

# Monodermatomal Herpes Zoster in a Pseudodisseminated Distribution Following Breast Reconstruction Surgery

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*A 45-year-old woman underwent a modified radical mastectomy with transverse rectus abdominis myocutaneous (TRAM) flap reconstruction for newly diagnosed stage III breast cancer. Three months after beginning chemotherapy, she developed an erythematous, vesicular, painful rash along the right side of her abdomen that extended to the right side of her chest. Although the rash had the qualities of herpes zoster, the distribution was not dermatomal in nature; instead, it crossed multiple dermatomes. The initial presentation was suspicious for disseminated herpes zoster because of its clinical presentation and her clinical history. A more extensive examination revealed the patient had monodermatomal herpes zoster masquerading as disseminated herpes zoster secondary to her TRAM flap procedure whereby the nerves were realigned and created this pseudodisseminated appearance of the rash.*

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**V**aricella-zoster virus (VZV) is a herpesvirus that causes both varicella and herpes zoster. With 500,000 to 1 million cases occurring in the United States each year, herpes zoster is a substantial public health problem, especially among the older population.<sup>1</sup> Herpes zoster affects older adults and immunocompromised individuals worldwide and causes chronic disability in many individuals through

the complication of postherpetic neuralgia. Postherpetic neuralgia, a painful and debilitating condition, affects up to 70% of untreated elderly patients with herpes zoster.<sup>2-4</sup>

The primary infection with VZV typically manifests in childhood as varicella or chickenpox, a generalized vesicular and pruritic rash associated with fever. Following the primary infection, VZV establishes latency in the dorsal root ganglia. Reactivation of VZV later in life leads to herpes zoster or shingles, a localized painful vesicular rash in a dermatomal distribution, usually of a single sensory nerve. The 2 main risk factors for reactivation of VZV are increasing age and immunosuppression. While reactivation in healthy individuals manifests along the dermatomal distribution of a single sensory nerve, reactivation in immunocompromised patients may be associated with a more extensive disseminated rash that often is accompanied by visceral involvement. We present a case of monodermatomal herpes zoster in a pseudodisseminated distribution following breast reconstruction surgery.

## Case Report

A 45-year-old woman diagnosed with new stage III breast cancer underwent a modified radical mastectomy that was immediately followed by transverse rectus abdominis myocutaneous (TRAM) flap reconstruction. After the surgery, the patient received chemotherapy for 5 months (10 treatments). Three months after beginning chemotherapy, the patient developed an erythematous, vesicular, painful rash along the right side of her abdomen that extended to the right side of her chest, clearly crossing dermatomal distributions (Figure). The initial presentation was suspicious for disseminated herpes zoster because of its clinical presentation and her clinical history. A more extensive examination revealed the patient had monodermatomal herpes zoster masquerading as disseminated herpes zoster secondary to her

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Pseudodisseminated distribution of herpes zoster (monodermatomal herpes zoster).

TRAM flap procedure whereby the nerves were realigned to create this pseudodisseminated appearance of the rash. Because the examination was conducted during a home visit, no diagnostic tests could be performed. The patient was treated with oral valacyclovir hydrochloride 1 g three times daily for 7 days, with resolution of the eruption. There was no report of postherpetic neuralgia.

### Comment

It is important to recognize the difference between monodermatomal and disseminated herpes zoster because the latter has a graver prognosis and requires more extensive treatment. The patient presented with what at first appeared to be disseminated herpes zoster. The rash was characteristic in appearance of the zoster, though the distribution was not characteristic of dermatomal zoster and therefore suggested a disseminated version of the disease, one that is found almost exclusively in immunocompromised individuals.

There have been other reports of zoster following breast reconstruction surgery.<sup>5,6</sup> Tomita and Inoue<sup>5</sup> reported a patient who developed herpes zoster in the TRAM flap 14 months after a chest wall reconstruction for recurrent breast cancer. Based on the distribution of the VZV spreading along the sensory nerve

fibers, they concluded that the virus spread along the reinnervated sensory nerves from the dorsal root ganglia, through the intercostal nerves, and into the flap skin.<sup>5</sup> Skoll and Hudson<sup>6</sup> reported a 39-year-old woman who underwent skin reduction with mastectomy and axillary clearance for a ductal carcinoma of the left breast. Simultaneously, a contralateral unipedicled TRAM flap and nipple-areola reconstruction were performed, along with a symmetrization right reduction mammoplasty. Chemotherapy was initiated one month after the surgery. Two weeks later, the patient developed a mild zosteriform rash in a dermatomal distribution on her left hemithorax, which settled over a 2-week period without specific therapy.<sup>6</sup>

In our patient, it was apparent that the nerves that were moved during the reconstruction retained their ganglionic source and thereby led to the unusual appearance of the distribution. The chemotherapy, as well as the surgery, may have been predisposing immunosuppressive factors. Therefore, an episode of herpes zoster in an individual with a surgical history must always be carefully evaluated because disseminated zoster usually necessitates hospitalization, while monodermatomal zoster can be treated with oral antiviral agents.

### REFERENCES

1. Insinga RP, Itzler RF, Pellissier JM, et al. The incidence of herpes zoster in a United States administrative database. *J Gen Intern Med.* 2005;20:748-753.
2. Dworkin RH, Portenoy RK. Pain and its persistence in herpes zoster. *Pain.* 1996;67:241-251.
3. Schmader K. Herpes zoster in older adults. *Clin Infect Dis.* 2001;32:1481-1486. Epub April 17, 2001.
4. Donahue JG, Choo PW, Manson JE, et al. The incidence of herpes zoster. *Arch Intern Med.* 1995;155:1605-1609.
5. Tomita K, Inoue K. Cutaneous reinnervation of the rectus abdominis musculocutaneous flap after chest wall reconstruction: development of herpes zoster in the transplanted musculocutaneous flap. *Ann Plast Surg.* 1998;41:191-193.
6. Skoll PJ, Hudson DA. Zoster following immediate transverse rectus abdominis myocutaneous breast reconstruction. *Plast Reconstr Surg.* 2000;106:1218-1219.