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CASE REPORT

CERVICAL DISC HERNIATION IN A FOOTBALL PLAYER

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ABSTRACT

A case of cervical disc herniation occurring in close association with playing football is reported. The handling of neck injuries in football players is outlined.

Key words: Association Football, Cervical spine, Disc rupture.

INTRODUCTION

It is generally accepted that multiple minor trauma of the cervical spine may start and accelerate degenerative changes of the moving segments. The cervical spine in football players is repeatedly exposed to potential injury forces in heading as well as in other parts of the game. This is probably the reason why the frequency and the degree of degenerative changes of the cervical spine was found to be significantly higher in football players than in a control group of the same age as reported by Sortland et al (1982). Footballers aged 40 years had degenerative changes of the cervical spine corresponding to 50 to 60 year old patients who had not played football seriously.

More serious injuries of the cervical spine such as fractures or dislocations with or without damage of nerve roots or the spinal cord have also been reported. In 1978 Scoppetta and Vaccario described a case of central cord syndrome after heading a football, and in 1981 a player with subluxation and one with fracture of the cervical spine were recorded by Bargon. Hitchcock and Karmi reported three cases of spinal injuries due to Association Football in Scotland in 1982, but no details of the injuries were given. Five players with compression fracture of the cervical spine were mentioned by Sortland et al in 1982.

The present paper deals with herniation of a cervical disc in connection with football playing.

CASE REPORT

A 29 year old full-back and a typical header who had played about 250 First and Second Division games, complained of pain and stiffness in his neck during and after a game. In another game a few weeks later he had to stop playing after a heading, where he hit the ball wrongly. This resulted in neck pain radiating into his left arm. When seen in consultation a few days later he still had radiating pain corresponding to the 7th cervical root of the left side with numbness of the second and third fingers. There was moderate tenderness and muscle spasm in the lower part of the cervical spine. He showed some weakness of the triceps muscle but had normal reflexes.

X-ray including oblique views and in flexion and extension showed absence of the normal cervical lordosis. No fracture, dislocation or prevertebral soft-tissue swelling was found. Moderate degenerative changes with minimal narrowing of foramina were demonstrated (Fig. 1). The symptoms increased during a period of 3 weeks despite the treatment with rest, immobilisation, traction and anti-inflammatory drugs. A repeat neurological examination showed further weakness of the triceps muscle with absence of the triceps reflex. The pain in the neck and the arm increased even with the slightest movement of the neck.

Myelography with a water-soluble contrast medium was performed showing a filling defect between C6 and C7 on

Fig. 1: X-rays showing absence of normal cervical lordosis and moderate degenerative changes.

Fig. 2: Myelogram showing a filling defect between C₆ and C₇ (arrow) on the left side.

Fig. 3: X-ray control 3 months after the operation showing healed fusion between C₆ and C₇.

the left side indicating a disc herniation (Fig. 2). This was verified by operation performed by the anterior route. A large

disc herniation compressing the left 7th nerve root was removed following an interbody fusion. The patient was immediately relieved of pain, and sensation and muscle strength improved gradually. At 3 months post-operatively the fusion had healed (Fig. 3), and he was completely relieved of symptoms.

On the advice of his doctors he terminated his football career.

COMMENTS

The cervical disc herniation in this football player was most likely the result of playing football because: (1) he first experienced neck pain during a game, (2) a few weeks later radiating root pain was acutely provoked during heading, and (3) without special external trauma cervical disc herniation is rare before the age of 30 years.

If the football player is "prepared" for heading and hits the ball correctly, the external force on the cervical spine is effectively dissipated by the paravertebral musculature, the elasticity of the intervertebral discs and the bony tissue. If he is not well prepared or hits the ball wrongly, the external force may exceed the strength of the ligaments, the anulus fibrosus of the discs, or the bone. This may lead to cervical dislocations, disc herniations, or fractures.

Once a serious cervical injury has occurred, it is of great importance that steps are taken to prevent additional damage. All players who complain of considerable pain and stiffness in the neck after trauma should have an X-ray taken of the cervical spine. According to Murphey and Simmons (1959) a great number of patients complaining chiefly of a crick in the neck following an apparently trivial injury to the neck, were proved to have fracture dislocations of the cervical spine without neurological deficit. The X-ray films should include antero-posterior and lateral projection of all cervical vertebral bodies. Any suspected loss of alignment may be investigated further by lateral radiographs during extension and flexion. Often the normal cervical lordosis is lost due to muscle spasm.

Players who have symptoms of nerve root compression should have oblique views of the cervical spine taken to assess the patency of the exit foramina. Osteophytes may encroach on the exit foramina and cause neural entrapment.

Players with moderate symptoms of nerve root compression should be treated conservatively with neck support for some weeks. If there is no improvement or the symptoms increase in severity, myelography should be performed. If the plain X-rays and the myelograms show nerve root compression, an operation, preferably by the anterior route, may be indicated.

It must be stressed that no cervical spine injury with neurological deficit should be taken lightly, and players who have had neurological deficits, operated on or not, should be prohibited from further participation in soccer or any other contact sports.

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