Commentary

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A Short Commentary on Nicolau Syndrome

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Introduction

Nicolau syndrome (NS) can be a rare form of drug abuse that occurs in the area of intramuscular injection. It was first described in 1924, by Freudenthal, in patients treated with bismuth syphilis. NS has been reported for the administration of various other drugs such as penicillin, local anesthetics, corticosteroids and non-inflammatory drugs, in the literature summarizes the causative drugs reported in the literature.

Nicolau syndrome was first described in 1920 as a saline injection of bismuth, which was treated for syphilis. Factors reported to cause the disease include local anesthetics, antihistamines, B-complex vitamin complex, NSAIDs (diclofenac sodium, ketoprofen, piroxicam), corticosteroids, diphtheria, tetanus and pertussis vaccine, meperidine is therefore a group of penicillin. All patients within the current study were considered obese and received NSAID injections to help with joint and lower back pain. Fifteen of the 17 patients received multiple injections.

Patients with NS experience severe pain near the injection site immediately after the injection, followed by rapid growth of erythema, livedoid patch reticular or hemorrhagic patch. This skin reaction is pathognomonic. The reaction can lead to necrosis and damage to the skin, which is the basis of fat and muscle tissue. The necrotic wound usually heals within a few months with an atrophic scar. Various temporary sensory disorders such as hypoesthesia or paraplegia are reported in one third of patients.

The pathogenesis of NS is unclear, but in the past it has been suggested that it is due to intravenous injections and trauma. Although many theories are suggested in the literature, the main hypothesis is direct trauma or irritation of vascular structures by suppressing the body's own fusion, drug exposure to arteries, and the development of shunt or ischemia in arteriovenous injection. It has been reported that cold local anesthesia quickly causes skin necrosis by increasing the local vasospastic side effects during NS.

Clinical NS diagnoses include cutaneous cholesterol embolia, vasculitis, and a combination of cardiac myxoma. Cutaneous cholesterol embolia can be a disease in adults with severe atherosclerotic diseases. Skin manifestations in patients with left myxoma are common, usually in acral areas, and between cardiopulmonary symptoms. There is no specific treatment for NS. Treatment of NS depends on the degree of necrosis and the distance from head to toe. Conservative treatments for weight loss, pain management (analgesics), and dressing are therapies, especially in limited cases. Tissue damage can also be reversed within the malignant phase of NS. The use of vasoactive agents such as iron heparin and oral pentoxifylline has been shown to be beneficial. High steroids may be worth a try. Surgical intervention is rarely required.

NS can also be seen in the diagnosis of iatrogenic fatal injection site cutaneous reactionism characterized by pallor followed by pain, erythema, blood clots, rash, and varying degrees of necrosis of the dermis, underlying tissues and tissues. In addition to its historical significance in syphilitic patients taking bismuth salt, many other drugs such as phenylbutazone, diclofenac, ibuprofen, Vitamin K and B-complex vitamins, sulfapyridine, tetracycline, streptomycin, sulfonamide, lidocaine, Phenobarbital, chlorpromazine, dexamethasone, triamcinolone, diphenhydramine, interferon alpha, gentamicin, ketoprofen, influenza and diphtheria pertussis toxin vaccine after intramuscular injection, or intra articular was also reported. Children under the age of 3 are more prone to small viewing of vessels its etiopathogenesis remains unknown, but it is possible that, there are three factors that may be involved in NS: firstly vasospasms leading to ischemia caused by nerve stimulation from internal or external drug injections. The second is due to the inhibition of prostaglandin synthesis by non-inflammatory anti-inflammatory drugs that inhibit cyclooxygenase. Third is that the closure of the embryo is caused by an injectable injection, especially lipophilic drugs.

Clinically, patients experience severe burning or tingling pain at the injection site followed by the development of a well-defined/blue skin rash with genes that are sometimes called non-inflammatory retiform purpura or livedoid rash. With development, it can lead to a variable degree of necrosis of deep tissues including muscles. Permanent paralysis of the lower extremities has also been reported in one third of cases due to drug combination, mainly due to sciatic nerve ischemia. In some cases, applying a cold application to relieve local pain may also facilitate the occurrence of skin necrosis. The necrotic wound usually heals within a few months with an atrophic scar. Ultrasonography of the skin

and magnetic resonance imaging helps to determine the extent of the damage. Past problems include contracts and disabilities.

Most abscesses can be treated using an ultrasound guided abscess procedure and, if necessary, an antibiotic selected according to the results of the antibiotic can be used. In the presence of skin and/or oily necrosis, drainage and drainage should be done without delay. Most tissue deformities surrounding necrosis can be closed primarily; minor defects can be left for secondary healing or treatment using vacuum therapy. We had no problems closing the minor and middle deformities due to flexibility and density of the hip tissue; however, a local flap (VY development flap, Limber flap) should be chosen if there are major errors. There were no complications after surgery on flap dislocation and all patients recovered without complications.

In obese patients, intramuscular injections should be administered separately, the needle should be longer than 3.8 cm, and repeated doses should be given at various locations. The deltoid region is a recommended site; if the injection is to be placed in a glowing region, the anterior gluteal region should be selected because of its small adipose tissue. In addition, it is important to move the needle to determine if it is inside the muscle and to inject only when the muscle is not moving. The adipose tissue under the skin can be pulled down in advance to reduce its size.

As obesity rates continue to raise, Nicolau syndrome can reoccur. Therefore, muscle injections should be avoided where possible in obese patients. However, if a drug application is required, the appropriate injection procedure should be used. In the case of pain, abscess formation and fluid leakage after injection, extensive tissue loss can be prevented with pre-repeated removal and appropriate dressing methods.

NS is a preventable problem, and its managers rely on the degree of necrosis and early intervention centers. Wound reduction, dressings, analgesics, and antimicrobials are pillars of treatment. Skin grafting and flap reconstruction may be required in cases with severe tissue destruction. In the early stages, the process of tissue necrosis can be prevented by introducing vasodilators such as pentoxifylline, hyperbaric oxygen, intravenous alprostadil and heparin. To avoid this fatal situation, safety precautions should be taken during the injection.

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Conflict of Interest

The author declared that there is no conflict of interest.