ALOPECIA AREATA AFTER BONE MARROW TRANSPLANT FROM ALOPECIA UNIVERSALIS-AFFECTED MONOZYGOTIC TWIN

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ABSTRACT
Alopecia areata is an autoimmune disease that leads to non-cicatricial hair loss, and clinically patients are found to have small patches of hair loss on the scalp. It can progress to loss of all the hair on the scalp. Alopecia universalis is associated with other autoimmune and inflammatory pathways and destruction of the hair follicle. Alopecia areata is believed to be an autoimmune disease leading to upregulation of inflammatory pathways and destruction of the hair follicle.

HISTORY OF PRESENT ILLNESS
A 55-year-old female presented with a 12-year history of hair loss of the scalp. She was diagnosed with acute lymphoblastic leukemia in 2003. She has a twin sister who was diagnosed with alopecia universalis years prior. Our patient underwent a bone marrow transplant in 2004 with her twin sister being the donor. A few months after the transplant, our patient began having hair loss on her scalp. She denied any pruritus, pain, redness, or rash with the hair loss. She was diagnosed by another dermatologist with alopecia areata. It progressed to involve all of her scalp to the extent of being diagnosed with alopecia totalis. She has been in remission from the leukemia for a few years, but continues to have alopecia areata. During the 14 years of having alopecia areata, she would have exacerbations of the alopecia with significant stresses in her life. She presented to our clinic initially in 2016 with diffuse non-scarring hair loss on her scalp.

Her past medical history also includes hypothyroidism, basal cell carcinoma of the left shoulder, verrucous vulgaris on the right index finger, chronic nausea, and previous surgeries of her left ankle and foot for fractures. She does not smoke, denies drug use, and drinks alcohol seldom.

MANAGEMENT & CLINICAL COURSE
At the time of her presentation to our clinic, she had tried many different therapies over the years in attempts to manage her alopecia. She had already tried topical steroids, topical minoxidil, topical immunotherapy with squaric acid dibutyl ester, and light-based therapy with unsatisfactory hair regrowth. The best response to past treatments was with intralesional injections of triamcinolone (ILIs), although recurrence occurred with significant stresses in her life. She expressed her frustration with failed past treatments and again sought ILIs of triamcinolone. She received multiple ILIs of triamcinolone 5mg/mL every four weeks over the next five months with significant hair regrowth as response to the therapy. Subsequently, there was a gap of time before she returned again with her scalp involved considerably. Again, she sought therapy with ILIs. Lab studies including complete blood count, comprehensive metabolic panel, thyroid stimulating hormone, free T4, free T3, progesterone, estradiol, c-reactive protein, vitamin D levels, lipid panel, antinuclear antibody, and iron studies were normal except for mildly elevated cholesterol level. Discussion was had of other possible treatments that included JAK/STAT pathway inhibitors and other systemic therapies. She denied any other treatments other than ILIs, to which she has a temporary positive response.

DISCUSSION
Alopecia areata prevalence in the United States is ~0.1%. A genetic component in alopecia areata is well documented, with a 10-fold increased risk in first-degree relatives. It has been reported there is a 55% concordance rate in monozygotic twins, indicating both factors of genetics and environment play a role. Other reports have been presented of alopecia areata in twins. Similar to this one, there is another case reported of a man who had chronic myelogenous leukemia and received a bone marrow transplant from a brother who had alopecia areata, and the patient went on to develop alopecia areata. Rodriguez et al found alopecia areata concordant in 42% of 19 sets of monozygotic twins, with the average time interval between first onset of alopecia areata in one twin and onset in the second twin being 4.85 years.

This case presents an uncommon presentation of alopecia areata after receiving a bone marrow transplant from the patient’s monozigotic twin affected with alopecia universalis. The patient, despite periodic temporary response to ILI treatment, continues to have recurrences of the alopecia areata with significant stresses in her life.

REFERENCES