

Henry Ford Health System

Henry Ford Health System Scholarly Commons

Case Reports

Medical Education Research Forum 2020

5-2020

Perforating folliculitis and hand-foot-skin reaction due to sorafenib

Stephanie Chapman

Anna Axelson

Follow this and additional works at: <https://scholarlycommons.henryford.com/merf2020caserpt>



Case presentation

- A 62-year-old African American woman presented with a painful rash on the extremities and feet ongoing for 2 months
- Her past medical history was as follows:
 - Hepatitis C virus infection treated with harvoni in 2018
 - Liver cirrhosis
 - Hepatocellular carcinoma (HCC) diagnosed 7 months prior to presentation, currently on sorafenib
- Painful rough, dark bumps erupted about 3 months after beginning treatment for HCC with sorafenib 400 mg BID
- She also had painful, yellow calluses on the bilateral plantar feet that erupted around the same time as the rash on the extremities

Physical Exam

- Scattered on the bilateral lower extremities and left upper extremity there were many small hyperpigmented papules with central keratotic plug and surrounding erythema (Figures 2 and 3)
- On the bilateral plantar feet there were thick hyperkeratotic, yellow and hyperpigmented plaques overlying the calcaneus and metatarsal phalangeal joints (Figure 4)
- The bilateral palms exhibited ill-defined erythematous patches

Diagnostic workup

- CMP was within normal limits
- Skin biopsies from keratotic papules on the right hip and right leg demonstrated a dilated hair follicle containing orthokeratotic and parakeratotic keratin and basophilic debris, consistent with perforating folliculitis (Figure 1)

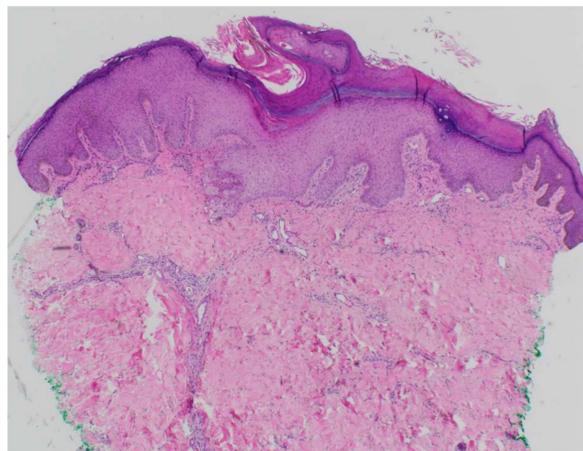


Figure 1: H&E demonstrating follicular plug and perforation

Clinical Images



Figure 2. Hyperpigmented papules with central keratotic plug on the left leg



Figure 3. Close up of a keratotic papule on the right hip that was biopsied



Figure 4. Hyperkeratotic yellow and hyperpigmented plaques on the bilateral plantar feet overlying sites of pressure

Diagnosis and Treatment

- Her palmar and plantar exam was consistent with hand-foot-skin reaction due to sorafenib
- She was started on clobetasol 0.05% ointment twice daily to the feet with improvement
- For the perforating folliculitis due to sorafenib she was started on doxycycline 100 mg BID and topical clobetasol 0.05% ointment BID to all affected areas on the body without improvement
- For her HCC she was maintained on the full dose of sorafenib 400 mg BID for 6 months before stopping and switching to nivolumab due to progression of her liver disease
- She was not able to follow up with dermatology due to worsening of her liver disease requiring hospitalization

Discussion

- Sorafenib is an oral multikinase inhibitor approved for the treatment of renal cell carcinoma, HCC, and thyroid cancer
- Sorafenib and other multikinase inhibitors are known to cause various adverse cutaneous reactions including hand-foot-skin reaction, which is different from hand-foot-skin syndrome, as well as inflammatory eruptions and alopecia¹
- Hand-foot-skin reaction is a painful complication characterized by hyperkeratotic plaques that develop over sites of pressure on the hands and feet, and are usually bilateral and symmetric¹
 - Treatment of mild cases includes use of emollients, keratolytic creams, and shoe inserts¹
 - Potent topical steroids may also be used, and severe cases necessitate dose reduction of the targeted therapy by at least 50%¹
- Hand-foot-skin syndrome is a separate condition which is under the broader category of toxic erythema of chemotherapy, and is caused by a variety of chemotherapeutic agents and manifests as well-demarcated erythema of the palms and soles with edema and dysesthesia in severe cases
- Perforating folliculitis is a more rare complication of sorafenib that has only been reported in a few case reports^{2,3}
 - The pathogenesis is unknown
 - Various treatments for perforating folliculitis have been tried including topical retinoids, topical steroids, and oral doxycycline with minimal efficacy^{2,3}
 - In one case, there was reported improvement with oral isotretinoin after five months³
 - Perforating folliculitis usually improves after treatment cessation

References

1. Macdonald J, Macdonald B, Golitz L, et. al. Cutaneous adverse effects of targeted therapies. Part I: Inhibitors of the cellular membrane. *J Am Acad Dermatol* 2015;72(2):203-18
2. Tausend W, Hoyer P, Wagner K, et. al. Sorafenib-induced perforating folliculitis. *J Am Acad Dermatol* 2017;76(6):AB239
3. Minami-Hori M, Ishida-Yamamoto A, Komatue S, et.al. Transient perforating folliculitis induced by sorafenib. *J Dermatol* 2010;37(9):833-4