

Introduction

Dermal avulsion injuries (DAI) are wounds that have been torn off from the epidermis to dermis layers through trauma. Fingertip injuries are a common form of DAI that presents to the Emergency Department (ED). The initial stage in managing DA is aimed at achieving hemostasis and preventing infection, followed by adequate closure of the wound¹. Difficulty in hemostasis is a common reason why such patients seek medical attention. This case report seeks to discuss the presentation, early recognition, management, and outcomes of 2 patients with fingertip DAI repaired with tissue glue.

Case Description

We describe a 27 year old and a 31 year old Chinese male who underwent immediate tissue glue repair of fingertip DAI with pictorial documentation of wound recovery as well as patient feedback. Both patients accidentally cut off a small area of tissue while using a knife and presented to the ED when they were unable to stop the bleeding at home. Upon follow-up, excellent cosmetic outcome was reported and with no complications such as infection or rebleeding of the wound.



Fig.1: Right thumb dermal avulsion injury (left), immediately after tissue glue application (middle), 1 month follow-up findings (right)

References:

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2. Dowling, S. T., & Lin, B. W. (2017). Outcomes in Patients Treated with a Novel, Simple Method for Hemostasis of Dermal Avulsion Injuries. *Advances in skin & wound care*, 30(10), 460–463. <https://doi.org/10.1097/01.ASW.0000521049.72160.37>
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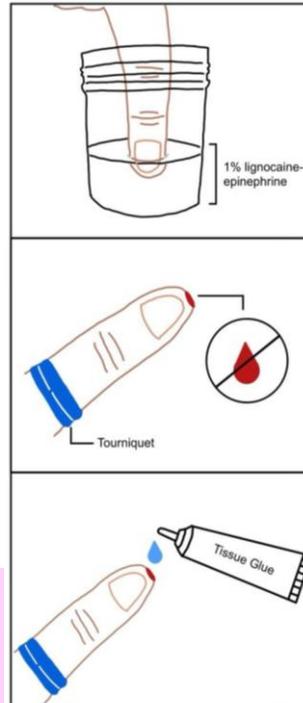


Fig.2: Steps of tissue glue application

Discussion

Hemostasis is first achieved by soaking the wound in 1% lignocaine-epinephrine solution in a small medicine cup/urine sample container for 5 minutes.

A proximal tourniquet is then applied to the digit and the digit elevated above the level of the heart and exsanguinated to achieve a dry bloodless field. These steps are critical before direct application of tissue glue to the wound surface. Traditionally, tissue glue is only used to close clean linear wounds with good edge approximation.

There are concerns about systemic absorption when applied directly to an open wound². However, this is negligible with small wounds.

Based on literature as well as the authors' experience, this method, a form of primary closure, should only be applied to clean, small wounds³ (<1cm diameter) without underlying fracture or bone/tendon exposure. Fingertip injuries are most common but this method could theoretically be applied to the toes as well.

Conclusion

Tissue glue repair for DAI is a useful technique which provides excellent hemostasis, good wound healing and overall patient satisfaction with no complications reported to date.