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Peripheral Nerve with Chronic Pain Treatment

Kollipara Naveena Naidu^{1*}, Gopalarao Vuppala²

¹Department of Pharmaceutical Technology, K.G.R.L College of Pharmacy, Bhimavaram, Andhra University, Vishakhapatnam, India

²Department of Medicinal Chemistry, Vignan College of Pharmacy, Guntur, AP, India

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*For Correspondence

K. N. Naidu, Department of Pharmaceutical Technology, K.G.R.L College of Pharmacy, Bhimavaram, Andhra University, Vishakhapatnam, India.

E-mail:

nicenavi123@gmail.com

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ABSTRACT

Peripheral nerves are the nerves which are present beside brain and spinal cord. Long lasting pain is the natural condition of chronic pain. It takes strength to tolerate the everyday pain. Chronic pain is an invisible disease that affects 100% of the body. This will occur when nerve signals fail to function normally after an injury. There's no permanent cure for chronic pain, some preventions are taken by treatment. Some prevalent treatments include medication, medical procedures and lifestyle modifications.

INTRODUCTION

People who are suffering with prolonged period of pain, they many times think themselves as if they are suffering from a particular illness like arthritis, back pain ^[1,2]. But anyone who experienced pain for several months or more than one year that is called as chronic pain ^[3]. Some people may experience headache and pain ^[4,5]. If there is any sudden pain we can see immediate reactions ^[6] in the nervous system ^[7]. This may lead to minor injury of nerves ^[8,9]. When this injury occurs, pain signals travel from injured part to spinal cord and brain ^[10,11].

As the injury heals the pain will usually become less severe. When this injury does not heal the body sends pain signals continuously to the brain. This is known as chronic pain. It can lasts for several weeks to years. It may grab your mobility ^[12] and reduces your flexibility ^[13], strength and endurance ^[14,15]. This may change daily tasks and activities in the routine life ^[16].

According to American Academy of Chronic Pain, approximately 1.5 billion people around the world are suffering with chronic pain. There are about 116 million Americans living with chronic pain, it suggests that half of American people are approximately facing this condition in that 34.3% for women and 26.7% for men.

NERVE PINCHING

A pinched nerve condition experienced when too much force exerted to a nerve by surrounded tissues such as muscles ^[17], cartilage, tendons and bones ^[18,19]. This pressure disturbs the nerve's function causing pain, prickling or weakness. Although this condition is associated back pain and a neck pain, any nerve in the nervous system is going to be harmed. Myelin sheath of the nerve gets irritated when the pressure is exerted on the peripheral nerve ^[20-22]. When this happens, occasionally the nerve is unable to perform sensory impulses this may lead to sense less.

This inflammation is associated with the damage or injury and causes pain or an abnormal sensation ^[23]. At initial stages, many people may describe this feeling as a body part has fallen asleep. Pain may come along with the pricking sensation and is often described as sharp or electrical. Some of the patients may experience the burning sensation in the paining area.

Treatment of Nerve Pinching

The most recommended treatment for pinched nerve is giving rest for the affected area. Maintain good posture. Starting strength and flexibility exercises with regular exercise program. Maintaining a good body weight in routine life. Nonsteroidal anti-inflammatory drugs (NSAIDs) ^[24] such as ibuprofen and naproxen will help in relieving the pain and make less inflammation around the nerve ^[25,26].

CHRONIC LOWER BACK PAIN

80% of the population is suffering with lower back pain ^[27]. Most of the cases in lower back pain may cause due to muscle strain and injury. The back and spine are designed for providing a great strength, protecting sensitive nerve roots ^[28] and spinal cord, it also provide flexibility and mobility in all directions. Back pain may also occur because of different parts of spinal cord. Such as irritation to the large nervous system that run down towards legs and arms. Irritation occurs in the small nerves ^[29] present inside the spine, force to the large back muscles as well as also occurs if any injury gets to the disc ^[30], bones, joints ^[31] or ligaments in the spine ^[32]. The acute back pain comes on suddenly and usually lasts from few days to a few weeks. Whereas chronic pain is typically described as long lasting for more than three months.

Treatment of Chronic Lower Back Pain

The treatment depends upon severity of pain and mainly based on history of patient ^[33]. The majority cases in lower back pain get better within six weeks without any surgery ^[34]. Back pain exercises are almost a part of a treatment plan ^[35]. If pain get more we should follow some surgical procedures ^[36] may be recommended such as ceasing the injury for few days allow damaged tissues and even nerve roots begin to heal ^[37,38]. More than a few days of rest may lead to muscle weakness and should struggle in supporting the spine ^[39-41]. Patients who do not regularly exercise for building body strength and flexibility may experience prolonged lower back pain ^[42-44]. Heat or cold therapy may help in relieving chronic pain in lower back ^[45-47]. Some prefer heat therapy, some prefer cold therapy. Both therapies may be used alternatively ^[48-50].

A wide variety of prescription medication ^[51-53] is available for reducing the lower back pain ^[54-56]. Many medications decreases inflammation ^[57,58], the patient may often get pain ^[59-61]. Some other medications works to inhibit the transmission of ^[62-64] nerve signals from reaching the brain ^[65-67]. These medications are having multiple ^[68,69] unique risks with many side effects and drug interactions ^[70,71].

CHRONIC NECK PAIN

Mostly neck pain ^[72,73] is occurred due to muscle strain or strain ^[74,75] of ligaments and tendons ^[76,77]. It may also cause by sudden force ^[78,79], these type of neck pain can improved ^[80,81] by taking some time and can also improve by non-surgical ^[82,83] care such as medication and chiropractic manipulation ^[84,85]. This is a common therapeutic treatment for lower back pain ^[86]. But if neck pain is continued there is a requirement of treatment cervical degenerative disc disease ^[87,88]. The disease is a common cause of neck pain ^[89]. Disc degeneration in the lumbar spine is much common than cervical degenerative disc disease because the neck generally subjected to far less torque and force ^[90].

The neck is coordinated with the network of nerves, bones, joints and muscles directed by the spinal cord and the brain ^[91]. The neck is designed for giving strength, stability and nerve communication ^[92]. There are number of

problems that cause pain in the neck. Irritation in the nerves can cause pain into the shoulder, head, arm and hand. This can cause pain into the legs and below the neck area ^[93].

Neck Pain Symptoms:

- Makes difficult in turning head with stiff neck.
- Sudden sharp piercing pain physically painful at one spot.
- Pain radiates down to into the shoulder, arms or fingers or radiates up into the head ^[94,95].

Treatment for Neck Pain

Most of the neck pain can be treated with nonsurgical methods, self-care or with guidance from a medical professional. It is very important to be careful in avoiding great efforts and movements that cause more pain. At early stages it is better to apply ice or cold packs because this can close blood vessels and prevent swelling temporarily ^[96,97]. Applying heat can cause swelling. Many pain relievers are available in the market to reduce hinder pain signals reaching from brain. But these drugs should be used with caution and be careful not to overdose ^[98]. The active drug in Tylenol is acetaminophen ^[98], this is the medication which is commonly found in cold and allergy drug ^[99]. Some of the topical pain relievers are icy hot, Arthricare, Zostrix (capsaicin) ^[100,101], Aspercreme, Ben gay.

CONCLUSION

Here we show the process of peripheral nerve damage influence the brain in the form of decreased DNA methylation for 5-6 months from initial injury. In addition, these physical and mental changes may be happens with environmental enrichment. Actions that are taken to improve a medical disorder makes better about neuropathic pain.

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