A second biopsy specimen was sent for electron microscopy, required to make the diagnosis of cutaneous cystinosis. Under electron microscopy, the dermatopathologist was able to identify the intracellular crystalline inclusions (Figure 2) consistent with cystinosis. We did not confirm the absence of cystine crystals in uninvolved skin.

Figure 1. Cutaneous Cystinosis on the Face of a Young Man

This photograph shows firm, dome-shaped, shiny facial papules.

Facial Papules in a Patient With Long-Term Cystinosis

Cystinosis is a rare autosomal recessive inherited metabolic disorder. It is caused by an excessive intracellular accumulation of the amino acid cystine owing to a defect in the transport of cystine across the lysosomal membrane.1

Report of a Case | To our knowledge, this is the first published photographic evidence of cutaneous cystinosis and only the fourth case report in the literature of cutaneous accumulation of cystine crystals in a patient with cystinosis.2-4 A 28-year-old white man was referred for further investigation of skin-colored, dome-shaped firm papules over the chin, nose, and perinasal region (Figure 1). The facial papules had increased in size and number since he first noticed them at about age 18 years. The referring physician had questioned a diagnosis of multiple angiofibromas in the context of tuberous sclerosis. Multiple trichoepitheliomas could have also been considered. The patient had a medical history of cystinosis requiring a right renal transplant at age 14 years.

The physical examination findings were significant for dozens of skin-colored dome-shaped papules over the chin, nasal, and perinasal regions of the face. Aside from the firm facial papules, there were no other features suggestive of tuberous sclerosis, such as hypopigmented macules, periangual fibromas, or Shagreen plaques. Dental examination was remarkable for several teeth with a conical shape.

Histologic analysis of a biopsy specimen from a facial papule showed a dome-shaped lesion with several plump fibroblasts and increased blood vessels, compatible with an angiofibroma. No crystals were observed, even after examination with polarized light microscopy by an experienced dermatopathologist.

A second biopsy specimen was sent for electron microscopy, required to make the diagnosis of cutaneous cystinosis. Under electron microscopy, the dermatopathologist was able to identify the intracellular crystalline inclusions (Figure 2) consistent with cystinosis. We did not confirm the absence of cystine crystals in uninvolved skin.
**Discussion** | Cystinosis is caused by the accumulation of free cystine within lysosomes.1 Cystine is derived from protein degradation within the lysosome and is normally transported through the lysosomal membrane to the cytosol where it is transformed into cysteine and reused.5 In cystinosis, a mutation in the CTNS gene (on chromosome 17p13),6 which encodes cystinosin, leads to a defect in the transport system. The low solubility of cystine leads to the precipitation of intracellular needle-shaped crystals as lysosomal cystine levels rise.3 The accumulation of cystine in various tissues in the body has been known to cause renal failure as well as extrarenal effects leading to ocular, hepatic, thyroid, pancreatic, muscular, dental, gonadal, and neurologic tissue damage.1,3

However, we know of only 3 prior reports of cutaneous accumulation of cystine crystals in patients with cystinosis. The first 2 published reports described subcutaneous infiltration of a palpable amorphous material with skin atrophy and telangiectasia mimicking premature aging2 and scattered small erythematous hyperkeratotic macules and papules on sun-exposed areas.3 The third published report involved normal-appearing skin on the forearms of patients with infantile cystinosis examined with in vivo reflectance confocal microscopy.4 To our knowledge, the present case report is the first to describe multiple skin-colored, dome-shaped, firm facial papules in a patient with long-term cystinosis.

A definitive diagnosis of cystinosis can be made based on an elevated cystine content in peripheral blood leukocytes.1 Early detection of cystinosis is crucial because early treatment with oral cysteamine improves growth and survival, prevents hypothyroidism, reduces ocular impairment, and can preserve renal function.1 Given the improved prognosis for patients with cystinosis who receive renal transplantation and/or cysteamine therapy, the prevalence of extrarenal effects, including cutaneous manifestations, may become more apparent over time. Finally, examination of biopsy specimens under electron microscopy may be required to accurately diagnose cutaneous cystinosis.

Michael S. Stevens, BSc, PT, MD
Shachar Sade, MD, MSc, FRCP
Scott Walsh, MD, PhD, FRCP, DABD

**Author Affiliations:** Department of Dermatology, University of Toronto, Toronto, Ontario, Canada (Stevens); Department of Pathology, Sunnybrook Health Sciences Centre, University of Toronto, Toronto, Ontario, Canada (Sade); Division of Dermatology, Sunnybrook Health Sciences Centre, University of Toronto, Toronto, Ontario, Canada (Walsh).

**Corresponding Author:** Michael S. Stevens, MD, Department of Dermatology, University of Toronto, 2075 Bayview Ave, Ste M1-700, Toronto, ON M4N 3M5, Canada (michael.stevens@sickkids.ca).

**Published Online:** September 23, 2015. doi:10.1001/jamadermatol.2015.2660.

**Conflict of Interest Disclosures:** None reported.


**Subacute Cutaneous Lupus Erythematosus Induced by Mitotane**

Drug-induced subacute cutaneous lupus erythematosus (DISCLE) presents similar clinical and serological characteristics to idiopathic SCLE. The following report describes a case of DISCLE induced by mitotane.

**Case Report** | A woman in her 60s was diagnosed with a non-functioning stage II right adrenocortical carcinoma (ACC) and began treatment with mitotane (300 mg, 3 times daily) with supplementary hydrocortisone (200 mg/d). One month later, she had developed an itchy eruption without systemic involvement and she was referred for dermatologic consult.

She presented with a widespread papulosquamous eruption, predominantly on the upper chest and upper back (Figure 1) as well on the extensor surfaces of both arms. No malar erythema was present. She had no history of photosensitivity. DISCLE was suspected, and a blood test and a skin biopsy of 1 lesion on her back were performed. Laboratory findings revealed only a mild elevation of liver enzymes. Antinuclear antibody, anti-Ro/SSA, and anti-La/SSB findings were all negative. The skin biopsy specimen revealed a superficial and perivascular infiltrate accompanied by a vacuolization of