

Medical Dressing Induced Digital Ischemia in Patient with Congenital Insensitivity to Pain and Anhidrosis

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Abstract : First described in 1975 by Dr. Miller, Medical dressings are uncommon but possible cause of hand digital ischemia due the tourniquet-like effect. The incident of this complication has been reported across wide range of age-groups, yet it seems like that the pediatric population are specifically vulnerable. Multiple dressing types were reported to have caused ischemic injury, such as elastic wrap, tubular gauze, and self-adherent dressings. We present a case of medical dressing induced digital ischemia in patient with Congenital insensitivity to pain and anhidrosis (CIPA), which further challenge the discovery of the condition. An 8-year-old girl known case of CIPA. Brought by her mother to the ER after nail bed injury, which she managed by application of elastic wrap that was left for 24 hours. When the mother found out she immediately removed the elastic band, and noticed the fingertip was black and cold with tense bullae. The color then changed later when she arrived to the ER to dark purple with bluish discoloration on the tip. On examination there was well demarcated tense bullae on the distal right fifth finger. Neurovascular intact, pulse oximetry on distal digit 100%, capillary refill time was delayed. She was seen under Plastic surgery and conservative management recommended, and patient was discharged with safety netting. Two days later the patient came as follow-up visit at which her condition demonstrated significant improvement, the bullae has since ruptured leaving behind sloughed skin, capillary refill and pulse oximetry were both within normal limits, sensory function couldn't be assessed but her motor function and ROM were normal, topical bacitracin and bandage dressings were applied for the eroded skin. Patient was scheduled for a follow-up in 2 weeks. Preventatively it's advisable to avoid the commonly implicated dressings such as elastic, tubular gauze or self-adherent wraps in hand or digital injuries when possible, but in cases where the use of these dressings is of necessity the appropriate precautions must be taken, Dr. Makarewich proposed the following 5 measures to help minimize the incidence of the injury: 1-Unwrapping 12 inches of the dressing before rolling the injured finger. 2-Wrapping from distal to proximal with minimal tension to avoid vascular embarrassment. 3-The use of 5-25 inch to overlap the entire wrap. 4-Maintaining light pressure over the wrap to allow adherence of the dressing. 5-Minimization of the number of layers used to wrap the affected digit. Also assessing the capillary refill after the application can help in determining the patency of the supplying blood vessels. It's also important to selectively determine if the patient is a candidate for conservative management, as tailored approach can help in maximizing the positive outcomes for our patients.

Keywords : congenital insensitivity to pain, digital ischemia, medical dressing, conservative management

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