Treatment and Diagnosis of Myoepitheliomas in the Lower Extremity

Joseph Bobadilla, DPM FACFAS, Nikki Migliori, DPM PGY2, Lucy Barrow, DPM PGY2

Bryn Mawr Hospital, Main Line Health

Purpose & Literature Review

This case study details an unusual case of a benign myoepithelioma (ME) present in the soft tissue of the foot after previous removal of glomus tumor in 2013. The pathology is rare and with little awareness of the tumor there is often misdiagnosis and not much direction of treatment.

This presentation follows the clinical course of a female with a soft tissue mass in her right hallux that was persistent for over 5 years. The diagnosis after the removal of the first soft tissue mass was a glomus tumor, however symptoms persisted. A follow up MRI confirmed a recurrent soft tissue mass, which when excised was diagnosed as a ME.

Myoepitheliomas are rare soft tissue neoplasms, however, research has shown increasing prevalence in the last decade.[3] Articles have described the tumor as a dermal neoplasm most often located in the extremities within the subcutaneous and sub-fascial soft tissue.[4] The tumors are said to occur most frequently on extremities with 20% occurring in children. [3] Furthermore, research has said that most are benign and recur in approximately 20% patients. [3] This recurrence is likely due to incomplete excision according to Jo et el. Histological findings are consistent with circumscribed nodular intradermal proliferation, characterized by round ovoid pale cytoplasm focally arranged in a trabecular pattern and distributed in a mixoid stroma. Immunohistochemical findings with staining for cytokeratin CAM 5.2, pan keratin, desmin, p53, calponin with focal immunostaining for glial fibrillary acidic protein has been shown in case studies to diagnose myoepitheliomas in skin. [2] With increasing prevalence of occurrence of this neoplasm it was found pertinent to raise awareness and present this case study.

Methodology

This case follows the clinical course of a female over 5 years with a persistent soft tissue mass in her right hallux. First diagnosis after removal of soft tissue mass was a glomus tumor in 2013. However symptoms persisted as well as well as a mass increasing in size along the hallux. An MRI confirmed a recurrent soft tissue mass approximately 6mm x 4mm x 6mm increased on both T1 and T2. After surgical excision of the mass it was diagnosed as a myoepithelioma by histological evaluation. Both incisional and excisional pathology was taken intra operatively for evaluation.

This tissue sample had to be sent out to multiple external labs for evaluation.

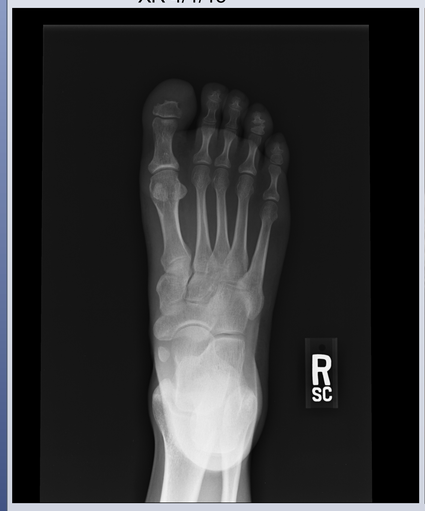
Procedures

Initial treatment of the right toe lesion in 2013 included removal of the "glomus tumor" surgically along with amputation of the distal tuft of the distal right phalanx. In early 2018 an MRI confirmed a mass correlating with the painful site, thus suspect recurrent tumor. The patient underwent a complete wide excision of the tumor and further amputation of bone. The specimen was sent to pathology. Intra operative pathology with frozen sections was also performed. Specimens sent to pathology contained, incisional soft tissue and excisional soft tissue and bone. After multiple local pathologists could not identify the soft tissue mass the specimen was sent to a pathologist in Boston, who identified the lesion as a myoepithelioma.

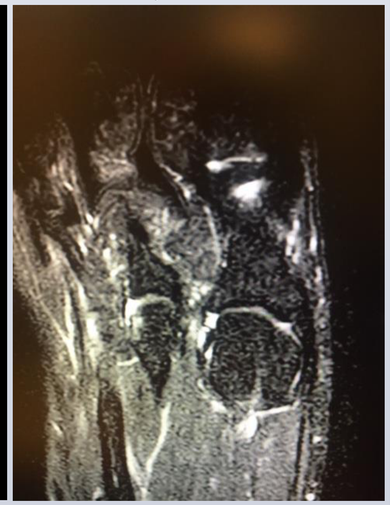
Histopathological report is shown below incisional and excisional respectively: un-oriented tan white fibrous tissue .5 x .5 x .4cm, and un-oriented portion of skin from distal great toe 2.6 x 2.5 x .6cm along with 3 x 1.8 x .5cm of yellow white fibro-fatty tissue and 1.4 x .7 x .4 cm osseous tissue.

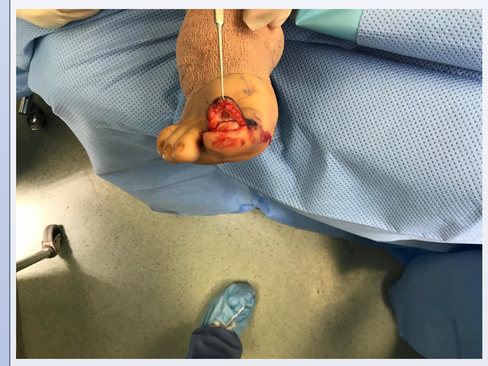
The incision was closed primarily and followed routinely post operatively weekly for two weeks then monthly until current date. She was also referred to oncology for management and workup.

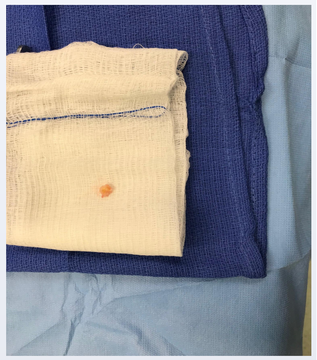
XR 4/1/15



July 2017 MRI







Results

The patient developed symptoms consistent with Complex Regional Pain Syndrome (CRPS) with burning pain at the site, but has not had any recurrent soft tissue masses since excision. She is being treated by pain management for CRPS with a prescription for Gabapentin.

Discussions

Due to the rarity of myoepitheliomas and having a propensity to recur, the initial pathology and treatment could have been incorrect. Thus, case study provides an opportunity for more accurate diagnosis and treatment. Also, this case provides awareness for the rare neoplasm as research suggests its prevalence is increasing.

Resources

1. Lu, Pei-Hsuan, et al. “Myoepitheliomas of the Skin and Soft Tissue.” *Myoepitheliomas of the Skin and Soft Tissue* , Departments of Dermatology and Pathology, 1 Dec. 2008, www.dermatol-sinica.com/web/data/200932110911.pdf.

2. Jo, Vickie Y., and Christopher D. M. Fletcher. “Myoepithelial Neoplasms of Soft Tissue: An Updated Review of the Clinicopathologic, Immunophenotypic, and Genetic Features.” *Head and Neck Pathology*, Springer US, Mar. 2015, www.ncbi.nlm.nih.gov/pmc/articles/PMC4382482/.

3. Hornick, J L, and C D Fletcher. “Myoepithelial Tumors of Soft Tissue: a Clinicopathologic and Immunohistochemical Study of 101 Cases with Evaluation of Prognostic Parameters.” *The American Journal of Surgical Pathology.*, U.S. National Library of Medicine, Sept. 2003, www.ncbi.nlm.nih.gov/pubmed/12960802?dopt=Abstract

4. Patrizi, Annalisa, et al. “Benign Myoepithelioma in the Interdigital Space of the Foot : The American Journal of Dermatopathology.” *LWW*, Feb. 2008, www.com/amjdermatopathology/fulltext/2008/02000/benign_myoepithelioma_in_the_interdigital_space_of.21.aspx.

No Disclosures