A 50-year old man with a history of metastatic mucinous appendiceal adenocarcinoma presents for evaluation of a desquamating rash on his face that has spread to his scalp, inguinal region, and perineum over the past 4 months (Figure 1).
The rash has been accompanied by diffuse alopecia of the face, scalp, axilla, and groin.
There was no improvement in the rash despite multiple rounds of oral fluconazole, topical antibiotic ointment, and intravenous antibiotics.
Prior to the development of his rash, he completed neoadjuvant chemotherapy followed by surgical resection.
He underwent colostomy after he failed surgical correction for an enterocutaneous fistula, and he has required total parenteral nutrition (TPN) for the past year.
He did not notice any significant changes in ostomy output during this time.
Dermatological examination reveals widespread erythematous plaques on the face, scalp, and medial aspect of thighs bilaterally and scattered papules with scaling on face, scalp, chest, and back.
Diffuse, non-scarring alopecia is present on the face, scalp, axillae, and groin.
The patient had acquired AE, a rare dermatologic condition caused by zinc deficiency.
This patient developed acquired zinc deficiency in the setting of inadequate zinc supplementation in TPN.
The patient had not received trace elements for approximately one year due to a national shortage.
The key to the correct diagnosis of acquired AE is the combination of desquamating rash coupled with alopecia in the setting of chronic supplemental alimentation.
Although it is reasonable to consider a skin biopsy, a skin biopsy would not definitively establish the diagnosis.
A paraneoplastic panel could be considered, but it would delay diagnosis, and the presentation is most consistent with nutritional deficiency.
It is not appropriate to start a topical steroid cream until a diagnosis is determined.
The patient had a zinc level of 29 ug/dL (normal range 56-134 ug/dL).
He received zinc supplementation in his TPN, and within one month, the patient had complete resolution of rash and fatigue, and gradual return of hair growth (Figure 2).
Repeat zinc level following supplementation was 90 ug/dL.
Although the patient recovered from his zinc deficiency, he later passed away.