



Case study:

# Treating Stage IIIB Acral Melanoma Without Amputation

By Alan Tan, MD



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*Alan Tan, MD, is an assistant professor in the Division of Hematology, Oncology and Cell Therapy at Rush Medical College. As the Director of GU Medical Oncology, Tan is dedicated to improving the lives of patients with genitourinary tumors. He specializes in kidney cancer, bladder cancer, prostate cancer and melanoma. He also has an extensive background in hematologic malignancies.*

## History

A 71-year-old female from Albuquerque, N.M., presented with stage IIIB acral melanoma on her left heel in December 2019. She was initially told she would require amputation of her foot. Medical oncologist Alan Tan, MD, decided to treat this patient with neoadjuvant immunotherapy to potentially downstage her primary tumor and save as much of the foot as possible.

Dr. Tan had treated other patients with “neoadjuvant” or preoperative immunotherapy in order to achieve a better outcome. This patient in particular was a good fit because a few months trial of immunotherapy to see if the patient is going to be a “responder” is very reasonable. The toxicity for most is low (although it can be serious) and the patient would likely be offered immunotherapy if she would have had surgery first. She prioritized wanting a chance to keep her foot and not have amputation. Although pre-operative immunotherapy is not yet considered standard of care for all, it is showing very good promise with excellent outcomes so far in short follow up of two to three years.

## Treatment

The patient began with a treatment of pembrolizumab, an immune checkpoint inhibitor that targets a receptor called PD-1. The tumor began shrinking in size rather quickly and continued to improve over eight months until the response plateaued. Dr. Tan recommended proceeding with surgical resection and reconstruction at this time.



*After the melanoma was removed from the patient's heel, skin and muscle from the thigh were used to cover it.*

In October 2020, surgical oncologist Cristina O'Donoghue, MD, and plastic surgeon Amir Dorafshar, MD, examined the patient's heel lesion and determined that the entire heel needed to be excised down to the bone. Dr. O'Donoghue removed the melanoma along with the sentinel lymph nodes and Dr. Dorafshar performed reconstructive surgery on the foot so the patient would be able to bear weight on her heel.

The surgeons removed a muscle with its blood supply from the patient's thigh and reattached it to the patient to cover the heel. Blood vessels from the thigh were connected to the blood vessels behind the patient's ankle. The team worked with orthopedic surgeon Alan Blank, MD, to place an external fixator on the patient to stabilize her foot while it healed. The entire procedure took approximately six hours to complete.

The patient spent a week in the ICU for monitoring and later moved to the hospital floor. The foot was placed on a dangling protocol where the leg was wrapped and required to hang from the bed, with increasing duration of time, to prevent excess swelling of the foot. The patient continued with treatment at a rehabilitation facility.

## Outcome

Once the foot healed, the patient returned to surgery in December 2020 to have the hardware removed from her foot and later received an orthopedic boot. As of March 2021, the patient is walking fine and is cancer free.

Treating this patient was a multidisciplinary team effort by Rush physicians and advanced practice providers in medical oncology, surgical oncology, plastic surgery and orthopedic surgery.

The patient is expected to follow up with Drs. Dorafshar and Tan through virtual visits. CT scans of the chest, abdomen and pelvis will be ordered for her in New Mexico and the physicians will request the discs. The patient will see Dr. O'Donoghue every four months for a clinical exam to check for any new lymph nodes or nodules.

**For more information, visit  
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