

Ulcerative Exophytic Schwannoma Mimicking Pyogenic Granuloma of the Left Fifth Digit

Adina Greene, BA^{1,2}; Neil H. Vigil, MD³; Dathan Hamann, MD^{1, 3-4}

1- University of Arizona College of Medicine-Phoenix 2- Mayo Clinic Scottsdale Department of Dermatology 3- HonorHealth Dermatology Residency Scottsdale, 4- Contact Dermatitis Institute Phoenix

Background / Introduction

- Schwannomas account for 5% of soft tissue tumors and are benign peripheral nerve sheath tumors and result from proliferation of Schwann cells^{1,2}
- Schwannomas often present as slow growing, <2cm tumors on the head, neck, or upper extremities most commonly after the third decade of age¹⁻³
- Known risk factors for schwannomas include family history, radiation, neurofibromatosis type 2 (NF2), schwannomatosis, and recent trauma^{2,3,5}
- Development of schwannomas on the lower extremity is rare, comprising less than 10% of cases.² A schwannoma occurring on the foot is even more uncommon with an incidence of 4% of all schwannomas^{2,4,6-8}

Clinical Presentation

- A 34-year-old Caucasian male presented for evaluation of an evolving painful and bloody mass on his left fifth toe that appeared one night after dancing (Figures 1-2)
- On initial examination, there was an 8mm red papule with peripheral collarette of scale that was clinically suspected to be a pyogenic granuloma (Figures 1-2)



Figure 1: Initial eruption of schwannoma

Clinical and Histological Images



Figure 2: Clinical presentation at time of biopsy

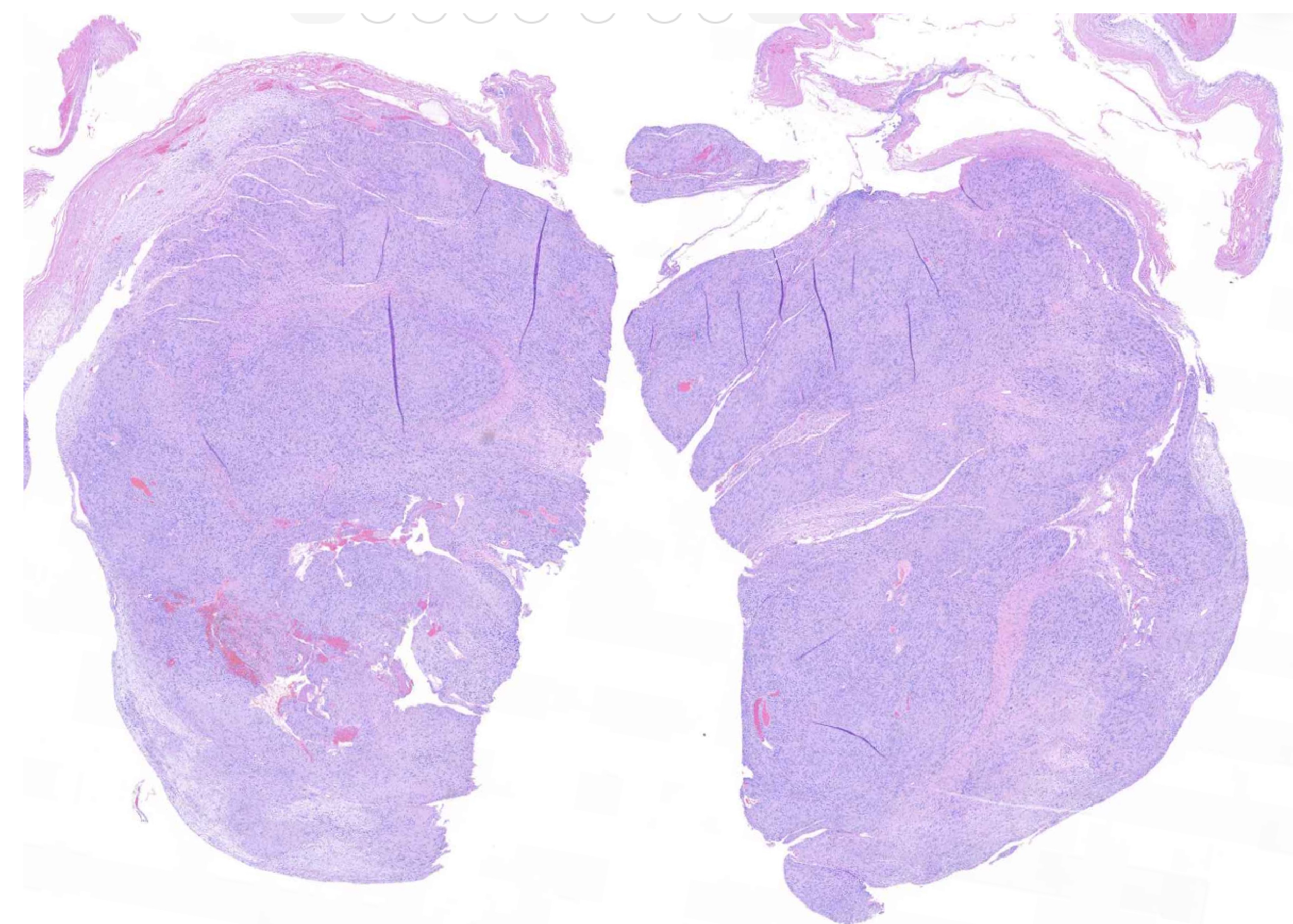


Figure 3: 2x H&E of superior aspect of schwannoma

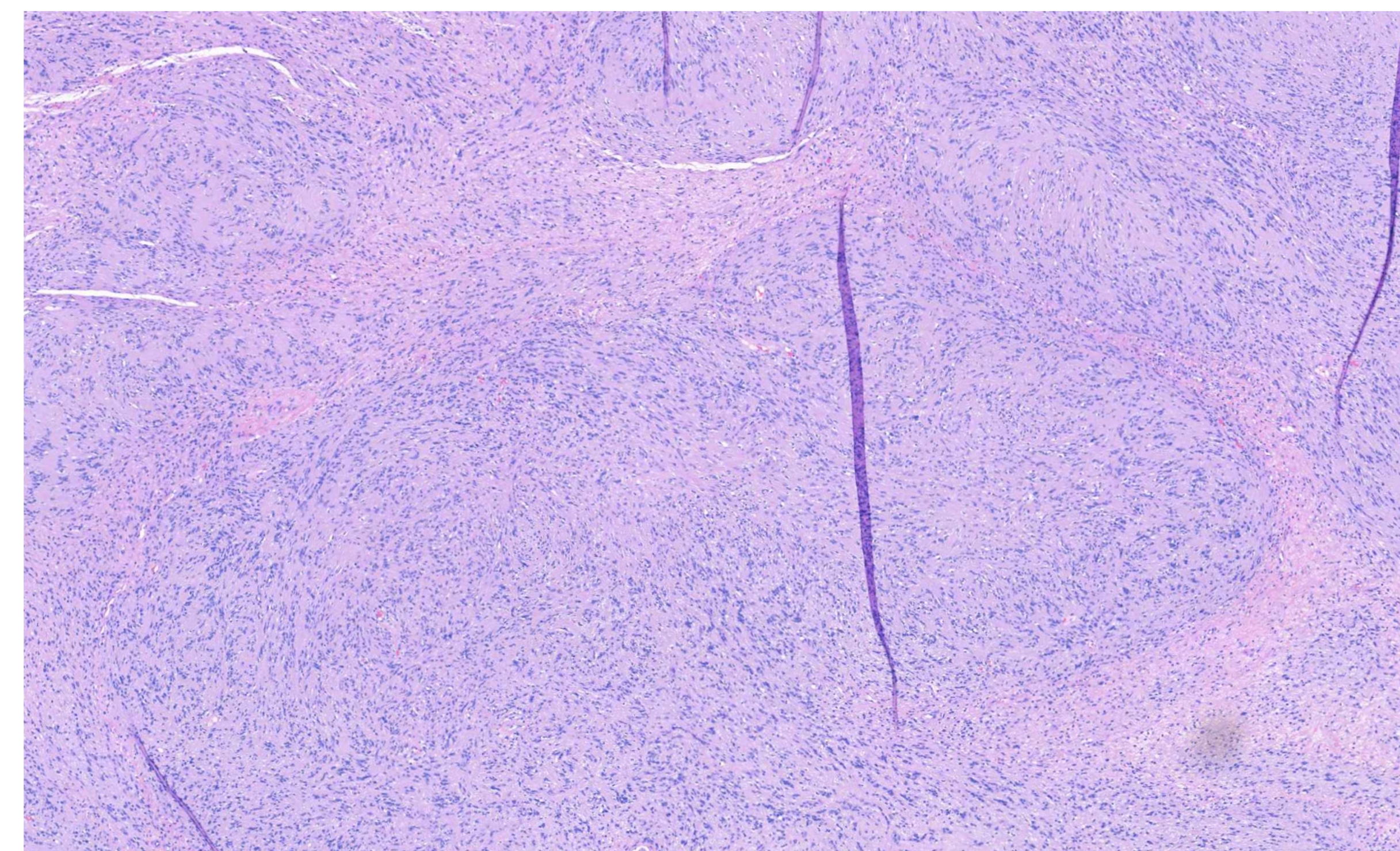


Figure 4: 40x H&E of schwannoma

Histopathology

- Histology revealed a soft tissue mass with biphasic proliferation of elongated spindle cells with tapered nuclei occurring in compact cellular foci with palisading (Antoni A) and fewer paucicellular myxoid foci (Antoni B) c/w a schwannoma (Figures 2 and 3)
- No evidence of malignancy or significant atypia was seen
- On follow-up, the toe was healing well with no postoperative complications

Discussion and Implications

- Schwannoma of the foot is rare, with the dorsum or interdigital space of the foot being the least reported manifestation on the foot.^{4,6}
- Trauma may be a risk factor in the development of schwannomas⁵
- This patient's clinical manifestation of schwannoma on the toe as a non-healing, painful, exophytic eroded nodule with history of trauma from dancing is unusual due to the exophytic and erosive features with prominent hemorrhagic crusting
- In previous cases, schwannomas of the foot have been described as solitary subcutaneous or dermal nodules⁶⁻⁷
- Podiatrists and dermatologists alike may consider schwannoma of the foot when evaluating chronic, non-healing, painful nodules, and papules

References

1. Hao X, Levine D, Yim J, Qi C, Firestone L, Beiser I, Leone E, Woelfler K, Mirkin G. Schwannoma of Foot and Ankle: Seven Case Reports and Literature Review. *Anticancer Res.* 2019 Sep;39(9):5185-5194. doi: 10.21873/anticancer.13715. PMID: 31519632.
2. Jacobson JM, Felder JM 3rd, Pedrosa F, Steinberg JS. Plexiform schwannoma of the foot: a review of the literature and case report. *J Foot Ankle Surg.* 2011 Jan-Feb;50(1):68-73. doi: 10.1053/j.jfas.2010.07.002. Epub 2010 Sep 15. PMID: 20833568.
3. Weiss SW, Goldblum JR. "Benign Tumors of Peripheral Nerves," in *Soft Tissue Tumors, 4th Ed*, p 1111, Mosby-Year Book, St. Louis, MO, 2001.
4. Jabra AS, Godoy J. Rare Schwannoma Nerve Tumor in a Lesser Toe: A Case Report. *J Am Podiatr Med Assoc.* 2019 Jul;109(4):322-326. doi: 10.7547/18-054. PMID: 31762309.
5. Araghfi F, Tabary M, Kamyab K, Forouzanfar MM, Robati RM. A rare case of plexiform schwannoma on the foot. *Clin Case Rep.* 2021 May 25;9(5):e04234. doi: 10.1002/ccr3.4234. PMID: 34084516; PMCID: PMC8144875.
6. Nath AK, Sanmarkan AD, D'Souza M, Basu D, Kadambari D. Non-healing ulcer on the great toe due to cellular schwannoma. *Clin Exp Dermatol.* 2009 Dec;34(8):e904-6. doi: 10.1111/j.1365-2230.2009.03674.x. PMID: 20055863.
7. Patterson, James W. *Weedon's Skin Pathology, Fourth Edition.* Elsevier, 2016.