NICOLAU SYNDROME FOLLOWING VITAMINE B INJECTION

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Summary

Introduction: *Nicolau syndrome (NS) or embolia cutis medicamentosa refers to cutaneous necrosis following arterial injection of certain drugs under an oily suspension form. Less common, intravenous or intramuscular injection of water sollutions drugs can also produce NS. Ștefan Gheorghe Nicolau described the first case in 1925, after injection of bismuth oily salls in a patient with syphilis and named this drug reaction Livedoid and Gangrenous Dermatitis of Nicolau.*

Case presentation: *A 43-year-old-male with a known history of chronic alcohol comsumption and secondary nutrional deficiencies presented for a reticulated purpuric patch located on the left buttock. The lesion developed two days after vitamine B injection. Based on the anamnesis and clinical data, the diagnosis of Nicolau Syndrome caused by vitamin B injection was established. The therapeutic attitude consist of systemic corticotherapy and pentoxifiline without improvement. Finally, surgical debridement was necessary and the wound healed with atrophic scarring.*

Conclusions: *Nicolau syndrome is a rare, potentially severe skin complication following improper administration of injectable drugs that produce necrosis of the soft tissue. Surgical debridement is necessary in the majority of the cases.*

Key words: *Nicolau syndrome, vitamine B.*

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Introduction

Nicolau syndrome (NS) or *embolia cutis medicamentosa* refers to cutaneous necrosis following arterial injection of certain drugs under an oily suspension form [1]. Less common, intravenous or intramuscular injection of water sollutions drugs can also produce NS [2]. Ștefan Gheorghe Nicolau described the first case in 1925, after injection of bismuth oily salls in a patient with syphilis and named this drug reaction Livedoid and Gangrenous Dermatitis of Nicolau [3]. Pathophysiological mechanisms consist of endothelium injury with secondary thrombosis or arterial spasm. From a clinical point of view, and acute ischemia syndrome of segmental skin occurs [4]. A correlation between the severity and the extent of the skin lesions with the size of the vessel involved was described [5].

Case presentation

A 43-year-old-male with a known history of chronic alcohol comsumption and secondary nutrional deficiencies presented for a reticulated purpuric patch on the left buttock (Fig. 1). Skin changes were accompanied by pain and burning

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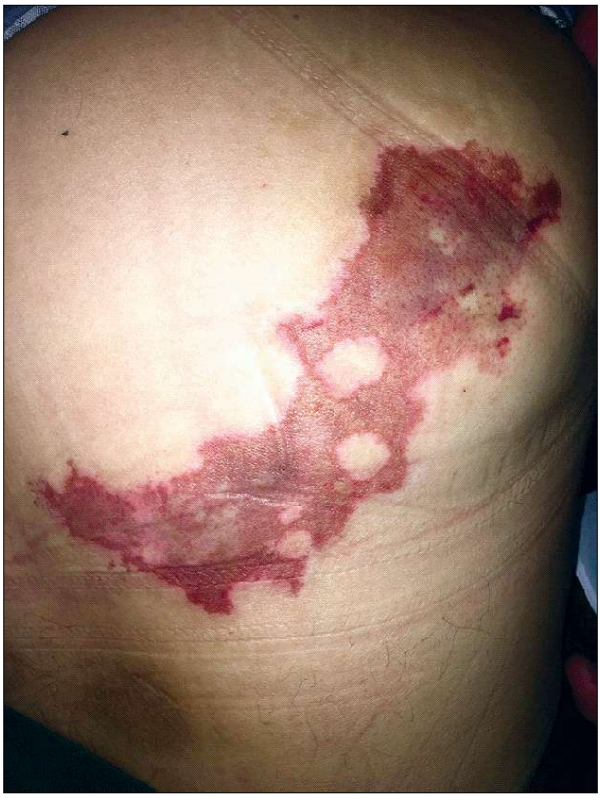

Figure 1. Reticulated purpura on the left buttock.

sensations. The lesion developed two days after vitamine B injection. A complete skin examination revealed a 10x10 cm reticulated purpuric plaque located in the supero extern quadrant of the left buttock.

Also, on the shins we found well defined hyperpigmented patches covered with scales and crusts evolving for three years, the patient acused occasionally erythema and blistering after sun exposure (Fig. 2). Based on the anamnesis and clinical data, the diagnosis of Nicolau Syndrome caused by vitamin B injection was established. The patient refused a skin biopsy from the lesions located on the shins. Therapeutic attitude consist of systemic corticotherapy (oral prednisone, 30 mg daily) and pentoxifiline (800 mg/day) but after five days, the affected area became necrotic and we recomanded surgical debridement. The wound healed, with atrophic scarring, two months after the surgery.

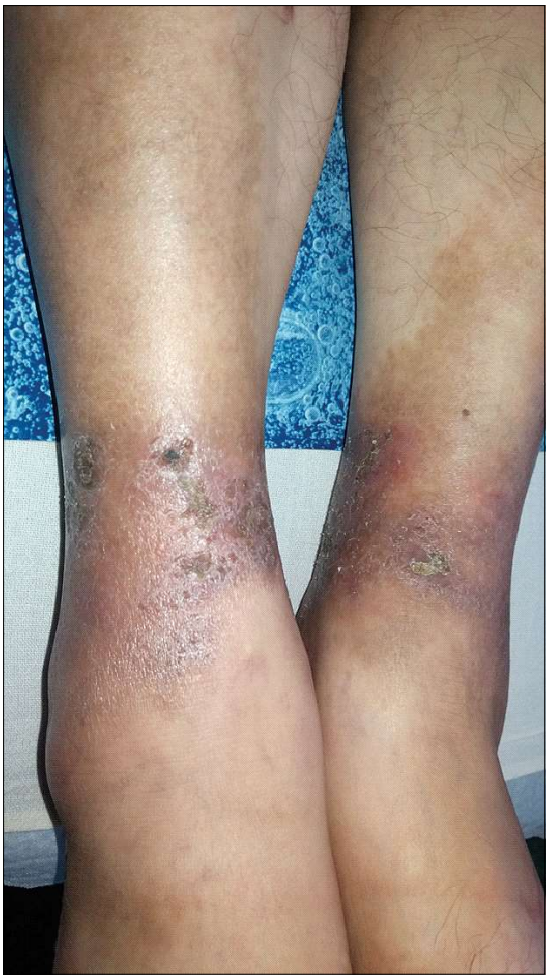

Figure 2. Hyperpigmented patches covered by scales and crusts on the anterior shins.

Discussions

NS arise frecquently after diclofenac injection in adults and penilicine in children [2,3]. Other drugs involved are dexamethasone, lidocaine, glatiramer acetate , oxytocine and so on [4,5]. NS can leave serios complications like extensive cutaneous necrosis, aseptic mionecrosis, acute limb ischemia or in severe cases rhabdomyolysis, paraplegia or death [6,7]. Ștefan Gheorghe Nicolau described the first case in 1925, after injection of bismuth in a patient with siphylis [3]. After the description, only a few cases were reported in Romania. Oanță et al described a case after intramuscular oxacilin injection and Fekete

report a case of NS following intravenous injection of ciprofloxacin [8-9]. Isolated reports described NS following intra-articular infiltration of steroids [10]. It is not mandatory that the substance to be injected intraarterial, a documented example is the development of NS after intravenous administration of terlipressin in acute gastric hemorrhage [11]. Vitamine B is rarely cited to induce NS [12]. In our patient, vitamin B was the only drug parenterally administered. Since the patient refused a skin biopsy from the lesions located on the shins, a certain diagnosis cannot be performed. But, based on the anamnesis and the clinical aspect, most probably the skin changes developed in the content of secondary pellagra (pellagroid erythema) in a patient liver disfunction caused by chronic alcohol comsumption. There is a peculiar report of a patient who developed NS after a accidentally finger injury with a sewing needle, this is the only case where injury with a needle without drugs injection produced typical skin lesions of livedoid dermatitis [13]. Rarely, extensive skin involvement is described, Kim el al report a case of NS involving whole ipsilateral limb after intramuscular administration of gentamycin [14].

Conclusions

Nicolau syndrome is a rare, potentially severe skin complication following improper administration of injectable drugs that produce necrosis of the soft tissue. Surgical debridement is necessary in the majority of the cases.

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Conflict of interest
NONE DECLARED

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