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European Journal of Experimental Biology, 2013, 3(2):573-575



# A review about pain and chemotherapy

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## ABSTRACT

When the tissue, which they are pain receivers or transmitters, damages or hurts, pain happens. Sometimes, the reason of that is complex and ambiguous. To examine the pain continuously is vital and necessary. We need to know the pain receivers and also their directions to the brain. One of the steps for curing is to examine the person's verbal descriptive and his/her behavioral observations correctly. There are many ways in order to remove pain for the patient, for instance anti-pain drugs. Analgesics are drugs that can omit or reduce the amount of pain without decreasing the consciousness, and they are used in different ways. These materials prevent nerve conduction. Such these techniques can make the inhibitor fibers in spinal cord active or maybe it can make descending antinociceptive system active. These drugs prevent from movements of Sodium and Potassium ions in nerve tissues, and also prevent nerve depolarization, and affect in synapses against Acetylcholine. From these drugs, we can mention local numbing, opiates, and non-inflammatory and non-steroid drugs.

Key words: Pain, Anti-pain drugs, local numbing, opiates, and non-inflammatory and non-steroid drugs

## INTRODUCTION

Pain is a mental phenomenon. It does not mean that it is not a fact and there is no reality, but the pain happens when Nociceptives are damaged. And it is not always possible to find its physical reason. Every now and then, its reason is complex and ambiguous because a lot of nerves can cause pain, but the reason of that pain is not denied (1). To examine the pain permanently is important and difficult because there are not subjective texts for the pain. Because of this point, one of the first step of cure is to examine the person's verbal descriptive and his/her behavioral observations(2). It is possible, that pain causes because of bothering the system that transfers the pain(3). We need to know and recognize the pain receivers and also the ways and directions to the brain (4). One of the ways that can help us to achieve this aim is to know and recognize some definitions like the process of causing the guide, transferring and regulating the pain, understanding the pain, and also the reaction of the pain (5). Because the pain is a hurtful and bothersome phenomenon, so much tries has been done for destroying and omitting the feeling of the pain today. From these tries, we can mention the anti-pain drugs.

## Anti-pain drugs

The anti-pain drugs are drugs, that can reduce or omit the pain without reducing the alertness, that they can be used in different ways, for example through the mouth, rectal, local, sublingual, inhalation or injection (hype, intramuscular, venous, SCI, the vertebral, in the selective nerves). Of course, some activities like Meditation (concentration), being relaxed and Hypnotized, Therapeutic Touch, Biofeedback (Teaching self-control of physical changes), Autogenic teaching (repeating some phrases or recovery induction), irritation, and using the herbal drugs can cause physical changes because of different reasons. For instance, it is possible that the peripheral vascular become stretched, or the blood sugar levels are changed. So, some techniques like these can help to cure the pain and also to increase the health of the life (6). Parenthesis causes the pain to stop. There are a lot of sorts for Parenthesis. The general Parenthesis usually comes with forgetfulness and also with no alertness. The local parenthesis is causes in a limited area of the body and without losing alertness. To inject the anesthetic factors near the sensory nerve cause anesthesia in that nerve which is called local anesthesia (7)? Most of the nerves vary from the action point of view, so the nerve blocks can cause weaknesses in movement or paralysis in some parts. Nerve blocks are done by using the drugs that prevent nerve conduction (numbness in the mouth.) Such techniques like these can activate the inhibitor fibers in shock spinal cord or can even activate the descending anti-nociceptive system (8). The long nerve blocks can destroy the nerves by neuroleptic agents like phenol or alcohol (9). It is true that we say neurolytic block does not cause permanent block because the nerve fibers grow up after several months again. The secret of influence of the local numbings is in cocaine building that is from Benzonic acid ester and also one alkali methylated spirits in the name of Ecgonine. Many of numbing drugs, that were built later, Ester building and also Caine chemical suffix are left in their names. The clinical local numbings contain the following general chemical structure:

Amino part\_ Middle Continuum\_ Aromatic residues. Double or ternary Amen (Amid Continuum or Ester) (Lipophilic groups)(Hydrophilic groups).

Any changes in each part of the molecules can change the intensity and toxicity of this combination. Anesthesia drugs act in all body cells generally, and this effect is returnable. These drugs prevent from Sodium and Potassium Ion movements in nerve tissues and also prevents from the nerve depolarization, and also it is possible that they influence on synapses against Acetylcholine. Lydocaine is one of the most general local anesthetics. This drug has wide and different usages, which contains of local usage and block of Intravenous (6). Usually, local anesthetics make Vasodilation loose and also they cause increased flood blow in injection site. So, their function time becomes shorter by increasing absorption. Adding Epinephrine to the liquids of local anesthetics which is a Vasoconstriction makes the influence of anesthetic by the reduction of vascular taking longer and also they prevent from sudden increase of blood concentration. They give these drugs for body metabolizing and detoxing. Also vascular retractors prevent from bleeding in injected part. (10).Intraspinal Analgesia is a modern advanced cure in severe pains, like pain after operation or fatal chronic pain, which it can be performed either Intrathecally (into the dura contains of spinal fluid) or Epidurally (out of dura). Posterior branches of spinal cord contain of Endogenous opioid substances. (11)Low doses of Naloxone can invert the side effects without reduction of antipain drug.

#### Antipain mechanisms and different kinds of Opioid receivers

Anti-pains have different methods and ways from operation point of view (12). For example, aspirin and the other anti-inflammatory NSAIDS (non-steroidal anti-inflammatory drugs) operate locally, and it seems that they do not have any changes in the process of central nerve system. (13). They influence on pain source by reduction of inflammation. (14). On the other hand, addicts control the response of the pain, and make pain realization tolerance increase. (15). The addictions destroy the pain by copying natural peptide addicts (like Endorphins). (16).The three main addict receivers in and out of the central nerve system contain of Mu, Kappa, and Sigma receptors. Delta receivers create anti-pains in response to Endorphins with aintrasource. (17). Mu receiver is a medium anti-pain, that creates the weakness of respiratory system and Euphoria. (18). Also Kappa is a medium anti-pain that brings the weakness of relaxing system and mycosis (concentration of the pupil.) Sigma receivers cause mental reactions (like Hallucination, spree) (6).

#### **Different sorts of anti-pains**

Usually, the anti-pains are divided into two groups according to their clinical effects:

1) weak non-drugs, antipyretic analgesics, and NSAIDs anti-inflammatory drugs

2)strong opioids (agonists) and agonists anti-pains, agonist-antagonist analgesics (19).

The drug anti-pains are given for releasing central severe pains (9), and the non-drug anti-pains are given for local pains such as muscular pains, headaches, and the other pains with inflammatory sources (19).

#### 1-The NSAIDs anti-inflammatory drugs

They act in different ways and usually they have been expanded according to their source in Arthritis treatment. They have the feature of non-inflammatory, and because of this point that the inflammation with the inflation cuase pain, these drugs can help to get rid of the pain. Also NSAIDs anti-inflammatory drugs can cause stop in Prostaglandins (sensitive to the pain receivers than the mechanical and chemical stimulis. These drugs prevent from some things and stimulators by prostaglandin block. These drugs usually influence in a local way, not central. Aspirin is one of the NSAIDs anti-inflammatory drugs are gastrointestinal disorders and maybe bleeding. Because these factors prevent from platelets aggregation. Those patients that use high doses of these kinds of drugs for a long

period of time have artrists basically, so it is possible to use Histamine antagonists likesimetidine (Tagamet), Ranitidine (Zantac) or Misoprostol (Cytotec)(6).

#### 2)strong non-drugs anti-pains (Narkotik)

Generally, we used drugs when we have no solution for curing and getting rid of the pain. When the strong antipains are prescribed, we can see the physical dependence and tolerance. The tolerance and physical dependence can not happen in a short tome (Hastat). Morphine and the other drugs like Morphines are in this category (20). The addict agonists activate the places of the pain receivers. The addict agonists also activate the pain receivers. Angonists are drugs that not only neutralize the effects of the drugs in central nerve system, but also their anti-pain effects. The drugs that they are like Morphines, are just from the amount of start, the activity period, the way of giving this drug, the effects of the side issues, and chemical composition points of view different. In here, we can name some of the side effects of the anti-pain addicts like constipation (if the patient use it permanently), nausea, vormiting, drowsiness and also respiratory depression (which is extremely rare). Adjust decrease the smoked contractions in small and big intestine, and also the make stomach contents in all Duodenal delay. The addicts can increase the speed of nausea and vomiting because their action is on the brain stem. Also the drugs like Morphine can have effects on vestibular system, that can cause some pretenses. Respiratory depression is because of sensitivity discretion of breath centers to the carbon dioxide. Circulatory depression is another side effect. About those patients, who are in a lying position, Morphine therapeutic dosage and synthetic drugs have a very tiny influence on portal hypertension of the heart rhythm. Anyway, some patients will have the Hypotension experiences from lying position to sitting one or even standing one. This Hypotension is because of dilation of peripheral vascular surgery by the drugs, that bring the AH Systems reduction (6). Having no sense and feeling is the other side effect which is followed by using this kind of drug(8). Physical dependence is a side effect. When using the drugs stopps suddenly, the physical alarts (withdrawal Syndrome) can cause and appeared. Physical dependence is not like the aditions, but related to physiological responses we can tell that we can not control it. Tolerence, to the drugs nonpains, is the other expected side effects, that its features contain of decrease the period of releasing from the pain, reduction of the most effect of the anti-pain, and need to decreasing of the amount of that drug, which is required, for releasing from the pain(6).

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