A Novel Topical Cream to Reduce Bruising

Although options to treat bruising have been limited, a new cream may be especially useful for older patients.

BY JOSEPH BIKOWSKI, MD

A frequent concern among older patients is the tendency to bruise. While few patients present to the dermatologist with bruising as a primary concern, most dermatologists will receive questions from patients about strategies they can use to avoid or minimize bruising. Clinicians and patients traditionally have not had any interventions to directly target bruising, although some agents have been used to improve the health and function of aged skin with the goal to thereby reduce bruising.

UNDERSTANDING PURPURA

Mature skin is prone to bruising due to a number of factors. These include decreased blood flow, reduction in connective tissue, loss of subcutaneous fat to support the skin structure, and flattening of the dermal-epidermal junction and effacement of the dermal papillae. Atrophy renders the skin and microvasculature more susceptible to the effects of minor trauma and shearing forces.

Research dating back nearly 40 years has established that platelet abnormality does not necessarily contribute to “easy bleeding.” While bruising frequently develops in patients not taking anticoagulants, the use of aspirin or prescription anticoagulants is known to increase bruising risk.

Though perhaps not clinically significant, it is interesting to note that women report more easy bruising and venipuncture-related bruising than men do.

In many cases of bruising, insult to the skin is minor, and patients may have difficulty identifying what trauma induced bruising. This contributes to the frequent though inaccurate complaint among patients that they bruise “for no reason.” Upon insult to the skin, red blood cells leak into the dermal tissue, producing nonpainful, nonpruritic purple macules. Residual brown pigmentation may appear after the purpuric macules resolve, and these may last up to three weeks.

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INTERVENTIONS

Medical treatments intended to treat or help reduce the incidence of mature skin bruising generally have targeted the overall health of the skin. These have included topical alpha-hydroxy acid or a retinol-based or retinoid formulation to thicken the skin and stimulate neocollagenesis. Older patients are also encouraged—as should all patients—to apply broad spectrum sunscreens to the arms and hands and to sun-exposed legs, as well as to the face, in efforts to reduce insult to the skin and the deleterious effects of UVR, such as collagen depletion.

Recently, there has been increased interest in the use of naturally occurring, botanically based compounds to treat bruising. In fact, some botanical extracts, such as Arnica, are employed after cosmetic procedures or surgeries by patients of all ages to reduce the extent of bruising or hasten clearance of bruising. Among botanicals widely available on the market, Arnica has a fair amount of research to support its use. Extracts from Arnica species contain sesquiterpene lactones that have anti-inflammatory properties. Additionally, certain botanicals have been shown to aid wound healing, encourage natural skin function, and support collagen. Cimicifuga species contain fukinolic acid and cimicifugic acids, which prevent the degradation of collagen by collagenases and promote wound healing and improve the appearance of facial wrinkles. Several variet-
ies of *Punica granatum* contain phenolic compounds with antioxidant, anti-inflammatory, and anti-cancer properties.8,9 These properties may promote wound healing.10 Another well-studied and popular topical agent is nicotinamide (vitamin B3), which appears to have anti-inflammatory, barrier repair, and redness-reducing effects.11 It has been shown to increase stratum corneum hydration by decreasing transepidermal water loss (TEWL).12,13

Vitamin K has been used in both oral and topical forms to treat bruising. It is shown to protect against skin toxicity caused by epidermal growth factor receptor inhibitors.14,15

**A NEW FORMULATION**

A new topical product has been developed specifically for the treatment of mature skin bruising (DerMend™ Cream; Ferndale Healthcare and Clark Pharmaceuticals). It contains several of the agents described above as well as other ingredients intended to reduce the incidence or duration of bruising. A topical preparation may be especially suited for use by older patients who may be using any number of daily prescription medications and do not wish to take botanical supplements that may interfere systemically with medications.

Ingredients in the novel formulation are intended to improve circulation (Arnica Oil, CLR, and Phytotone), thicken the skin (retinol, glycolic acid, and Phyto-Age) and repair the skin barrier (Timecode, Skinmimics, ABS Pomegranate Sterols, and Pentatavitin).

The presence of an alpha-hydroxy acid in the formulation may produce photosensitivity. Therefore, patients should be instructed to use sunscreen and to minimize UV exposure—by covering the skin or by avoiding direct sun exposure—while using the product and for one week afterward. As noted, UV avoidance is important to preserving skin health and function, anyway.

The product is intended for twice daily application to the skin to reduce the appearance of bruising. Regular use is intended to reduce the risk of further bruising.

Early patient experience is promising, suggesting that use of the cream may speed the resolution of bruising. Some patients have had resolution of extensive bruising in two weeks (Figure 1).

**AN ACCESSIBLE OPTION**

Research supports the possible benefit of certain botanical agents to promote healthy skin function and confer specific actions that could help to reduce the risk for or speed the clearance of bruising. The availability of these agents in a topical formulation reduces the likelihood of systemic exposure, which may be beneficial in older patients who are likely to use other medications. Experience suggests that the novel topical moisturizer containing botanicals and barrier-supporting ingredients helps to reduce the appearance of bruising. An over-the-counter agent available at mass-market retailers, it is affordable and readily available to patients.

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