Double axillary vein: A case detected by CT
Takaaki Fujii, Reina Yajima, Satoru Yamaguchi, Hiroyuki Kuwano

CASE REPORT

A 50-year-old Japanese woman was presented with right breast cancer with clinically negative axillary nodes. A preoperative contrast-enhanced computed tomography scan showed that the contrast medium admitted flowing in lower part of the right axillary vein, suggesting an anomaly of axillary vein known as double axillary vein (Figure 1). Mastectomy and sentinel lymph node (SLN) biopsy were performed. The intraoperative diagnosis of the axillary SLN was positive for metastasis, and thus additional conventional axillary lymph node dissection was performed. At axillary dissection, a double axillary vein was detected (Figure 2). In this case, the thoracodorsal vein originated from the lower vein (Figure 2, arrowhead). In our case, none of the non-SLNs was metastatic at final histology.

DISCUSSION

The axillary vein is the continuation of the basilic vein at the lower border of the teres major muscle. It continues as the subclavian vein at the outer border of the first rib. A few reports describe the variations of axillary veins [1–3], however, variations in axillary

![Image 1](https://www.jcasereportsandimages.com/ijcri/i/1234567890.png)

**Figure 1:** A preoperative contrast-enhanced CT showed that the contrast medium admitted flowing in lower part of the right axillary vein, suggesting an anomaly of axillary vein such as a double axillary vein (arrow).

![Image 2](https://www.jcasereportsandimages.com/ijcri/i/987654321.png)

**Figure 2:** At axillary dissection, a double axillary vein was detected (arrow). The thoracodorsal vein originated from the lower vein (arrowhead).

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anatomy have been rarely described in most text of operative surgery or anatomy [1]. The knowledge of anatomical variations of the axilla is necessary for the axillary dissection. Kutiyawanawala et al., reported the anatomical variants during axillary dissection, including double axillary vein [1]. In 10% of patients with breast cancer cases, double axillary vein was observed during axillary dissection. Double axillary vein itself is not rare, however, double axillary vein is diagnosed during the axillary dissection. If the variation of axillary vein is detected preoperatively, the axillary dissection may be performed more safely. This is the first report that double axillary vein is preoperatively diagnosed by computed tomography (CT). A preoperative contrast-enhanced CT is thought to be useful for the diagnosis of double axillary vein.

CONCLUSION

The knowledge of axillary vein variations is important in axillary surgery in case of breast cancer or brachial plexus anesthesia. With the use of enhanced CT scan, the risk of damage to the axillary vein during axillary dissection can be reduced in cases with double axillary vein.

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Author Contributions

Takaaki Fujii – Substantial contributions to conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

Reina Yajima – Substantial contributions to conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

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Guarantor

The corresponding author is the guarantor of submission.

Conflict of Interest

Authors declare no conflict of interest.

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