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The value of contrast enhanced ultrasound in the location of Sentinel Lymph Node in breast cancer

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Sentinel Lymph Node (SLN) location and biopsy were designed to minimize side effects of axillary dissection with equivalent outcomes. This prospective study is to evaluate the feasibility of periareolar injection of contrast agent SonoVue™ followed by Ultrasound (US) for identification and localization of SLN in breast cancer patients with clinically negative node. From July 2017 to January 2018, 130 women were enrolled in the study. SonoVue™ was injected periareolarly and followed by US to detect enhanced Sentinel Lymphatic Channels (SLCs) and SLNs, 1 minute later after massage. The patients were randomly divided into two groups to locate the first enhanced SLN: (1) US-guided marker placing, (2) US-guided nano-carbon (N) injection into SLN. Compare the number of SLNs detected by CEUS with blue dye (B) or N mapping and the coincidence rate of the first SLN located by CEUS with those traced by the B and N. Lymph nodes that were dark, blue and with marker or clinically positive were considered sentinel nodes and to be biopsied. 121 of 130 patients with breast cancer injected with ultrasound contrast agents had detected a total of 254 enhanced SLNs (range 1-5, 2.1+1.05) compared with total of 342 SLNs (range 1-5, 2.83+1.10) mapping with B or N. 42 of 45 first SLNs located with marker matched with first SLNs stained with N (42/45, 93.33%); 70 of 76 first SLNs using N injecting directly guided by CEUS matched with first SLNs stained with B (70/76, 92.1%). In another 9 cases without enhanced SLN, 4 of them did not get stained with N or B and 5 were stained. The sensitivity of SLNs detection by CEUS was 96.03% (121/126) and the accuracy of locating the first SLN was 92.56% (112/121).

Biography

Jun Luo has graduated from The West China College of Medicine of Sichuan University and devoted himself in the work and research of ultrasonic contrast and interventional ultrasound. Presently he is Secretary of Ultrasound Department, standardized training base for ultrasonic medical residents and Secretary of Imaging and Nuclear Medicine Teaching and Research Section (Ultrasonic Medicine Section) in Medical School of UESTC.

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