

LOWER BACK PAIN AND NON-PHARMACOLOGICAL TREATMENT

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ABSTRACT

Chronic lower back pain (CLBP) is the chronic back pain syndrome in the region of back lasting about 3 months. This represents the second leading cause of disability ranking second place in the world wide, being a major welfare and economic problem. In last decade it dramatically increases in the older population affecting the both genders with significant impact on functions and activity. Lower back pain is diagnosed by the different tests including blood test that diagnose the levels of C-reactive protein, CT scan and MRI scan are also used to diagnose the back pain. Back pain is classified based on duration pain, into acute, sub acute, chronic back pain. Another classification based on the pathological condition, lower back pain caused by trauma, inflammation, degeneration and tumours. Several non pharmacological and non invasive therapies are available for the lower back pain including exercise complementary and alternative therapies (such as spinal manipulation, acupuncture, massage, mild body interventions) and physiological therapies (cognitive behavioural therapy, operant therapy).

KEYWORDS: Lower back pain, non pharmacological therapy, psychological therapy.

DEFINITION

Pain is defined as the unpleasant sensory and emotional experience associated with actual or potential tissue damage.

Back pain is the pain felt in back region. It is classified into neck pain (cervical), middle back pain (thoracic), lower back pain (lumbar) or coccydynia (tailbone or sacral pain) based on the segment affected.

The lumbar area is the most common affected area for pain most of the weight supported by lumbar region.

Back pain is classified into acute, sub acute and chronic depending on the duration.

Acute pain last up to 12 weeks, sub acute pain last up to 6- 12 weeks and chronic pain persist beyond 12 weeks.

Risk Factors**Obesity**

Sedentary life style lack of exercise can increase the risk of back pain.

Smokers experience more back pain than non smokers.

Weight gain in pregnancy also one of the risk factor for getting pregnancy.

Fatigue can worsen the pain.

Lower back pain (LBP) is defines as pain, muscle stiffness localised below the costal margin and above the inferior gluteal folds, with or without leg pain.

Lower back pain mostly effects the adult population with prevalence of 84% and it is related to their musculoskeletal system.

Chronic lower back pain is the back pain syndrome, lasting about 2 months.

Classification of Lower Back Pain

Lower back pain caused due to various pathological conditions

1. Lower back pain caused due to trauma: muscular lower back pain occur when expose to external force, lifting the heavy objects damages the muscle and fascia. Lumbar intervertebral disc herniation occur when intervertebral disc collapse and compress the nerves anteriorly traumatic vertebral body fractures occur when a vertebral body collapse as a result of all. Muscles are used repetitively over and over as a result back pain is developed.

2. Lower back pain caused by inflammation: when a tubercle bacilli or pyrogenic bacteria destroy the vertebral bodies or intervertebral disc it result in the tuberculosis spondylitis or purulent spondylitis. The patient is said to be suffering with ankylosing spondylitis the vertebrae are connected like bamboo shape. It is a rheumatic disease that is negative for rheumatoid factor.
3. Lower back pain caused by trauma: some of malignant tumours such as lung cancer, stomach cancer, breast cancer, and prostate cancer can sometimes metastasise to the lumbar spine and disseminated metastasis to lumbar spine is one of the pathological pictures of the multiple myeloma. When tumours such as neuromas or angiomas develop in the lumbar region or lumbar spine.
4. Lower back pain caused by degeneration: the incidence of lower back pain increases as construction workers advance in their age and increases are attributable to the development of lesions associated with degeneration of lumbar spine and surrounded tissue. Degeneration can lead to development of spondylosis deformans, lumbar intervertebral disc degeneration intervertebral articular lower back pain, lumbar non spondylolytic spondylolisthesis, ankylosing spinal hyperostosis and lumbar spinal stenosis.
5. Lower back pain due to other causes: in addition to disease that compose lower back pain, pain arise from the disease of intra abdominal organs including the liver, gallbladder and pancreas and referred pain also seen among the diseases that give rise to lower back pain other sites of pain origin include uterus, ovaries and urinary bladder.

Back Pain Symptoms

Pain is localised in the lower back region.

Pain is felt after lifting the heavy objects.

Pain may include muscle spasms tenderness upon touch.

Pain is less in resting position and worse during certain activities.

Chronic Back Pain Symptoms

Leg ache and numbness

Pain can radiate down the leg to the buttock region or to the foot and the condition can be worse with sitting or prolonged standing position. It may be due to lumbar herniated disc.

Pain is associated with movement and position. Pain tends to fluctuate, with low level or no pain sometime. Degenerative disc disease is one of reason for lower back pain lower back pain often associated with leg which worsens when standing or walking for long periods.

This pain may be caused by small fracture in the back of spine called isthemic spondylolisthesis.

Diagnosis

If there is any specific condition that is causing back pain, doctor might investigate the following steps.

X ray: X ray image show the shape and structure of the bone and can identify whether it is broken bone or arthritis. The images alone don't show the problem in the spinal cord, vertebrae and muscles.

MRI or CT scan: MRI or CT scan generates the images that can reveal the herniated disc or problem with the bones, muscles, tissues and blood vessels.

Blood test: these tests can help to determine the elevated levels of CRP that is associated with infection.

Bone scan: in rare cases doctor might advice for the bone scan to look for the bone tumours or compression fractures caused by osteoporosis.

Nerve studies: electromyography measures the electrical impulse that is produced by the nerve and measure the response of muscle. This test confirms the nerve compression whether it is caused by herniated disc or narrowing of spinal cord.

Non-pharmacological therapy

Lower back pain is common disability than other conditions. Several non pharmacological and non invasive therapies are available for the lower back pain including exercise, complementary and alternative therapies (such as spinal manipulation, acupuncture, massage and mind body intervention) and physical therapies (such as cognitive behavioural therapy and operant therapy).

Heat: heat can help to decrease the pain and muscle spasms. Heat is transfer to the affected area for 20-30mins for every 2hours or as directed by physician.

Ice: ice can help to reduce the swelling and pain. Ice may help to prevent tissue damage using ice pack or crushed ice packed in plastic bag and cover it with the towel place on affected area about 10-20 minutes for every hour or as directed by physician.

Massage: massage also helps to relax spasm muscle and help to decrease pain.

Transcutaneous electrical nerve stimulation (TENS): YENS is a pocket sized device powered with battery and device is attached to the skin over the affected area of pain. Device sends mild and safe electrical signals to reduce the pain.

Spinal cord stimulator: it is an electrode implanted close to the spinal cord through simple procedure and electrode is connected to stimulator. This stimulator sends mild and safe signals to the electrode. These electrical signals help to relax the nerves which are responsible for the pain.

Other techniques include

Relaxation techniques can help to relax, relieve stress, and decrease pain. Some of the common techniques include the following.

Aromatherapy: in aromatherapy oils or extracts or fragrances from flowers, herbs and trees are used during the massage.

Deep breaths can also help to decrease the pain. First take a deep breath in and then release slowly. Does this exercise as many times as possible.

Meditation and yoga may help the mind and body to relax. They increase the feeling of well being.

Guided imaginary therapy means to imagine a picture in brain and learn to focus on it instead of pain

Music also increases the energy levels and improves the mood it may help to reduce the pain by releasing endorphins. These are natural chemical that reduce pain. Music therapy also used with other techniques such as relaxation and distraction.

Self hypnosis is away to direct attention to something other than pain. For example, repeating the positive statements about ignoring the pain or seeing the pain in positive way.

Acupuncture: acupuncture therapy use thin needles to balance energy channels in the body. This is taught to help in reducing pain and related symptoms.

CONCLUSION

Lower back pain is one of the most common condition or symptom that seek medical consultation.

Lower back pain must always be consider as the complex disease in which it is mandatory that an accurate diagnosis of pain generators is determined before starting the treatment.

All the guidelines that are currently available stress the importance of multimodal and multidisciplinary approach in order to determine strategy to solve the problem and not the simply alleviated symptomatic pain.

Non pharmacological therapies are beneficial before starting the medications.

Finally, careful follow-up is important to adapt our therapeutic strategies to dynamic clinical manifestations of the lower back pain.

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