

THE BACK AND GROIN PAIN

Giovanni Tarasconi

Centro di Riabilitazione Sportiva Isokinetic Bologna, Italy

There are various causes that determine groin pain. Among these, the rachides must be taken into consideration because it contributes to the aetiology of groin pain with two factors: the first, Minor Intervertebral Defect (DIM) and the second, rotation with un-levelling of the hips. These two factors may appear distinct, but in reality they are correlated.

Minor Intervertebral Defect (DIM).

DIM is a painful, benign segmentary dysfunction of the vertebra, of a reflected mechanical nature and is generally reversible. Diagnosis of DIM is made evidencing a painful vertebral segment during the objective segment exam of the column. The painful symptomatology of DIM is not correlated with other signs and symptoms (radiological and clinical) and it can therefore be asserted that this sufferance of the segment is of a benign and mechanical nature. In particular, the segment exam that allows to evidence a DIM consists in soliciting every vertebral segment with manoeuvres of manual pressure which in the case of DIM evoke pain. Such manoeuvres are: 1) axial pressure on the spinosus process (antero-posterior pressure); 2) lateral pressure on the spinosus process; 3) pressure-friction on the posterior joint masses (if this results positive it is a sure sign of DIM); 4) pressure on the interspinosus ligament of the involved segment.

It is important to underline that RX studies are always necessary to verify the benign nature of the pathology because DIM is not visible from the X-rays so they must always be negative.

In the case of groin pain, the presence of a DIM evokes pain at the level of the Dorso–Lumbar hinge (D12–L1–L2) from which the anterior branches of the spinal nerves D12–L1 originate. These nerves innervate the pubic and adductor region. According to Maigne (2), pubic pain is tied to the “the dorsal – lumbar junction syndrome” and is localized in the territory of the branches of division of the spinal nerves D12 – L1, the posterior branches of which innervate the cutaneous planes of the superior gluteus and inferior lumbar region, whereas the perforating lateral cutaneous branch which derives from the anterior branch, innervates the trochanteric region and the anterior branch which innervates the lower part of the abdomen and the groin area.

Rotation with un-levelling of the hip region.

The spinal column has little possibility of rotating, especially when in extension, whereas the dorsal region is much freer in rotation (3). It follows that the dorsal lumbar junction is a region particularly solicited in normal activities of daily living and most of all, during the practice of sports. In football, for example, when the ball is kicked, there is a forceful rotation of the rachis which transmits to the dorso–lumbar junction. In fact, the possibility of rotation of the lumbar column becomes practically nil in extension on account of the blocks of the posterior joints.

The sacrum-iliac joint acts as shock absorber which absorbs, through its ligaments and undergoing microshifts, the solicitations transmitted by the rachis. The movement at the level of the sacro–iliac joint is described as a movement of nutation (1), in which the anterior extremity of the sacrum is tilted forward, and an inverse movement called counternutation. Even the ilium bones are affected by these movements, and there can follow a “joint block” at the level of the sacro–iliac joint. In this case there results an un-levelling of the pelvis because the iliac bone can be positioned in antero-superior or postero-inferior positions. It is evident that in this case a stress of the pubic symphysis is produced with consequent inflammation of the tendons and ligaments which can cause a reflected contracture of the adductor muscles of the thigh and of the abdominals.

Manipulative Treatment

The concepts of DIM and joint blocks supply the bases for proposing manipulations as therapeutic treatment. Groin pain and tendon pathologies of the rectus abdominis and of the adductors can be in some way provoked by a joint factor such as, for example, a DIM in the dorsal lumbar junction or a block of the sacrum iliac. Manipulative treatment can be enough to relieve pain because it tends to restore normal movement to the affected joints. This is possible above all



The Rehabilitation of Sports Muscle and Tendon Injuries

in the early stages; in more advanced stages, manipulative treatment can contribute to healing but has to be part of a complex therapeutic plan, which foresees massage of the contracted muscle groups, stretching and recovery of the physiological muscle tone, and removal of risk factors.

References

1. Kapandji IA. Physiologie articulaire. Librairie Maloine SA, Paris, 1974.
2. Maigne R. Medicina manuale. UTET, Torino 1996
3. White III AA, Panjabi MM. Clinical biomechanics of the spine. 2nd ed. Philadelphia, PA, Lippincott-Raven, 1990.