

Unilateral Absence of the Latissimus Dorsi Muscle: An Unexpected Intraoperative Twist during Breast Reconstruction Case Report and Adaptive Surgical Strategies

Matteo MERONI MD, Tania Panettella MD, Elmar Fritsche MD

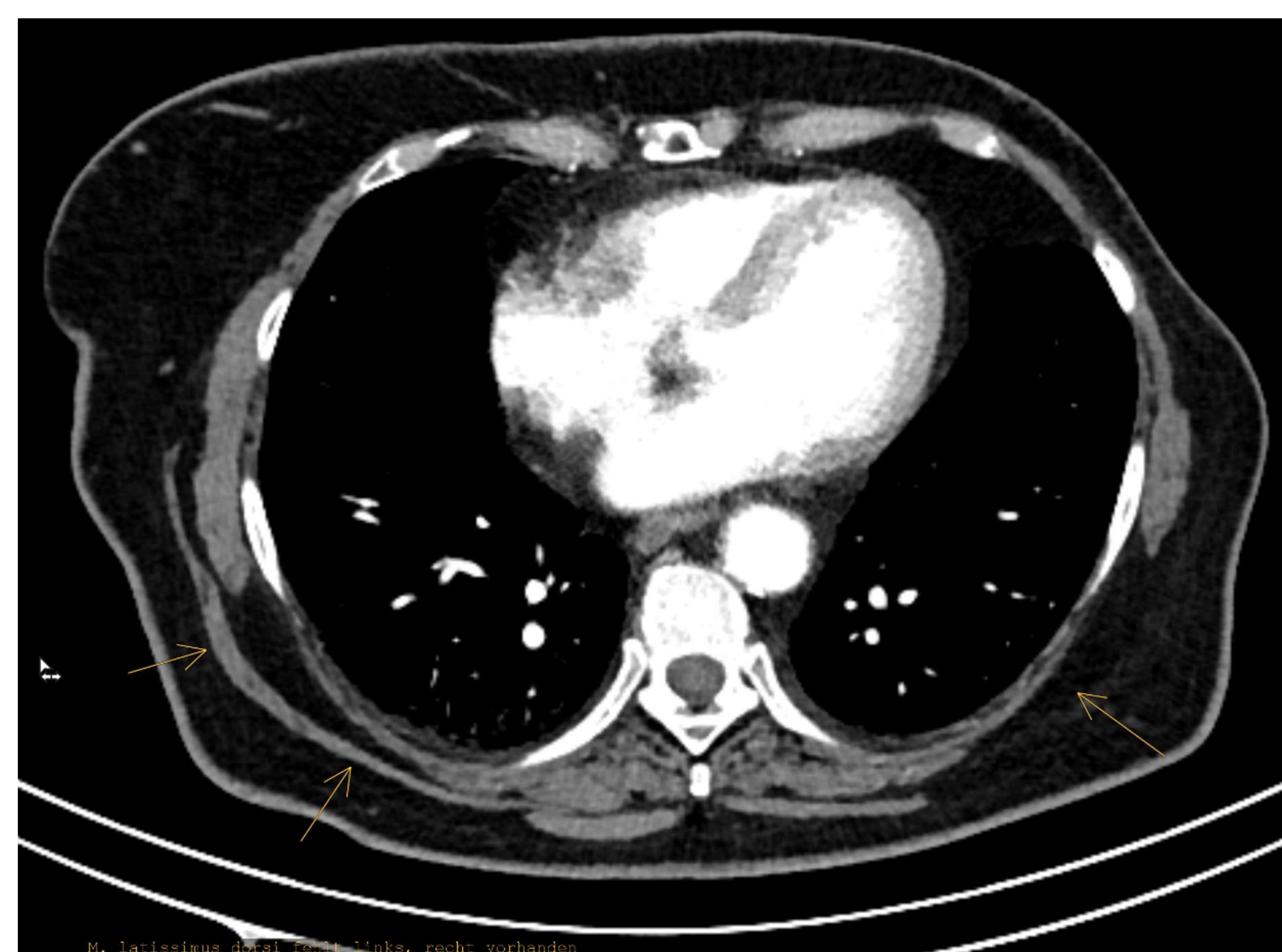
Department of Plastic and Hand Surgery, Lucerne Cantonal Hospital, Lucerne, Switzerland

BACKGROUND

The latissimus dorsi (LD) muscle is one of the most reliable flaps in breast reconstruction, valued for its robust vascularity, consistent anatomy, and relatively low donor-site morbidity. It is particularly suited for patients with comorbidities or previous oncologic treatments who are not candidates for microsurgical procedures. Complete congenital absence of the LD muscle is exceptionally rare, yet it can dramatically alter reconstructive planning and demand immediate intraoperative adaptation.

LITERATURE REVIEW

True agenesis of the LD muscle in non-syndromic patients is extremely uncommon. Only 3 cases have been reported: two discovered unexpectedly during reconstructive surgery and one during cadaveric dissection. None were recognized preoperatively, and all required intraoperative strategy changes. The etiology is presumed congenital, as no fibrous remnants or scarring have been described. Alternative reconstructive solutions reported include serratus anterior flaps, perforator flaps, and parascapular options, though they may provide less volume than the LD. This case reinforces the need for preoperative evaluation when planning any reconstruction, particularly in patients for whom the LD represents the safest remaining option.



Pre-operative CT scan (2 year prior surgery) showing the agenesis of the left LD muscle

CONCLUSION

The intraoperative discovery of unilateral LD muscle absence presents a rare but formidable challenge in breast reconstruction. Success depends on flexible surgical planning, anatomical knowledge, and the ability to employ alternative flaps rapidly. Careful review of preoperative imaging, including muscular structures, is crucial to avoid unexpected findings. Even in complex oncologic patients, adaptability can secure functional and aesthetic outcomes while minimizing morbidity and patient distress.

CASE REPORT

A 69-year-old woman, with a history of breast carcinoma treated by radical mastectomy and axillary lymphadenectomy, was scheduled for delayed reconstruction with a pedicled LD flap. Her comorbidities, including obesity and heavy smoking, excluded free flap options. Intraoperatively, no identifiable LD muscle was present on the left side. Reconstruction was adapted using a serratus anterior muscle flap, based on a thoracodorsal branch, which provided sufficient though reduced soft-tissue coverage. The early postoperative course was complicated by venous congestion, partial flap necrosis, and the need for debridement with split-thickness skin grafting. A CT scan performed two years earlier, reviewed retrospectively, had clearly demonstrated unilateral absence of the LD muscle but had been overlooked.



Clinical evolution of the musculocutaneous serratus anterior flap



Pre- and Post-operative picture (6 months after surgery)