Abstract:

Introduction: Preterm neonates often depend on peripheral intravenous administration of nutrition and medication. Since their skin is not fully developed and very vulnerable, extravasation injury is a risk. Medical-grade honey (MGH) possesses antimicrobial activity and stimulates wound healing; although its use in neonatal patients is limited.

Clinical findings: We present a case series of 7 preterm neonates (28-36 weeks of gestation) with extravasation injuries secondary to peripheral intravenous administration of total parental nutrition and medication.

Primary diagnosis: Extravasation injury following the unintentional leakage of total parenteral nutrition, and medication into the surrounding tissue. Signs of extravasation include local pain, erythema, burning, pruritus, and/or swelling.

Interventions: All extravasation injuries were treated with daily cleaning and application of MGH. Some of the cases needed additional surgical intervention or assisted debridement.

Outcomes: After treatment, all extravasation injury wounds presented with granulation tissue formation progressed to normal epithelialization and closed in 7 to 67 days (median: 32 days). Upon initial application, peripheral edema and inflammation decreased. When present, necrotic tissue was effectively debrided, slough was removed, and no signs of infection were detected, irrespective of initial wound presentations. Cicatrization was minimal, and the full range of motion was preserved in all cases.

Practice recommendations: Continuous and thorough assessment of peripheral intravenous line placement for malposition, leaking, and signs of extravasation is needed for fast discovery and prevention of further damage.

Conclusion: Medical-grade honey possesses antimicrobial, anti-inflammatory, and antioxidative activity, enhancing wound healing. Medical-grade honey was safe and effective for treating extravasation-induced injuries, independent of location and severity. We recommend MGH for treating extravasation wounds and consideration for other types of wounds.

Reference: