

Abstract

Introduction

Axillary dissection has little diagnostic and therapeutic benefit in the node-positive breast cancer patients in whom axillary disease has been completely eradicated after neoadjuvant chemotherapy (ypN0). We sought to assess the efficacy of an algorithm used for the identification of the ypN0 patients consisting of intraoperative evaluation of sentinel and tattooed (initially positive) lymph nodes.

Methods

Included were T1 and T2 breast cancer patients with one to three positive axillary lymph nodes marked with carbon who were referred for neoadjuvant chemotherapy followed by a surgery. Axillary dissection was performed only in the patients with residual axillary disease after neoadjuvant chemotherapy on ultrasound or with metastases described in the sentinel or tattooed lymph nodes either intraoperatively or in the final histology.

Results

Out of 62 included initially node-positive patients, 15 (24%) were spared axillary dissection. The detection rate of tattooed lymph node after neoadjuvant chemotherapy was 81%. The ypN0 patients were identified with 91% sensitivity and 38% specificity using ultrasound and intraoperative assessment of both sentinel and tattooed lymph node according to the final histology.

Discussion/Conclusion

Lymph node marking with carbon dye is a useful and cost-effective method, which can be successfully implemented in order to reduce the number of patients undergoing axillary dissection. Low specificity of the presented algorithm was caused mostly by the overestimation of residual axillary disease on ultrasound.