

## BRIEF ARTICLE

**Numerous Spider Angiomas as the Presenting Sign of Acute Graft Versus Host Disease**Shira Lanyi, MD<sup>1</sup>, Abigail Wills, MD<sup>1</sup>, Olivia Schenck, MD<sup>1</sup><sup>1</sup> Department of Dermatology, University of Virginia, Charlottesville, VA**ABSTRACT**

Graft versus host disease (GVHD) is a highly morbid immunologic reaction and complication commonly seen in response to allogenic hematopoietic stem cell transplant. The underlying pathophysiology of this reaction is due to donor T-lymphocyte migration and activation of the host's innate immune system. Quality of life is significantly impacted in these patients, particularly in those with chronic GVHD. GVHD may impact multiple organ systems, however, cutaneous involvement is the most common finding and is often the initial presenting sign. The clinical manifestations of cutaneous GVHD are highly variable, with many morphologies mimicking another skin condition. We present a rare case of a 51-year-old male with a past medical history of allogenic stem cell transplant, who presented with multiple spider hemangiomas over the chest and back. The patient had no past medical history of liver disease, and was subsequently diagnosed with biopsy-proven acute GVHD.

**CASE REPORT**

A 51-year-old Caucasian male with a past medical history of acute lymphoblastic leukemia (ALL), status-post allogenic stem cell transplant and new-onset cytopenia concerning for relapse of ALL, presented to clinic for the new onset of a pruritic rash. The patient was being treated with methotrexate and inotuzumab, with his last cycle a month before the presentation of the rash. Inotuzumab, an Anti-CD22, is an immunotherapy agent for ALL. He was referred by hematology-oncology for biopsy of the rash which was not believed to be suggestive of GVHD. He stated that the rash developed within the past several months and continued to spread to his bilateral upper extremities, chest, and upper back. Besides the mild pruritis, the patient had no other

symptoms from the rash. He denied any history of liver disease, mucosal involvement, but had recently noticed melanic stool. His most recent LFT's were within normal limits with an AST of 42 and an ALT of 18.

On physical exam, there were numerous, blanching spider telangiectasias on the bilateral arms, chest, abdomen, and upper back (**Figure 1 and 2**). Punch biopsy was performed on one of the lesions and triamcinolone 0.1% ointment was provided for symptomatic relief of pruritis. The final pathology report returned as acute GVHD. Histologic sections of the punch biopsy from the right chest demonstrated a basket-weave stratum corneum and focal vacuolar interface changes of the basal layer of the epidermis and a hair follicle accompanied by satellite cell necrosis of basal keratinocytes. In the dermis there were ectatic superficial blood

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vessels and scattered interstitial lymphocytes. A GMS failed to highlight fungal hyphae within the stratum corneum. These findings are consistent with a diagnosis of GVHD grade II.



**Figure 1.** Scattered telangiectasias on the upper back



**Figure 2.** Dermatoscopic image of a single telangiectasia on the upper back

## DISCUSSION

Graft versus host disease severely impacts the quality of life of patients after allogeneic hematopoietic stem cell transplant (HSCT) and carries a high risk of mortality with disease progression<sup>1,3,4</sup>. GVHD is a great challenge to the dermatologist, as its appearance often mimics many other dermatologic diseases<sup>3</sup>. GVHD is divided into acute and chronic forms. The NIH classification divides acute GVHD into acute classic within 100 days of transplantation and late-onset acute GVHD. Late-onset GVHD manifests after 100 days from transplantation with clinical features of classic acute GVHD. Classic chronic GVHD presents with the clinical manifestations of chronic GVHD 100 days after transplantation. Lastly, there is overlap syndrome in which features of both chronic and acute GVHD present at any time post-transplant<sup>2</sup>.

The cutaneous manifestations of GVHD are often the presenting sign as well as the most common site for disease involvement<sup>1,3,4</sup>. The skin, liver, and gastrointestinal tract are the most commonly targeted organs overall<sup>1</sup>. Acute GVHD may present with the triad of diarrhea, elevated bilirubin, and cutaneous exanthema, however, there have been multiple case reports of isolated cutaneous findings<sup>1,3,4,7</sup>.

Erythematous maculopapular morbilliform eruptions are one of the more classically described findings of acute GVHD<sup>1,3</sup>. Severe cases may progress to erythroderma and epidermolysis that resemble toxic epidermal necrolysis and may lead to confusion in diagnosis<sup>3</sup>. The exanthem is often pruritic but may also remain asymptomatic. Less commonly found dermatologic findings in the literature include rashes that resemble acquired ichthyosis, pityriasis rubra pilaris,

eczema-craquelé, and psoriasis vulgaris<sup>1,3,7-9,11</sup>. Gu et al discuss a report of a patient with chronic GVHD and elevated LFT's that developed numerous spider hemangiomas on the upper extremities and trunk secondary to hepatic involvement and liver fibrosis following allogenic stem cell transplant. Our patient was prescribed topical triamcinolone but was hospitalized due to worsening course of his leukemia and was lost to follow-up. As of the present, our case is the first report of multiple spider angiomas without signs of liver involvement in a patient with acute GVHD following allogenic stem cell transplant<sup>12</sup>.

The differential diagnosis of a cutaneous eruption following stem cell transplant includes a viral exanthem, toxic erythema of chemotherapy, or a drug hypersensitivity reaction<sup>3,10</sup>. Diagnosis of acute GVHD does not require a particular cutaneous finding, as the morphology can vary so vastly<sup>1,3,4,12</sup>. Rather, the new onset of a skin rash with hepatic or GI involvement in the setting of a recent HSCT, warrant further work-up and possible biopsy for GVHD<sup>1,3,10</sup>. Microscopic features that are relatively specific for diagnosis include the presence of dermal eosinophils or dermal spongiosis<sup>1,3</sup>.

## CONCLUSION

A high degree of clinical suspicion is vital in the detection of unusual presentations of acute and chronic GVHD. We present a unique case of acute GVHD in which histological findings guided the final diagnosis.

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**Corresponding Author:**  
Shira Lanyi, MD  
Department of Dermatology

University of Virginia  
1221 Lee St. 3<sup>rd</sup> Floor  
Charlottesville, VA 22903  
Email: shira.lanyi@gmail.com

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