Beware of the Bloodroot!

Bloodroot, a member of the poppy family, is a perennial plant indigenous to the wooded areas of the eastern United States. It has a bright red root that, when cut open, oozes a toxic crimson colored sap. This sap contains the alkaloid sanguinarine, an extremely escharotic substance. Escharotic agents have been used in medicine for centuries. For example, in 1941 Frederic Mohs used a paste containing bloodroot, antimony sulfide, and zinc chloride for in situ fixation of skin cancers.

The histologic findings are unique. There is ulceration with eschar formation and underlying intense dermal and panniculair neutrophilic inflammation. Extensive tissue necrosis is present, involving the epidermis, dermis and panniculus. Often, secondary necrotizing vasculitis of the small, medium and large vessels is seen (Case 3). Most of the time, no remaining lesion is identified.

In spite of attempts to regulate these “therapeutics”, black salve is still widely advertised and available online. Black salve products are poorly regulated, often contain different ingredients and lack quality control. They are advertised as safe and resulting in cancer cure and are therefore attractive to patients seeking alternative treatments. However, their use can obscure the original pathologic lesion and also lead to significant scarring and incomplete tumor removal. As these products are readily available, dermatologists and dermatopathologists have to be aware of the pathophysiology and the clinical and histologic picture induced by these agents.

References:

Steve Alder, M.D.
Maria P. Alzona, M.D.
K. Lyn Hamacher, M.D.
Reena Sachdev, M.D.

These “cancer treating” botanicals are readily available on websites such as eBay and online health stores, and are advertised to target cancer cells, not healthy skin.

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1. Sclerotic Fibroma
   Mesa, AZ
   A. Unencapsulated nodule with an absence of elastic fibers.
   B. Can be associated with Cowden’s syndrome.
   C. Thickened, homogenized eosinophilic collagen bundles
   D. Low cellularity lesion composed of stellate spindle cells.

2. Trichofolliculoma
   Tempe, AZ
   A. Many small hair follicles emptying into a large follicular infundibulum.
   B. Clinically, a tuft of hairs protrudes from a central pore.
   C. Each follicle has a bulb and root sheath, and produces a hair fiber.

3. Bloodroot
   Phoenix, AZ
   A. Deep ulcer with eschar formation.
   B. Intense dermal and pannicular neutrophilic inflammation.
   C. Secondary small, medium and large vessel necrotizing vasculitis.

4. Glomangioma
   Sun Valley West, AZ
   A. Nail matrix lesion with secondary nail malformation.
   B. Well circumscribed dermal tumor composed of vessels and glomus cells.
   C. Glomus cells are round, regular cells with eosinophilic cytoplasm and dark staining nuclei.

5. Myofibroma
   Glendale, AZ
   A. Solitary lesion in 70% of cases.
   B. Soft tissue lesion in deep dermal or subcutaneous level.
   C. Composed of short fascicles of myofibroblasts.
   D. Positive for vimentin and smooth muscle actin.
Fall 2012 Exceptional Pathology Cases

6. Idiopathic Scrotal Calcinosis
Scottsdale, AZ
A. Amorphous deposits of calcium
B. Confirmed by von Kossa stain.
C. Single or multiple lesions, up to 3.0 cm or more in diameter.

7. Pityriasis Rubra Pilaris
Gilbert, AZ
A. Diffuse orthokeratosis alternating with parakeratosis.
B. Follicular plugging often present.
C. A rare finding is the presence of focal acantholytic dyskeratosis.

8. Epithelioid Hemangioma
Goodyear, AZ
A. AKA angiolymphoid hyperplasia with eosinophilia.
B. Vascular component shows plump endothelial cells (large nuclei and abundant eosinophilic cytoplasm).
C. Sparse to exuberant infiltrate of lymphocytes, eosinophils, and mast cells, with formation of lymphoid follicles.

9. Telangiectasia Macularis Eruptiva Perstans
Phoenix, AZ
A. Diffuse eruption with subtle alteration in mast cell number.
B. Mast cells are stellate, often arranged around vessels.
C. Stain with Giemsa, chloracetate esterase and mast cell tryptase (MCT).

10. Pancreatic Fat Necrosis
Phoenix, AZ
A. Lobular panniculitis with enzymatic fat necrosis.
B. Ghost-like outline of remaining fat cells; may be surrounded by a neutrophilic infiltrate.
C. Associated with acute pancreatitis or pancreatic carcinoma.
11. Cylindroma
Mesa, AZ
A. Jigsaw puzzle pattern of basaloid cells.
B. Dark and pale blue nuclei.
C. Nests surrounded by an eosinophilic basement membrane.

12. Pityriasis Lichenoides Chronica
Mesa, AZ
A. Vacuolar interface dermatitis.
B. Erythrocytes occasionally within the epidermis.
C. Lymphocytes along the dermal-epidermal junction.

13. Giant Cell Tumor of Tendon Sheath
Surprise, AZ
A. Slow growing lesion, up to 3.0 cm in diameter.
B. Predilection for the dorsal surface of the fingers at DIP.
C. Multinucleate giant cells with up to 60 or more nuclei.
D. Giant cells positive for CD68, but not S100 or keratin.

14. Traumatic Neuroma
Mesa, AZ
A. Results when a nerve is sectioned or traumatized.
B. Often at the site of a scar or amputation stump.
C. Irregular arrangement of nerve fascicles in fibrous tissue

15. Necrobiotic Xanthogranuloma
Tempe, AZ
A. Rare chronic disorder described by Winkelmann in 1980.
B. Sharply demarcated nodules and large plaques.
C. Broad zones of hyaline necrobiosis and granulomatous foci composed of histiocytes, foam cells and multinucleate giant cells. May be associated with paraproteinemia.