Targeted Therapy– and Chemotherapy-Associated Skin Toxicities: Systematic Review and Meta-Analysis

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Skin toxicities due to systemic cancer treatment are a significant problem for many patients and can greatly affect their quality of life. Preventing and managing skin-related toxicities can minimize treatment disruptions and improve patient well-being. Treatments that cause skin toxicities are used across most cancer diagnoses (e.g., colorectal, breast, lung, pancreatic, head and neck) and affect a high percentage of patients. Adverse skin reactions can involve skin barrier function, hair, and nails. Preventing and managing skin toxicities is an important clinical priority for oncology healthcare providers.

Epidermal growth factor receptor inhibitors (EGFRIs) are an important class of anticancer agents. Although these agents have a more favorable toxicity profile than other anticancer therapies, they have unique adverse events (Lucchini et al., 2014). The primary toxicity associated with EGFRIs are cutaneous (acneform rash) reactions that can occur in more than 80% of patients receiving these agents (Lacouture et al., 2018; Ocvirk & Cencelj, 2010; Segaert & Van Cutsem, 2005). The rash associated with EGFRIs is mild in most cases, but it can lead to treatment cessation or dose modifications (Lacouture, 2009). Patients with moderate to severe cutaneous adverse events will frequently change or stop treatment (Lacouture & Lai, 2006). Patients who experience an EGFRI rash experience negative effects on physical, functional, emotional, and social well-being (Coleman et al., 2010).

Hand-foot syndrome, also known as palmar-plantar erythrodysesthesia, is a skin toxicity most often seen on the palms of the hands or the soles of the feet, but it can also be found on other pressure points, such as the waistline or bra line (Lipworth et