



Back Pain Causes Connected with So-Called Idiopathic Scoliosis and Hiperlordosis of Lumbar Spine in Cases with Minimal Brain Dysfunction, Symptoms and Advises for Therapy

Karski Tomasz^{1*}, Karski Jacek² and Karska Klaudia³

¹Department of Immunology, Vincent Pol University, Lublin, Poland

²Department of Medical Vincent Pol University, Lublin, Poland

³Department of Medical Radiology, Vincent Pol University, Lublin, Poland

*Corresponding author: Tomasz K, Professor Lecturer, Vincent Pol University, Lublin, Poland, Tel: +48 604 933 234; E- mail: tmkarski@gmail.com / t.karski@neostrada.pl

Received Date: 22 February, 2021; Accepted Date: 08 March 2021; Published Date: 15 March 2021

Abstract

The back pain is a frequent problem of patients in orthopedics and neurology departments. In our opinion, the causes of the spine pain are connected with various anatomical disorders like bigger than normal or smaller than normal physiological curves, or because of scoliosis. In patients with back pain it can be scoliosis in the form of C and S curves and it is 2nd etiopathological epg type in classification. There are also other causes of back pain, like spondylolysis, spondylolisthesis, prolapsed nucleus pulposus, but in the article we focus on the causes mentioned above - hiperlordosis of lumbar spine and scoliosis. In our research we found that etiology of scoliosis is connected with biomechanical factors - permanent standing at ease on the right leg and walking/a particular gait, described thoroughly in the article. Recognizing the causes is essential as it determines the kind of therapy and prophylaxis that should be used in the treatment of young and/or adult patients.

Keywords: Back pain causes; Hiperlordosis of lumbar spine; Scoliosis; Therapy; Prophylaxis

Introduction

In all last years in Poland neurology doctors or neuro - surgeons diagnosed mostly back pain as result of “prolapsed nucleus pulposus” and proposed to all patients - surgery. Doctors never give patients the reasons of the “prolapsed nucleus pulposus”. Our explanation of these symptoms - they occur because of lumbar left convex scoliosis or because of lumbar hiperlordosis. Both abnormalities need in first plan the therapy and not surgery as treatment of “end stage” of this pathology, it means - pain. In situation of distinguished and recognized “causes of the back pain” - patients need in first plan the therapy to cure the scoliosis or cure the hiperlordosis of lumbar spine as well as the pain.

Back Pain in Patients with Scoliosis, Lumbar Hiperlordosis and Others Causes

In our orthopedic praxis (1995-2020) - we treat younger patients in age 2-25 with problems of scoliosis deformity - material 2500 cases and 437 adult patients in age 50-70 with problems of spine pain [1].

The problem of back pain is connected with abnormalities of spine anatomy in changed axis - for example in scoliosis “C” and “S” in 2nd etiopathological group (epg) and type in Lublin classification [2-4]. We present the explanation of the development of scoliosis in next subchapter

Back pain can appear also if the spine is stiff and such symptoms are typical for “I” scoliosis in 3rd epg group and type in new Lublin classification. Why stiffness occurs? The answer - the stages of this deformity are the following: first, - is lack of adduction and internal rotation movement of the right hip or both hips in affected patients, second, a compensatory movement, transmitted to the pelvis and to the spine, appears. It causes a “distortion movement” of inter-vertebral joints which results in stiffness. In our material, the stiffness of the spine is a very frequent cause of back pain

[C] Second group of influences leading to “low back pain” is “hiperlordosis of lumbar spine”. In last years of XX century and in all years of XXI century we see in Orthopedics Department and in Out-Patients Clinics very frequent children, youth persons and also adult person with the symptoms of Minimal Brain Dysfunction (MBD) [5,6]. In these patients we observe a shortening (in orthopedic language - ‘contracture’) of m. triceps surae and Achilles tendon, flexors of the knees and flexors of the hips. In result of the contractures of the hips flexors appears “hiperlordosis of lumbar spine”. In our material, hiperlordosis is very frequently the cause of the back pain. As far as the influence of the Central Nervous System is concerned, it is responsible for following symptoms of MBD already in small children and babies:

- Laxity of joints - which causes a diminished stability of joints, increases the development of scoliosis.
- Contracture of the extensors trunk’s muscles - which, in next years, leads to stiff spine in two groups and three types of scoliosis
- Anterior tilt of pelvis and hiperlordosis of lumbar spine as result of flexion contracture of hips flexors - which diminishes the stability between pelvis and spine and increases the degenerative processes in adults. All these abnormalities should be cured in the childhood. Here we repeat - hiperlordosis of lumbar spine - typical for many children with MBD - if not treated in childhood - makes very serious “back pain problems” in adults. These patients form the biggest group in our material.
- Other causes of back pain are connected with the spondylolysis and spondylolisthesis, with congenital malformations of the spine or the thorax [7].

Etiology of the So-Called Idiopathic Scoliosis. [Adolescent Idiopathic Scoliosis (AIS)] - One of the Cause of “Back Pain”

The etiology of “the idiopathic scoliosis” was unknown for over two thousand years, but has been discovered in Lublin, Poland in

years 1984-2007. Because of this we call this deformity now not "Idiopathic Scoliosis"- unknown causes - but "So-Called Idiopathic Scoliosis". Observation of many patients in years 1984-2007 has enabled the author (T. Karski) to found that etiology of "the so-called idiopathic scoliosis" is connected with biomechanical influences going from hips. It was stated that scoliosis is connected with the asymmetrical movement of hips and next with function - permanent "standing 'at ease' on the right leg" and "gait". A question appears: why "standing 'at ease' on the right leg" causes scoliosis? We found that in all scoliosis children limitation of adduction of the right hip, or even abduction contracture of this joint 5 - 10 degree make easy such standing [8].

Limited movement of the right hip is one of eight symptoms in "Syndrome of Contractures and Deformities" [SofCD] according to Prof. Hans Mau from Tübingen, Germany and Lublin observations. "The right leg" is not the cause of scoliosis but "cumulative time" of standing on this leg. The straight position in examination of hips movement is similar to the "standing position" or to the "stance phase in walking" of these joints. Alone "standing 'at ease' on the right leg is leading to scoliosis in two groups and three types. Standing on the right leg start to be in age of 2-3 years and is permanent in all years of life. In adults is the cause of "degenerative scoliosis" and "spine pain syndromes"

Short Information About Historical Dates of Discoveries of Biomechanical Etiology of the So-Called Idiopathic Scoliosis

1. 1995 - first lecture about biomechanical causes in etiology of the so-called idiopathic scoliosis, after 11 years of observations. The results of these observation were presented on the Orthopedic Congress in Szeged, Hungary.
2. 1996 - first publication about biomechanical etiology of scoliosis in Orthopädische Praxis in Germany.
3. 2001 and 2004 - describing in new classification - three etiopathological groups (epg) and four types of scoliosis.
4. 2006 - the ultimate description of the "type of hips adduction movement in straight position of joint" and the "type of scoliosis".
5. 2007 - description of indirect influences coming from Central Nervous System (CNS) in children with Minimal Brain Dysfunction (MBD) in etiology and in progress of scoliosis. In this year (2007) was also given the answer why blind children do not have scoliosis. Answer: they walk without lifting of legs, and as a result there is no pathological influence acting on the pelvis and the spine [9-12].

New Classification. Three Groups and Four Types of So-Called Idiopathic Scoliosis

The type of spine deformity is connected with "model of hips movement" and etiological factors - "gait" and "standing 'at ease' on the right leg".

"S" scoliosis 3D - in 1st etiopathological group (epg). Character of pathology: double curve, stiff spine, rib hump on the right side. In this group and types characteristic is specific model of hip movements: maximally limited adduction movement of the right hip and full movement of the left hip. Development of scoliosis is connected with "gait" and permanent "standing 'at ease' on the right leg". In this type

we mostly observe rapid progression. In the Internet, this type of scoliosis is the subject of various descriptions.

Therapy of Scoliosis and Low Back Pain

In the therapy of scoliosis on the first plan we put - flexion stretching exercises for hips - especially for right hip and for spine. In therapy it is important to cure the "contracture" - it means - shortenings of soft tissues - muscles, fascias, tendons, capsules of the hip and spine joints. The aim of such therapy is to obtain full movement of hips and spine. Only in situation of full and symmetrical movement of hips and spine development of spine will be proper and fully correct. For this aim the best are exercises like in karate, taekwondo, aikido, kung fu or yoga. In Poland the first who introduced such exercises in the treatment of scoliosis (1960-1970) was Prof. Stefan Malawski from Warsaw/Otweek .

Causal Prophylaxis and Treatment of Scoliosis in Children and Back Pain in Adults in Points

1. Standing 'at ease' only on the left leg from first years of life.
2. Sitting in a "butterfly position" - term from karate and with relaxed / bend spine - never straight up. Our orthopedic obligation is to advise that such sitting position is very beneficial for hips development in babies and also in older children.
3. Resting and sleeping in the embryo position - protects from scoliosis in children and from back pain in adults.
4. Children - active participation in sports at / in school and additionally in clubs - the best are karate, kung fu, taekwondo, aikido and yoga advised for adults.
5. Adults - physiotherapy and Kinesio-therapy to obtain full, symmetrical movement of both hips and movements of the spine - flexion, deviation, rotation.
6. In first period in therapy and prophylaxis of scoliosis is to restore the full adduction and internal rotation movement of the right hip. It is new aim for physiotherapy and very important in causal prophylaxis.
7. For adult patients very important are exercises in geothermal water, "chair extension", resting in embryo position in heavy pain periods of illness and standing in abduction and internal rotation.
8. Adults patients should - change the form of job - if is not proper for spine.
9. Every heavy object the patients shout lift in side of the body - never before / never in front of body.
10. Our recommendation about physiotherapy for adult people suffering because of spine pain are: massage, criotherapy, diadynamic, jonophoresis and other form of physical therapy.
11. In special difficult cases of low back pain - surgery - if long-lasting physiotherapy doesn't give result [13].

Discussion and Important Messages in Points

In our opinion the back pain syndromes occur in the following cases [14]:

1. Hiperlordosis of lumbar spine.
2. "C" and "S" 2nd group scoliosis in the new classification.
3. Stiffness of the spine - its mean - scoliosis "I" in 3rd group in the new classification.

4. Spondylolisthesis

Here I would like to explain that the cause of the pain is situated in two - three or four places / levels of the spine. If doctor advise or perform a surgery - the results are never good because the operation do not embrace the whole “pathological section of the pathological spine”.

A relief and stabilization on one - two levels during surgery does not cure the “back pain”. I repeat - doctors in Poland most often diagnose “prolapsed nucleus pulpous” and propose surgery - results are good only for short period of time, never for longer time. In our praxis we have observed - that only physiotherapy is good methods in many of patients. We received good results in ca. 30%, excellent in ca. 20% and sufficient in ca. 50% of patients. Only very small group 1%-2% of patients need surgery [15-18].

Conclusions

1. There are three group and four types of the so-called idiopathic scoliosis - see chapter about classification.
2. The etiology of the so-called idiopathic scoliosis is strict biomechanical - “standing ‘at ease’ on the right leg” and “gait”. Additionally, causes are - symptoms of MBD - laxity of joints, anterior tilt of pelvis and stiffness of spine from childhood period.
3. The back pain syndromes are mostly connected with the pathological changes in the anatomy of the spine and in its function.
4. The main causes of back pain, presented in order from very frequent to seldom:
5. Hiperlordosis of lumbar spine.
6. The “C” and “S” scoliosis in 2nd / A / B epg types.
7. Stiffness of the spine in “P” 3rd epg type of scoliosis.
8. Spondylolisis or spondylolisthesis.
9. Congenital anomalies of spine or thorax with influence to the spine
10. Spine anomalies and disorders in various “Congenital Syndromes” like Osteogenesis Imperfecta, Morquio Syndrome, Marfan Syndrome, Ehlers - Danlos Syndrome, Asphyxiating thoracic dystrophy without respiratory disease (in Italian: Distrofia thoracica asfissante senza compromissione respiratoria -publication in Italy – under the direction of Prof. K. Kozlowski) and others [22].
11. In prophylaxis of back pain in adults it is important to introduce to all children the rules of causal prophylaxis against scoliosis (see chapter above).

References

1. Kim JS, Zee DS (2014) Clinical practice. Benign paroxysmal positional vertigo. *N Engl J Med* 370: 1138-1147.
2. You P, Instrum R, Parnes L (2019) Benign paroxysmal positional vertigo. *Laryngoscope Investig Otolaryngol* 4: 116-123.
3. Bhattacharyya N, Baugh RF, Orvidas L, Barrs D, Bronston LJ, et al. (2008) Clinical practice guideline: Benign paroxysmal positional vertigo. *Otolaryngol Head Neck Surg* 139: S47-S81.

4. Shih CP, Wang CH, Chung CH, Lin HC, Chen HC, et al. (2018) Increased Risk of Benign Paroxysmal Positional Vertigo in Patients With Non-Apnea Sleep Disorders: A Nationwide, Population-Based Cohort Study. *J Clin Sleep Med* 14: 2021-2029.
5. Kao WT, Parnes LS, Chole RA (2017) Otoconia and otolithic membrane fragments within the posterior semicircular canal in benign paroxysmal positional vertigo. *Laryngoscope* 127: 709-714.
6. Epley JM (1992) The canalith repositioning procedure: For treatment of benign paroxysmal positional vertigo. *Otolaryngol Head Neck Surg* 107: 399-404.
7. Helminski JO, Zee DS, Janssen I, Hain TC (2010) Effectiveness of particle repositioning maneuvers in the treatment of benign paroxysmal positional vertigo: a systematic review. *Phys Ther* 90: 663-678.
8. Imai T, Ito M, Takeda N, Uno A, Matsunaga T, et al. (2005) Natural course of the remission of vertigo in patients with benign paroxysmal positional vertigo. *Neurology* 64: 920-921.
9. Seok JI, Lee HM, Yoo JH, Lee DK (2008) Residual dizziness after successful repositioning treatment in patients with benign paroxysmal positional vertigo. *J Clin Neurol* 4: 107-110.
10. Teggi R, Quagliari S, Gatti O, Benazzo M, Bussi M (2013) Residual dizziness after successful repositioning maneuvers for idiopathic benign paroxysmal positional vertigo. *ORL J Otorhinolaryngol Relat Spec* 75: 74-81.
11. von Brevern M, Radtke A, Lezius F, Feldmann M, Ziese T, et al. (2007) Epidemiology of benign paroxysmal positional vertigo: A population based study. *J Neurol Neurosurg Psychiatry* 78: 710-715.
12. Furman JM, Cass SP (1999) Benign paroxysmal positional vertigo. *N Engl J Med* 341: 1590-1596.
13. Bronstein AM, Golding JF, Gresty MA, Mandalà M, Nuti D, et al. (2010) The social impact of dizziness in London and Siena. *J Neurol* 257: 183-190.
14. Nagarkar AN, Gupta AK, Mann SB. (2000) Psychological findings in benign paroxysmal positional vertigo and psychogenic vertigo. *J Otolaryngol* 29: 154-158.
15. Maslovara S, Soldo SB, Puksec M, Balaban B, Penavic IP (2012) Benign paroxysmal positional vertigo (BPPV): influence of pharmacotherapy and rehabilitation therapy on patients' recovery rate and life quality. *NeuroRehab* 31: 435-441.
16. Muñoz RC, Moreno JLB, Balboa IV, Matos YR, Puertolas OC, et al. (2019) Disability perceived by primary care patients with posterior canal benign paroxysmal positional vertigo. *BMC Fam Pract* 20: 156.
17. von Brevern M, Bertholon P, Brandt T, Fife T, Imai T, et al. (2015) Benign paroxysmal positional vertigo: Diagnostic criteria. *J Vestib Res* 25: 105-117.
18. Jacobson GP, Newman CW (1990) The development of the dizziness handicap inventory. *Arch Otolaryngol Head Neck Surg* 116: 424-427.