

Hand Foot Skin Reaction and Hand Foot Syndrome: What's the Difference?

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Hand Foot Skin Reaction

- **Pathophysiology¹**
 - Not fully understood
 - Likely a combination of mechanisms
 - Vascular endothelial growth factor inhibition + platelet-derived growth factor receptors inhibition
- **Causes²**
 - Multi-targeted kinase inhibitors (MKI) to varying degrees
 - Sorafenib
 - Regorafenib
- **Symptoms²**
 - Hyperkeratotic lesions or calluses
 - Blisters
 - Inability to complete activities of daily living due to associated pain

Prevention and Treatment

- **Prevention²**
 - Daily skin care
 - Monitor for calluses
 - Exfoliate calluses with a pumice stone
 - Avoid hot water
 - Wear nonrestrictive thick cotton socks
 - Thick moisturizing cream or 20-40% urea to protect skin barrier
- **Treatment²**
 - Urea 20-40% if not already using
 - Pain management
 - NSAIDs
 - GABA analogs
 - Opioids, if necessary
 - Dose reduction of MKI, depending on grade
 - Topical anti-infectives
 - May need temporary or permanent break

Picture 1: Hand Foot Syndrome³



Picture 2: Hand Foot Skin Reaction⁴



References

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- 3) NSW Government. Hand-foot syndrome (HFS) – palmar-plantar erythrodysesthesia (PPE) associated with chemotherapeutic agents. Accessed March 17, 2022. <https://www.eviaq.org.au/clinical-resources/side-effect-and-toxicity-management/hair-skin-and-nails/1416-hand-foot-syndrome-associated-with-chemotherapy/assessment>
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Hand Foot Syndrome

- **Pathophysiology⁵**
 - Different for each class medication
 - 5-FU & capecitabine metabolites cause WBC infiltration, dilated blood vessels, and edema
 - Liposomal doxorubicin concentrates in hands and feet, activates chemokine signaling pathways, and causes keratinocyte apoptosis
- **Causes⁵**
 - 5-Fluorouracil
 - Capecitabine
 - Liposomal doxorubicin
- **Symptoms⁵**
 - Neuropathy in hands and feet
 - Redness
 - Scaling of skin
 - Swelling
 - Pain

Prevention and Treatment

- **Prevention⁵**
 - Daily skin care
 - Monitoring signs and symptoms
 - Thick moisturizing cream such as CeraVe
 - Wear thick, nonrestrictive socks
 - Avoid hot water
 - Decrease friction to hands and feet
 - Avoid items, such as pumice stones
- **Treatment⁵**
 - Continue prevention efforts
 - Urea 20-40%
 - Pain management primarily with NSAIDs
 - Dose reduction of anti-cancer therapy
 - Adjustment of treatment cycles
 - One on/one off for 5-FU-based regimens instead of two on/one off