

BACKGROUND

- Medical adhesives are routinely used to secure peripheral nerve catheters.
- These products are generally perceived as low risk allergic contact dermatitis may be under-recognized in regional anesthesia practice.

Case

- A pediatric patient with Charcot-Marie-Tooth Disease underwent lower extremity surgery with ultrasound-guided peripheral nerve block placement of a continuous popliteal nerve catheter.
- A liquid medical adhesive was used for catheter dressing securement.

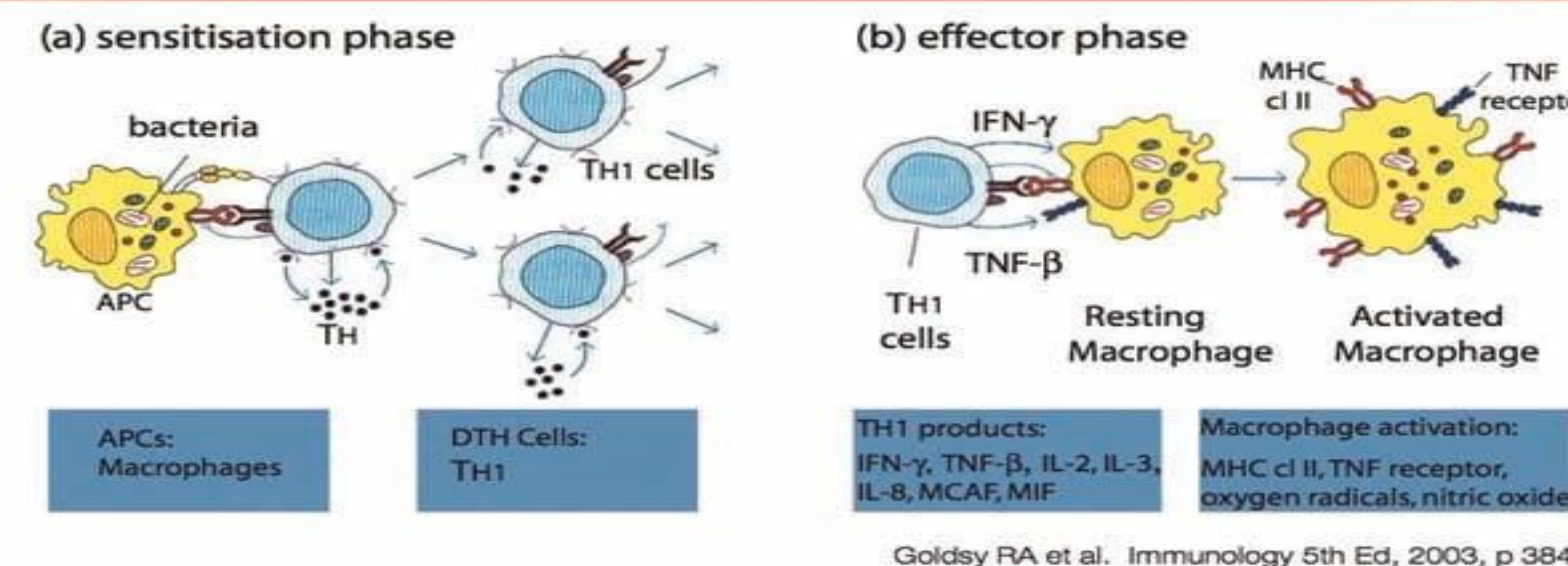
METHODS

- This submission describes a mechanistic clinical observation from a single de-identified postoperative case following regional anesthesia catheter securement. As the case report contains no patient-identifiable information, it is exempt from Institutional Review Board (IRB) review requirements per Cedars-Sinai Medical Center IRB policy, and IRB exemption was confirmed.
- Written patient and guardian informed consent for clinical photography and educational use was obtained. No investigational drugs or devices were used, and no off-label medication administration occurred. Clinical data were obtained through retrospective review of the electronic medical record and serial postoperative photographs.

RESULTS

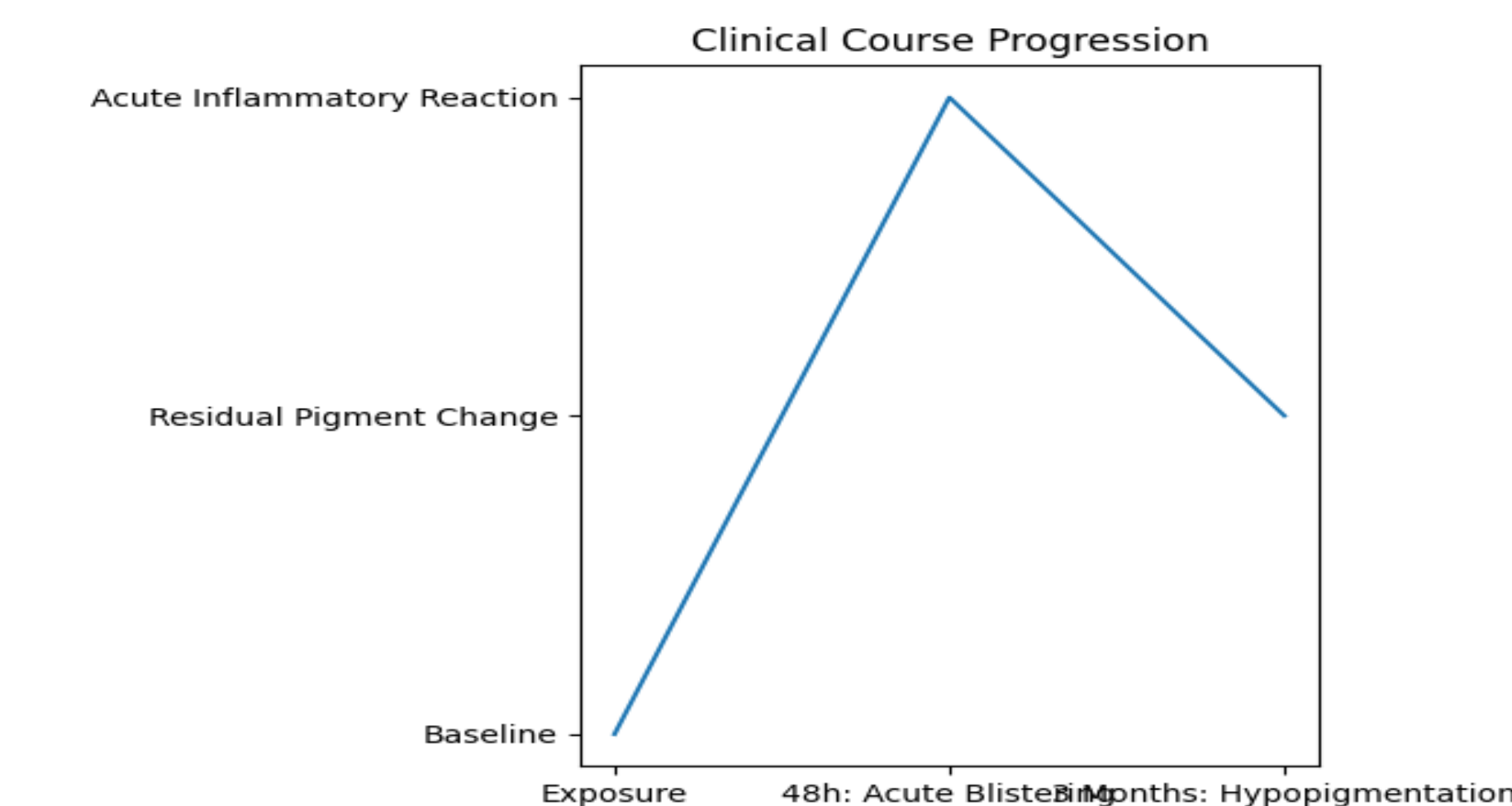


Type IV (Cell Mediated) Hypersensitivity



- Within 48 hours postoperatively, the patient developed sharply demarcated erythema and vesiculobullous blistering confined to the adhesive footprint, while the catheter insertion site itself remained intact without erythema, drainage, or signs of infection. The dressing and catheter were promptly removed, and the patient was treated with local wound care and dermatologic management.
- The acute blistering gradually resolved; however, follow-up examination approximately three months later demonstrated persistent hypo-pigmented skin changes precisely corresponding to the original adhesive distribution, indicating durable cutaneous sequelae consistent with immune-mediated epidermal injury.

RESULTS



CONCLUSIONS

- This case demonstrates severe immune-mediated allergic contact dermatitis associated with routine regional anesthesia catheter securement, resulting in long-term skin injury. The geometric distribution, delayed onset, vesiculobullous morphology, and persistent hypopigmentation are characteristic of Type IV hypersensitivity reactions.
- These findings identify adhesive chemistry as a modifiable exposure variable with predictable immunologic consequences in regional anesthesia practice and highlight an opportunity for prevention through alternative securement strategies.
- Of note, we've only witnessed these reactions in CMT patients, which prompts further investigation to identify any skin sensitivity reactions in this patient population.

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