Wrestling induced cervical spondylosis

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چکیده

زیمنه: تنهای فضایی بین مهره های گردنه فرایندی نخوریدی است که در پرگیری ها تغییراتی در بافت نرم و استخوان دیگری داشته باشد.

هدف: مشاهده بیانورورازیابی آسیب دیدگی زیستی در کشتی گیران انجام شد.

متوالی و روشن: ۸۳ فرد کشتی گیر و ۷۹ فرد غیر کشتی گیر با میانگین سن ۴۵ سال مورد مطالعه قرار گرفتند. به منظور تعیین تغییرات در طبیعت نخاعی، کشتی گیران با علامت باینی و رادیوگرافی نایبی شده در مورد اسپیندیلوز گردنه تحت آزمایش قرار گرفتند.

یافته ها: افزایش سن در کشتی گیران با پرواز عارضه اسپیندیلوز گردنه همراه بود. ام. آر. آی گردنه برخی از کشتی گیران به مدت طولانی این ورزش را ادامه داده بودند. نتایج نشان دهنده این است که عوامل به منظور پیشگیری از پرواز اسپیندیلوز در کشتی گیران جوان ضروری به نظر می رسند.

پژوهش و آزمایش: اسپیندیلوز گردنه، قهرمان های ورزشی، ورزش کشتی

Abstract

Background: Cervical spondylosis is a degenerative process involving changes in soft tissue and bone of intervertebral discs.

Objective: To evaluate wrestling induced cervical spondylosis.

Methods: 83 male wrestlers with the age range of 15 to 55 were randomly studied against 79 nonwrestlers of the same age. Clinical and radiological assessments were carried out and recorded in both groups. Wrestlers with clinical signs of CS and confirmed lateral radiograms were subjected to MRI studies to obviate any spinal cord changes.

Findings: The findings indicated that wrestling coupled with advancing age can initiate the process of CS. Cervical MRI of some wrestlers with long period of wrestling confirmed the pathologic changes of CS.

Conclusion: It seems mandatory to have routine cervical radiographs to gauge the width of spinal canal and rule out stenosis to prevent the development of CS in young wrestlers.

Keywords: Cervical Spondylosis, Cervical Segments, Wrestling
Introduction:
Cervical spondylosis (CS) is a degenerative process involving intervertebral discs with soft tissue and bony changes.\(^1,4,13\). It is associated with advancing age and jogging movements of the cervical segments. Chronic cervical injuries due to wrestling have not been widely explored in sport medicine.

This paper reviews our study of wrestlers and discusses the results in the context of our own and current data suggesting that the threshold for traumatic spinal injury and the prevalence of CS may be considerably higher in wrestlers.

Methods:
A number of 83 male wrestlers, with the age range of 15 to 55 were randomly studied against 79 nonwrestlers of the same age. Clinical and radiological assessments were carried out and recorded in both groups.

In lateral cervical radiographs, changes such as osteophytes, disc space height narrowing and canal stenosis were evaluated in both groups. Wrestlers with clinical signs of CS and confirmed lateral radiograms were subjected to MRI studies to obviate any spinal cord changes.

Cases with clinical signs of nuchal pain and movement restriction not related to CS were excluded from the study.

Findings:
The findings about 72 wrestlers and 75 non-wrestlers were summarized in Table 1.

Considering age group in Table 1 and using Z test, a significant difference between two groups for developing CS in age range of group 45-54 year was obtained \( (p < 0.05) \).

Wrestling coupled with advancing age can initiate the process of CS. Cervical MRI of some wrestlers with a long period of wrestling confirmed the pathologic changes of CS.

Table 1: Radiological and clinical findings of wrestlers and control group

<table>
<thead>
<tr>
<th>Age(Yr)</th>
<th>Wresters radiogram</th>
<th>non- Wresters radiogram</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NO</td>
<td>normal</td>
</tr>
<tr>
<td>15-24</td>
<td>32</td>
<td>27</td>
</tr>
<tr>
<td>25-37</td>
<td>25</td>
<td>15</td>
</tr>
<tr>
<td>35-44</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>45-54</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>72</td>
<td>48</td>
</tr>
</tbody>
</table>
Conclusion:

Cervical spondylosis defined as a degenerative process of disc associated with changes in soft tissue and bone is frequently seen in the lower cervical segments. Fibrosis and osteophytes around the disc are formed for stabilizing the joints.\(^4\)\(^,\)\(^3\) Considering the role of sport in CS, two important factors seem to be involved namely as movement of the neck and aging.\(^2\) Among predisposing factors, jobs incurring repetitive movements of the cervical spine can initiate CS. After the fifth decade of life, a definite enhancement of degenerative processes is seen in the structures of the body.\(^1\)\(^0\)

Disc degeneration occurs frequently in lower cervical segments, but injuries at C3 C4 space or higher levels are less common.\(^4\)\(^2\)

Neurologically, CS eventually leads to myelopathy which presents the weakness of lower limbs along with radiculopathies of upper limbs.\(^1\)\(^4\)\(^,\)\(^3\)

Spondylotic myelopathy is thought to stem from at least three treatable factors: spinal stenosis, osteophyte and relatively excessive spinal mobility.\(^6\)\(^,\)\(^1\)\(^0\)

Flexion and extension of the neck bring about changes in the spinal canal diameter frequently seen in wrestlers.\(^2\)

Increased movements of the cervical spine along with augmented vertebral joints movement cause high incidence of degeneration and CS at C5 C6 segments\(^5\)

Likewise superimposition of a previously stenosed canal leads to myelopathy\(^1\)\(^1\) and aging is also incriminated to cause spondylosis.\(^2\)

The ratio sagittal diameter of the canal to sagittal diameter of the adjacent vertebral body (torg ratio) is said to be normally 1/1. A ratio less than 8/10 indicates canal stenosis. Sportsmen with torg ratio less than 8/10 are probably predisposed to cervical spinal cord damage and developing myelopathy.\(^7\)

Acute cervical trauma and locked in syndrome with ischemic lesions of the ventral pons, in sport like karate have been reported.\(^6\)

It seems conceivable that wrestling generating augmented movement of
the cervical spine or repetitive strains in
the from of microtrauma can expedite
the pathologic process of CS. It is
increasingly clear that future therapies
of wrestlers prone to develop CS will be
multifaceted combining surgery and
physiological measures tailored to
counteract specific pathological events.
Regarding prevalence of CS and
significant differences between wrestler
and nonwrestlers in this study. The
following suggestions are
recommended:
Fearing the development of CS in
young wrestlers, it seems mandatory to
have routine cervical radiographs to
gauge the width of spinal canal and rule
out stenosis.
The fact that many situations of
incomplete or impending CS may be
anticipated supports a more active
therapeutic attitude in everyday clinical
practice in the form of a careful
scrutiny. Wrestlers with long duration
of wrestling need more care.

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