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Nicotine and heroin

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Abstract

Nicotine is an alkaloid, which includes pyridine and pyrrole links in its' composition and the mentioned organic compounds exist in the leaves of Tobacco, and it also has the saturated links of pyrrole. Nicotine has different effects on the human body, on this way, some of the parts are stimulated where some others are weakened by it. The increasing level of sugar in the human blood is up-to protein. It increases the pulses and thus, it causes the narrowness of arteries which results high-pressure. As well as, it effects the embryo, which blocks the passage of oxygen to womb and the addicted mothers of narcotics and it causes disabled births. Morphine: it is an alkaloid, which causes to physiological changes, blood toxicity, jaundice, nervous risks and even results in death of human. Heroin: It means powerful and championship, and is the artificial alkaloid of opium which is more intense than opium and morphine in addiction. The effects of heroine on human nerve system is several times more than morphine, and the toxicity is 4-7%. While, opium is orally taken to the body, it absorbs in small intestines very easily, which is very harmful for body. Preface: This research article about nicotine and heroine, states the natural resources of nicotine, its' risk on human body, effects on embryo, the increasing level sugar in blood, the obtaining of nicotine, physical and chemical property. Heroin, the composition of heroine, obtaining and production of nicotine, natural resources, physical and chemical properties of heroin and its' risk on the human body are stated in this article. Morphine: The natural resources of morphine, production and obtaining of morphine, physical and chemical properties are discussed in this article. Objectives: our aims of composing this research article is to know the natural resources of nicotine and heroin, and indicate well the negative effects on the human body. Nevertheless, make civic understand of all of the people, to avoid growing harmful plants and using these substances.

Keywords: Nicotine, heroin

Introduction

Nicotine and Heroin

Nicotine

Nicotine it is an alkaloid, which includes pyridine and praline links in its' composition and the mentioned organic compounds exist about 20% -80% in the leaves of Tobacco. Nicotine is a colorless substance which boils by 245.5 °C.

It is used in cigarettes and snuff as a narcotics substance and affects the central nervous system and it has inebriate characteristics. (Fawaz.,2006) ^[1].

Nicotine effects in human body

Nicotine has different effects on the human body, on this way, some of the parts are stimulated where some others are weakened by it. It causes to increase the sugar in blood, and it also increases the insulin hormone. Hence, addicted people complain of cholesterol. The mentioned substance also increases the pulses 10-20/minute. It causes to narrow the arteries and high blood pressure.

Nicotine effects on embryo

Recent studies show, that some medicines and narcotics effect the embryo in the womb. Such as, anti-biotic, caffeine, alcohol, aspirin, and anti-histamines.

Nicotine exists in the leaves of tobacco, which inserts to the blood by the smoking hookah and cigarettes. Nicotine causes to constrict the arteries, eventually this incident happens the less transfer of oxygen and food stuff from mother to the embryo, and in case of shortage of oxygen, carbon monoxide has bad effects on the embryo. The narcotics addicted pregnant

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mothers deliver disabled infants. To repress this incident, high level of civic knowledge should take place amongst the people, and the addicted persons should be kept under a continuous treatment and observation. (David, 2005) ^[13].

Isolation of Nicotine: obtain the finaldried leaves powder of tobacco, then mix an amount of diluted acid. The liquid of diluted acid and powder is mixed with NaOH liquid, and then heat it. This turns to steam. The obtained oily layer of this process is called nicotine. Which converts by gradually distillation to original nicotine.

Physical properties of Nicotine

Nicotine is a colorless liquid, which boils by 225degree centigrade (°C). It has a fast smell similar to tobacco.

Nicotine is a soluble inwater and other organic solutions. Natural nicotine has the optic properties and is a dextrorotatory (the polarized light rays to the right). It is fast smell effects the central nerve system and has the stimulation features.

Chemical Properties if Nicotine

As nicotine has the Pyridine and pivalyidine links in its' composition and it has the alkaloid properties which carry out reactions such as, the oxidation of nicotine obtains the nicotinic acid and thus, while it reacts with alkyl-halides, it produces different types of salts. (David, 2005) ^[13].

Production of Nicotine

(Quinolin Alkaloid)

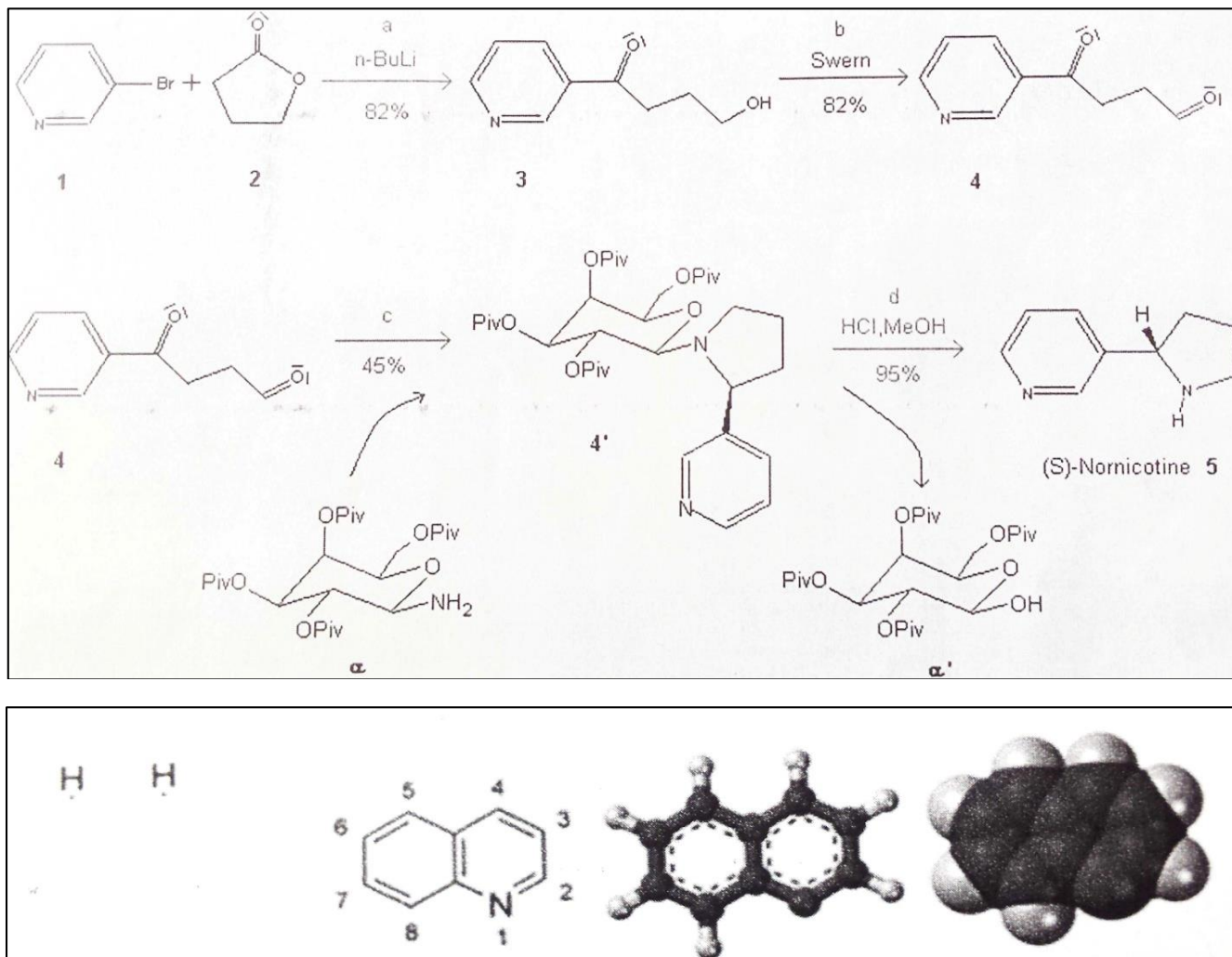


Fig 1: production of nicotine

The alkaloids which have Quinine in its' nucleus of composition are known as alkaloids of Quinine Group. This group of alkaloids includes quinine, can dine, sangonin, sangonidin and akroyaisine. This group of alkaloids obtains from a plant known as Sankona. Sankona and its' alkaloids only have the canoline. Now a day it is able to be used as broadly. Sankona play a good role in manufacturing of medicines. Sankona is a type of plant which has a tall stature. This plant is found in Indonesia and India. Till now, 36 different kinds of this plant have been known. The

selected grains of Sankona is kept in a treasure, after two years they appeared to be looking as adult straw and plants. The stem of straw/plant growing very fast and fall its' lower leaves. The Quinine of stem is very important. The peel of straw approximately for 6 to 9 years be able to have the alkaloids. The roots and stem of sankona easily grows. The peel of sankona can be easily peeled by hand. The alkaloids of these peels are 3 time more than that. Sankona peels are used in the bitter beverages. Alkaloids are found in the paramecium cells of Sankona. (Hart, 2002) ^[15].

Production of Quinolones

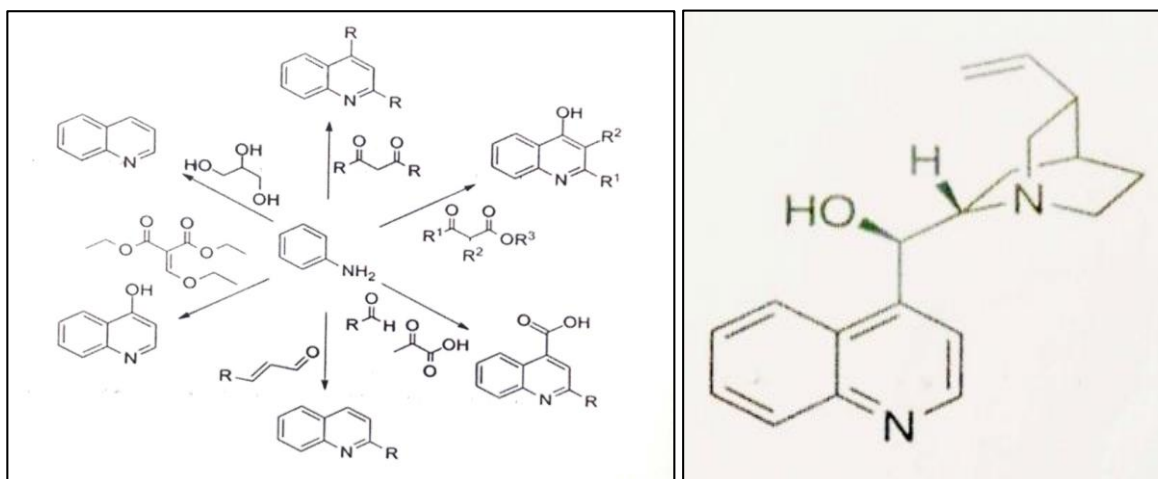


Fig 2: production of quinolones.

This is an important alkaloid of quinolone alkaloids, which plays an evident role in manufacturing of medicines. Quinolone exists in the branches and roots of Sankona plant as well as in the peel of this plant, which is grown in India and Indonesia.

Isolation of Quinolone

The last powder of the branches is isolated from Sankona, which is identified with alkaloid. The mass of alkaloid is derivated together with petroleum-acid. The derivated substance is washed with diluted sulfuric acid. While the alkaloid is dissolved as a sulfite, then the watery layer of the alkaloid gets thickened. While, relatively quinine sulfite is isolated less-dissolved, it becomes crystal, in further process it turns to pure quinine sulfite. (Cozol,2006) [11].

Properties of Quinine

Quinine a white solid substance that's melting point is 177(°C). A little amount of it is soluble in water, which produces a fast and intense solution. Its' natural alkaloids give the levorotatory (the compounds having the properties of rotating the plane of a polarized light ray to the left) effects is a poor and weak alkaloid. It makes the salt in combination with the acid. Quinine used for the treatment of Malaria in ancient tenses. But today, a high level of anti-malarial medicines like chloro-quinine are manufactured and used instead of Quinine. Some of the important kinds are as bellow:

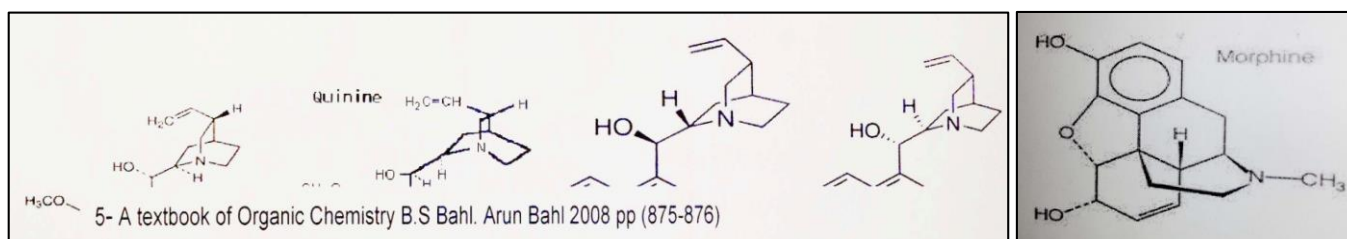


Fig 3: Physical propties of quinne.

The important natural alkaloid which causes too many disorders is known as morphine, produced by a French scientist Sangun. Morphine forms 10% of Narcotics, is obtained from the grainy capsules or by cutting of cone (papaver somniferous). It exists 25 alkaloids. Morphine has a nucleus is known as phan- astone. (Cozol,2006) [11].

Morphine can be easily absorbed in intestine. Although it is also suggested through the in vein. If it is applied under the skin, absorbs well. It can't be absorbed under a safe skin. Morphine is metabolized by the oxidation while absorbed and then excreted in a closed shape through urination and in a free shape in stool.

Morphine has strong analgesic effects, especially it has more usage in pets like dogs, because animal gets ride of pain and rests it. Its' effects are sure. Over dosage of morphine cause to drowsiness and intoxication. Administration effects against pain injecting in vein (IV) after 20 minutes and injecting in muscle (IM) are effective

after 90 minutes. Application of morphine through vein, excretes 65% through urination after 24 hours, while the remaining amount excretes through other ways in duration of 4 days. The side effects of morphine are the weakness of respiratory system hence what it uses as anesthesia. Morphine should not be used to the animals with asthma, if usage is essential take better care to administered. (john, 2002) [7]

In recent time another artificial alkaloid known as heroine is composed to morphine, which effects are 4-5 times more than morphine. Thus another artificial alkaloid named epo-morphine is mixed with morphine, but causes an intense vomiting. Addiction of heroin than morphine and morphine than narcotics show more susceptible. Although, addiction of the above mentioned substances are not matters. The incidents of toxicity have been apparently seen.

Chemical properties of Morphine: Morphine is obtained from narcotics which is including in natural alkaloids. Some of the derivations as powder are dissolvable in water, which has white or whitey color and is used also as salt.

The crystals of morphine are scentless and also can be seen as feather-like. The structure of crystals are as cubes as white powder, is existing with bitter taste. When it is exposed to open air, the pre-obtained water is wasted. It substitutes a dark color while looked to the direct sunlight. It is dissolved in water, thus freely in boiled water, and in alcohols little amount is soluble, but the percentage of liquidation in boiled alcohol is more. Morphine is dissoluble in ether and chloroform. (Johns, 2009) ^[16].

The including medicines in derivatives of morphine

As the derivatives of morphine are used as salt, the crystalized powder shapes are dissolvable in water and the bellow medicines are including in:

- Ezid-morphine, oxy-morphine hydrochloride, oxycodon, nor-morphine, Nico-morphine, methyl-morphine, methyl dihydric-morphine, sulphite morphine (oxanol), meto pone, powdered narcotics, ezido- codeines, benzyl morphine, concentrated alkaloids, nitophan, di acetyl mophin (heroin), di hydro codeine tartrate, di hydro morphine, ethyl morphine, hydro morphinol, fol codeine, azido codeine, beta codeine, hydro codon.
- The above mentioned medicines beta codeine and hydro codeine are used as anti-coughing medicine, and nalbophine hydro chloride which has analogues properties to morphine and thus has the opposite effects to morphine.

The unfortunate and misuse of morphine: The addiction starts by misuse of smoking and inhalation through nasals intoxicants like, heroin, morphine, and narcotics. in the primary times a type of condition occurs such as relaxation, excitement and other symptoms. While, an addicted person continuously repeats this practice for several times, by then he/she gets addicted. Eventually, he/she can't be consented by smoking, alternatively he/she injects the heroin to him/herself. Slowly, these effects deepen in the body and the requirement of narcotics in body is strengthened. That in the 1st phases the condition of body shows reactions such as no relaxation, physiological changes and thus the serious diseases like toxicity of blood, jaundices, nervous risks even it causes to death.

If an addicted person uses heroin, narcotics and morphine for long-lasting it causes to handle these risky substances, by practicing other alternates such as theft, begging.

Usage of morphine is prohibited in most countries of the work. Because it happens the serious addiction. (David, 1989) ^[6]

Usage of morphine together with other substances: - according to the theory of chemistry morphine salts can be used together with alkaloidal substances like, bromides, iodine, potassium, permanganate, tonic acid, vegetable constipated substances, copper, mineral salts, iron, lead, manganese, silver and gold. Thus, alkaloidal matters can cause partially precipitate the morphine.

While morphine is used together with narcotics-formatted substances like, phenothiazine, anti-insanity medicines, relieving/soothing medicines, central nervous system

weakening medicines in which alcohols also includes may create some side effects like, weakness of respiratory system, lowness of blood pressure, deep comfort.

Usage of morphine in treatment instances: But today, a high level of anti-malarial medicines like chloro-quinine are manufactured and instead of Quinine are used. Some of the important kinds are as bellow:

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morphine, methyl dihydric-morphine, sulphite morphine (oxanol), metopone, powdered narcotics, ezido-codeines, benzyl morphine, concentrated alkaloids, nitophan, diacetyl morphine (heroin), dihydrocodeine tartrate, dihydro morphine, ethyl morphine, hydro morphinol, folcodeine, azido codeine, beta codeine, hydrocodone.

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Usage of morphine in treatment instances: morphine is provided as hydrochloride and sulphate which has proper effect on the central nervous system. Morphine is the natural alkaloid of narcotics, has the intense analgesic effects, and used to remove the serious aches. Thus, it effects enough the acute, intermediate and chronic pains. It is used to soothe the pain caused by myocardium and acute infarctus. While, a non-narcotic medicine does show effect to the pain, then morphine is administered. As it is a substance that ease the way to addiction, hence that, it is not administered.

Morphine is used for the trouble of lungs before the anesthesia and thus it is used for the remedy of urinary system acute stones. As per the strong additivity, asthma, vomiting

and diarrhea, sometimes there is limitation on the usage of the mentioned salts. The additivity of morphine is called morphism.

Codeine: It is also a kind of natural alkaloid of narcotics, which exist in hashish. Its' effects are similar to morphine. Its' influence level of proportion is $\frac{1}{4}$, and less effective in weakness of respiratory system than morphine and also does not cause to get to diarrhea and vomiting. As Codeine is a natural alkaloid, and together usage with some medicine like aspirin and paracetamol owns the intense effects against the pains. Despite that, codeine has the strong effects against the pain, as well as it works as phosphate and sulphate. It also relieves the cough, and causes to prevent the motivation of coughing from the center. Codeine has less side effects and additivity than morphine. (BAHL, 2008) ^[10].

Papaverine: Is also a natural alkaloid of narcotics, which uses hydrochloridesalts in medication of innards spasms, and thus, used in asthma. Side effects and addiction of Papaverine are less than morphine.

Noscapine or Narcotine: It is also a natural alkaloid of Narcotics. As the it does not have the intoxication properties, hence it is known as Narcotine. Thus, it has the cough relieving feature, because it is used in the combination of syrup and tablets.

Omnopone (Pantopone): it is also a product of narcotics which has the salts of hydrochloride. 50% of morphine is including in it, and it has the pain relieving effects which is which passed through injection to the body.

Naloxone: Commercially it is known as Norkan compound.

Properties: It is white or approximately less colored powder, which dissolves in water, diluted acids and strong alkaloids. A little amount of it is dissolvable in alcohols, which doesn't have the ability of liquidation in ether and chloroform and its' molecules move in water as upside-down. If in high level of naloxone used for long period, then it does not bring the tolerance. Naloxone doesn't show any side effects, but may cause to occur vomiting. Thus, it can be administered to the narcotics addicted persons. (John, 2002) ^[7]

The usage instances of Naloxone: It is formed of substance similar to opium medicines. It is a selected medicine such as morphine and codeine which remove the weakness of respiratory system. It is possible to need several times for this medicine. As Naloxone doesn't make any respiratory system weakness, so the patients with sensitivity of narcotics may use it. Thus, it can be used in case of coma or shock and it stimulate the aptitude of animal.

It causes to dismiss the tensions arose by the over dosage of Lopramide and Mepridine. It has the serious analgesic effects including the cardiac arteries system, digestive system, the enforced bile's, and spasm and thus, it has the opposite effects to the medicines made of narcotics. (BAHL B.S 2008) ^[10].

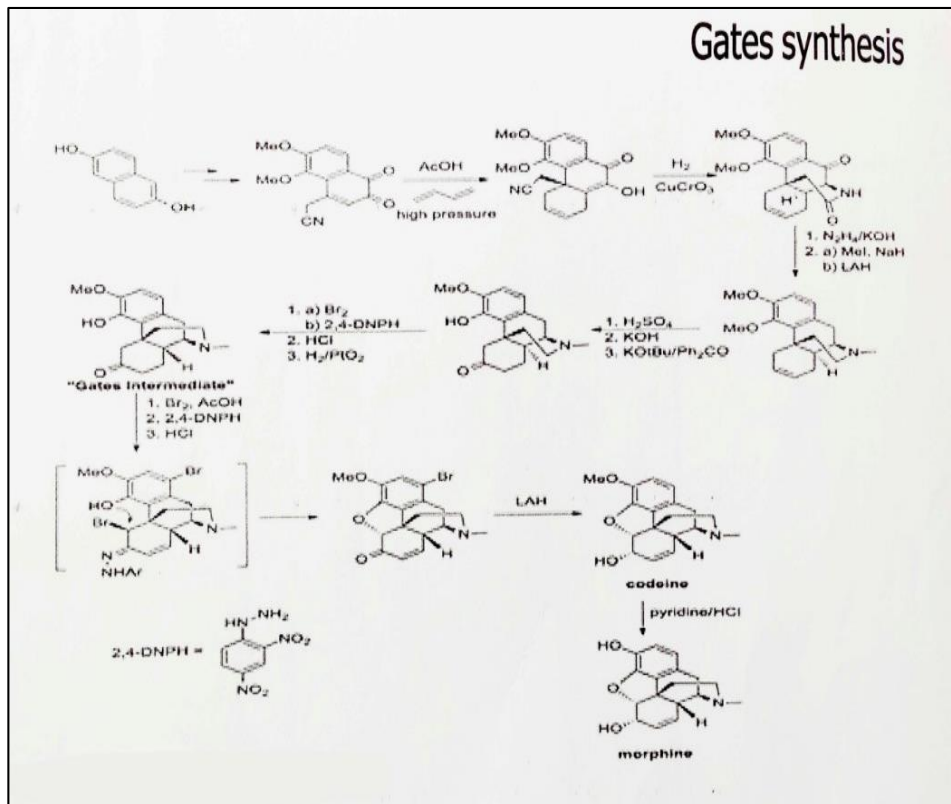


Fig 3: gates synthesis of naloxone.

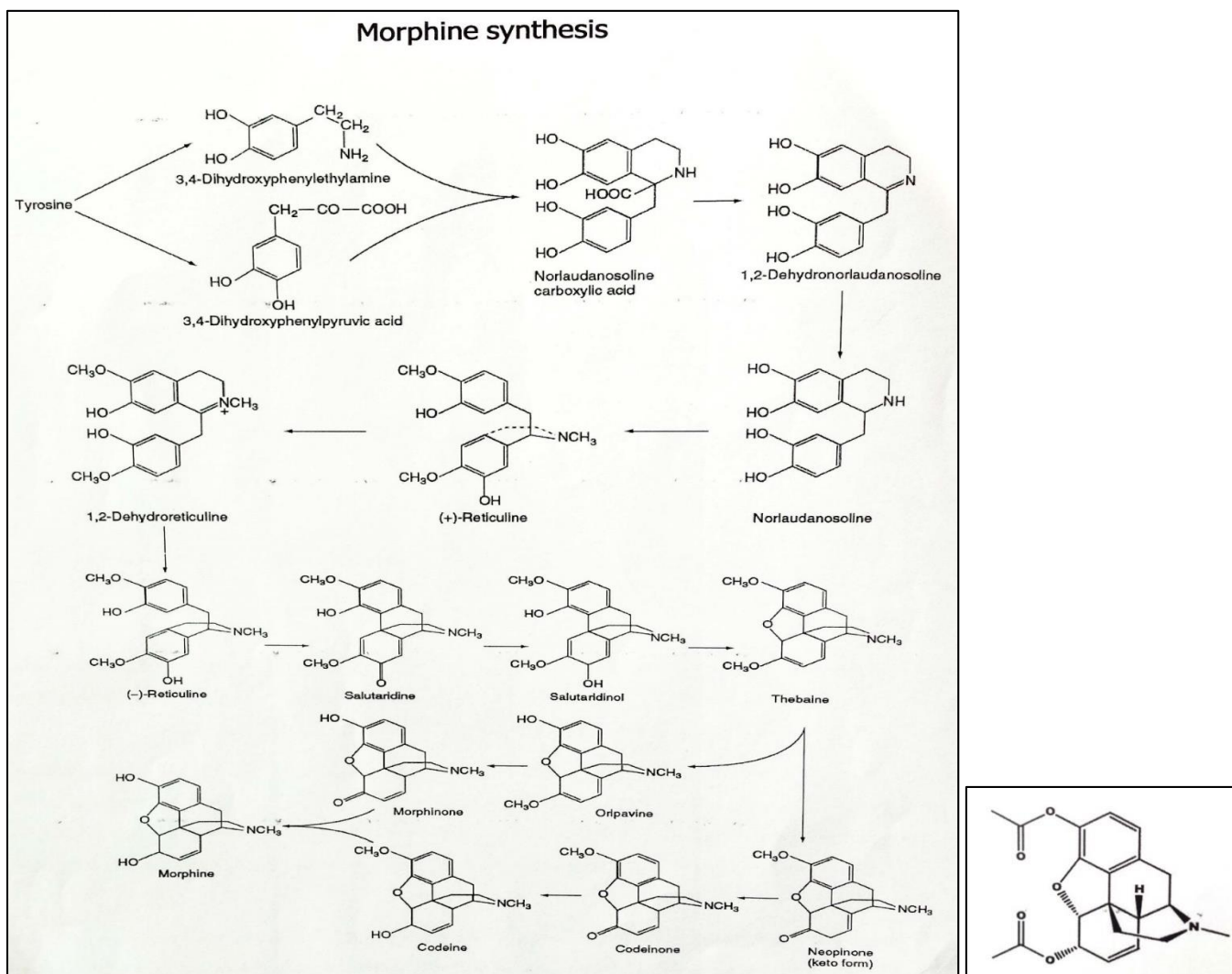


Fig 4: morphine synthesis

Heroin

Definition: Heroin is a word which means strong and champion, and in term it is an alkaloid of narcotics alkaloids. Thus, relatively, Heroin has more addictive than narcotics and morphine.

Naturally, Heroin does not exist in Narcotics. However, it brewed from >>>>> morphine. The so-called, artificial alkaloid discovered by a famed German scientist Wodarsers. The scientist expected that the prepared alkaloid would be used for the treatment of narcotics addicted. But, it was proved that, heroin is to be more addictive than morphine and narcotics. Which, is being used by addicted persons. Heroin is the most injurious for the human body.

The effects of heroin are more on the brain and the percentage of infection or poisoning is 4-8 times. Thus, the percentage of infection is 8-10 times more than Narcotine. Heroin can be absorbed under the skin and () very fast and is a very addictive drug. (BAHL 2008) [10].

Apo morphine: This is also the derivatives of the artificial alkaloids which brings the serious vomiting.

Toxo Kenitic

Absorption: While narcotics are administered orally, intensively reaches to the liver, and it absorbs in the digestive system. Narcotics can be absorbed through intestine in a good manner. If injected under the skin, then it can absorb as well. But, under the perfect skin it can't be absorbed as well. The best way for absorption of narcotics is the application of IV (in Vein).

Metabolism: while morphine is administered orally, then it passes to the liver and absorbs well in the digestive system, which goes under the metabolism, and that's after it forms toxicity which cause to die animal. A little amount of metabolism develops in the liver; what's metabolism is exacted by the process of oxidation and then it excretes in closed shape through urination. While narcotics are administered orally, the 1st phase of metabolism is as fast as 50 times than administration through injection. (David, 1989) [6].

Excretion: In the animal body morphine is conjugated.

It also excretes freely through urination, while in the 1st 24 hours 90% of it is excreted, and a very little amount of morphine is seen in the urine. Up to 4 days it excretes a little amount through urination and after that the remaining excretes through other ways.

Usually, its' half age is 50 minutes in normal patients and in the user of Barbitoo Rattoo or in those over-usage of the alcoholic beverages, eventually it causes the decomposition or the activation of micro zomal enzymes, and this drug long-lasts for 30 minutes. (Modren Alkaloid 1999) [1].

Influence Mechanism: The opide agents, effects the stomach, intestines and central Nerve system through proper receptors. Namely, these chemical aides cause to form hyper polarization of brain cells. Beside, it causes to prohibate the nerve firing, which negativates the transmitters secretion in the pre-synatic portion. Morphine also acitylize the M-Receptors (Lamin-1 and Lamin-2) in the spinal cord. Hence, it depletes the secretion of P-substance, which cause to create the backach.

First the nerve stimulates and the Motional and emotional centers get weakness. Hence, it has the analgesical effects. At the start the pulses increase and slowly they become normal, from what the arteries getexpanded. The blood presure falls and the digestive system encountered in vomiting (Boa, 2009) [4].

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