Primary cutaneous diffuse large B-cell lymphoma, leg-type is an aggressive form of cutaneous lymphoma with an overall poor prognosis. The mean age of patients with this type of cutaneous lymphoma is 78 years old. Most of the patients affected are elderly females.\(^1\)

Patients present with rapidly growing bluish-red tumors on the lower legs. Approximately 10-20% of PCDLBCL-LT are located at sites other than the legs, and extracutaneous spread of this cutaneous lymphoma subtype is not uncommon, most commonly to the lymph nodes, bone marrow, and CNS.\(^2\)

B-cell lymphoma with two gene rearrangements, double-hit lymphoma (DHL), is uncommon, and the triple-hit type of lymphoma (THL) is even rarer. There are only case reports and a few small case series published of THL with BCL2, BCL6, and MYC rearrangements.\(^3,4\) They tend to have an aggressive clinical course and spread to distant sites including the bone marrow and CNS.\(^5\) The average survival rate for these lymphomas is reported to be approximately 4 months.\(^5\) THL may also show a high resistance to chemotherapy and greater likelihood of recurrence.\(^6\)

### CASE PRESENTATION

A 70-year-old Caucasian male presented with an enlarging skin lesion of 3-month duration on his right posterior lower thigh. Physical exam revealed a slightly tender, deeply erythematous and focally indurated plaque with irregular borders on his posterior right lower thigh. The patient denied constitutional symptoms.

PET scan revealed hypermetabolic cutaneous lesions in the left thigh and right lower leg. Hypermetabolic activity in the left testicle was later visualized by ultrasound to represent a lymphomatous infiltration. The patient was therefore diagnosed with Stage IVA disease due to distant metastasis as triple-hit BCL-2/BCL6/c-MYC-positive primary cutaneous diffuse large B-cell lymphoma, leg-type.

### HISTOPATHOLOGY

Histopathology revealed a dense, diffuse proliferation of atypical lymphoid cells in the dermis with hyperchromatic enlarged nuclei and scattered tingible body macrophages extending deeply into the subcuticular fat. Immunohistochemistry revealed strong positivity for CD-20 and CD-45, confirming a B-cell process of lymphoid origin. The cells were also positive for BCL-2, BCL-6, and negative for CD-10. C-MYC immunohistochemical studies showed strong positivity of 75%.

### CONCLUSION

Triple-hit primary cutaneous diffuse large B-cell lymphoma, leg-type is a rare and aggressive form of cutaneous lymphoma. Similar to DHL cases, THL patients usually have an aggressive clinical course and poor prognosis. Since reports of triple-hit lymphomas are sparse in the literature, it is important to bring attention to this entity, as prognostic and therapeutic implications may solidify a correct and early diagnosis crucial to best patient outcome.

Our patient was started on R-mini-CHOP—a decreased dose of CHOP (doxorubicin, cyclophosphamide, vincristine, and prednisone) chemotherapy with the conventional rituximab dose due to his age and comorbidities.

### References