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A case report of Purple Glove Syndrome

[1]R. Mohaneshwaran Pattu
[1]*Department of Orthopaedics and Traumatology, Hospital Tawau, Sabah*

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I. INTRODUCTION:

Purple glove syndrome (PGS) is a rare complication of intravenous Phenytoin use. It typically presents with pain, edema and discoloration at the administration site that spreads to the distal limb. The majority of PGS incidence are resolved within days to weeks with supportive treatment. Here, we present a case of a 1-year-old infant who developed symptoms of purple glove symptoms following intravenous administration of phenytoin.

II. REPORT:

A one-year-old boy was admitted to Hospital Tawau with complex febrile fit secondary to tonsillopharyngitis. He was prescribed with intravenous phenytoin infusion pediatric loading dose. During his observation period, patient's hand became dusky and purplish discoloration from wrist up to all fingers. There was no extravasation of drug. These symptoms began at the injection site and spread throughout the right hand. On examination, the patient's hand was edematous and had a diffuse purplish discoloration. The right hand was tender on palpation as patient cried upon touching. Radial and ulnar pulses were palpable with capillary refill time

<2 seconds. There was no crepitation or fluctuance. Patient was then diagnosed with purple glove syndrome (PGS) as a result of intravenous phenytoin and was treated with supportive care. The right hand was elevated, the peripheral intravenous catheter was removed, and heat was applied to the area. The patient's symptoms very much improved by the next day and had disappeared completely subsequently. Throughout entire occurrence, his serum total and free phenytoin levels were within normal ranges.

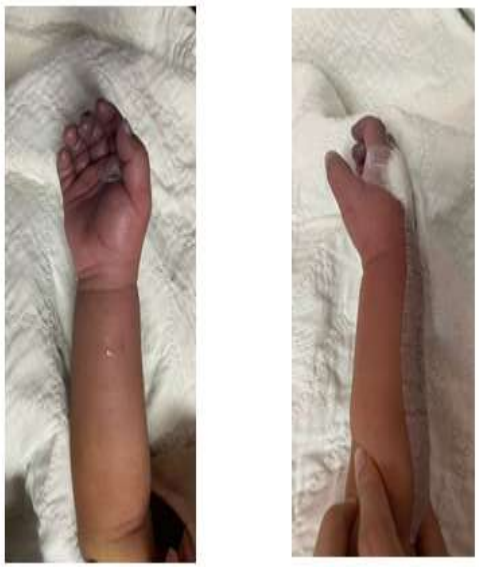

Figure 1: Right hand of the patient demonstrating swelling and purple discoloration consistent with purple glove syndrome

Figure 2: Right hand of the patient after continuous supportive treatment

III. DISCUSSION:

PGS is an adverse reaction to intravenous phenytoin use. Its symptoms include discomfort at the injection site, skin discoloration within hours after drug administration, blister formation, sloughing, ulceration, necrosis, and compartment

syndrome. There are other alternative diagnoses, including drug extravasation, cellulitis, peripheral vascular disease, venous thrombosis, and collagen vascular disease. PGS's pathophysiology is poorly understood. It was thought to be caused by the extravasation of highly alkaline phenytoin (pH 12). However, PGS can happen even when extravasation seems to be absent. According to histological analysis, thrombosis may be involved in the development of several diseases. PGS has also been observed to be possible after oral phenytoin treatment, significantly complicating the situation. There is currently no evidence linking any intravenous consequence to prior oral drug use. Supportive care is provided, which may include limb elevation, compression, massage, and mild heat. With just a small percentage of instances progressing to necrosis or ischemia, most cases recover within days to weeks. The requirement for a fasciotomy, skin grafting, or, in rare cases, an amputation, may probably require consultation with a surgeon.

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