化特征

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摘要 摘要:目的 观察伴发脊髓空洞的脊柱侧凸患者竖脊肌肌纤维及运动终板的酶组化特征,探讨其与脊柱侧凸发病可能存在的关系。方法 选取伴发脊髓空洞的脊柱侧凸患者20例,以16例青少年特发性脊柱侧凸(AIS)患者和10例非脊柱侧凸患者为对照。术中切取两侧竖脊肌组织,分别进行HE染色、还原型辅酶I-四氮唑还原酶染色及非特异性酯酶染色。观察3组患者竖脊肌肌纤维的病变特征及神经肌肉接头运动终板的分型。结果 脊髓空洞组中12例(60%)有神经源性肌纤维病变;AIS组和非脊柱侧凸组未见神经源性肌纤维病变。脊髓空洞组凸侧竖脊肌T0型终板和病变终板数均显著多于凹侧($P<0.05$);AIS组凹侧竖脊肌T0型终板和病变终板数均显著多于凸侧($P<0.05$);非脊柱侧凸组左、右侧竖脊肌T0型终板和病变终板数差异均无显著性($P>0.05$)。结论 脊髓空洞组竖脊肌肌纤维及运动终板的病理特征与AIS组明显不同。AIS患者竖脊肌可能为继发性的病理改变,而伴发脊髓空洞的脊柱侧凸患者竖脊肌存在原发性失神经支配,这种失神经支配可能是脊柱侧凸发生的始动因素之一。

关键词 [脊柱侧凸](#) [脊髓空洞](#) [竖脊肌](#) [发病机制](#) [组织化学](#)

分类号

Histochemical Changes of Muscle Fibers and Motor End-plates of Paravertebral Muscles in Scoliosis Associated with Syringomyelia

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Abstract ABSTRACT:Objective To study the histochemical changes of muscle fibers and motor end-plates of paravertebral muscles, and analyze their relationship with the etiology of scoliosis associated with syringomyelia as compared with adolescent idiopathic scoliosis (AIS) and non-scoliotic patients. Methods All the enrolled patients were divided into three groups: Group I consisted of 20 patients with scoliosis associated with syringomyelia, Group II included 16 patients with AIS, and Group III included 10 patients without scoliosis. Bilateral biopsy of paravertebral muscles was performed during scheduled spinal surgery. HE staining, nicotina- mide adenine dinucleotide hydrogen-tetrazolium reductase (NADH-TR), and α -naphthyl acetate esterase staining techniques were used for histological evaluation. Neurogenic and myogenic pathological changes and changes of motor end-plates of paravertebral muscles were compared among these three groups. Results Neuroge- nic pathological changes of muscle fibers were found in 12 (60%) patients in Group I but was not found in Group II and III. The numbers of both T 0 type motor end-plates and pathological end-plates on the convex side were significantly larger than those on the concave side in Group I ($P<0.05$). In Group II, however, the numbers of both T 0 type motor end-plates and pathological end-plates on the concave side were significantly larger than those on the convex side ($P<0.05$). No significant difference was found between two sides in Group III. Conclusions The histochemical changes of paravertebral muscles in patients with scoliosis and syringomyelia are different from those in AIS patients. It is suggested that a primary denervation of paravertebral muscles exist in scoliosis associated with syringomyelia, which may play a role in the pathogenesis of scoliosis.

Key words [scoliosis](#) [syringomyelia](#) [paravertebral muscle](#) [pathogenesis](#) [histochemistry](#)

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