Gamma Probe Assisted Axillary Lymph Node Biopsy Compared with Axillary Dissection in Breast Cancer

¹Departments of Surgery, School of Medicine, Kurdistan University of Medical Sciences, Sanandaj, Iran ²Department of Physiology and Pharmacology, School of Medicine, Mazandaran University of Medical Sciences, Sari, Iran

1

1

1*

Breast cancer incidence is annually increasing in various parts of the world and Sentinel Lymph

2

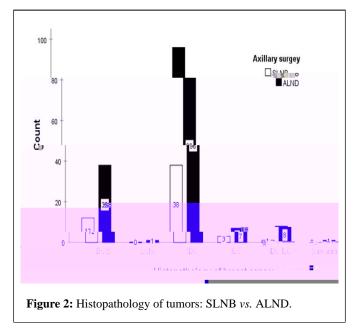
can blur the surgical field and regularly leaves a blue skin stain; this stain can be permanent or take months to fade. Further, there may be a slight risk of an adverse reaction to the blue dye [11]. Accordingly, some clinics stopped the routine use of

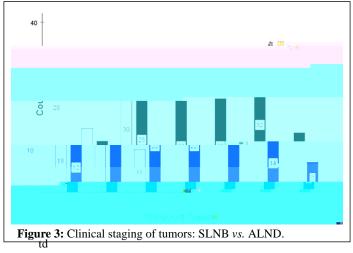
Menarche age		(Mean ± SD)	13.54 ±1.535 year	13.80 ±1.217 year		0.14
Age of the first pregnancy		(Mean ± SD)	22.31 ± 5.805 year	21.49 ± 5.209 year		0.28
Total lactation durat	ion	(Mean ± SD)	62.36 ± 40.456	68.31 ± 43.803		0.33
Menopause age		(Mean ± SD)	46.70 ± 5.165 year	47.80 ± 6.631 year		0.34
Educational level	Illiterate	(Count ± percentage)	13 (20.0%)	52 (80.0%)	65	<0.0001*
	Under high school		34 (35.1%)	63 (64.9%)	97	
	High school diploma		2 (20.0%)	8 (80.0%)	10	
	University diploma		20 (62.5%)	12 (37.5%)	32	
Marriage status	Widowed	(Count ± percentage)	2 (7.7%)	24 (92.3%)	26	0.07
	Married		69 (29.9%)	162 (70.1%)	231	
	Single		6 (40.0%)	9 (60.0%)	15	
	Divorced		2 (40.0%)	3 (60.0%)	5	

Tumor size and type a (Noninflammatory and inflammatory)

	No		9 (17.6%)	42 (82.4%)	51	
Family history	Yes	(Count ± percentage)	3 (15.8%)	16 (84.2%)	19	0.2
	No		76 (30.5%)	173 (69.5%)	249	
Relative degree	First degree	(Count ± percentage)	0 (0.0%)	5 (100.0%)	5	
	Second degree		3 (21.4%)	11 (78.6%)	14	
Age of relative at diagnosis		(Mean ± SD)	53.67±23.245	43.69 ± 10.719		0.26
Biopsy	Core needle	(Count ± percentage)	29 (26.4%)	81 (26.4%)	110	
	Open biopsy		2 (20.0%)	8 (80.0%)	10	
Side of tumor	Right	(Count ± percentage)	46 (37.1%)	78 (62.9%)	124	0.01*
	Left		31 (23.7%)	100 (76.3%)	131	
	Bilateral		0 (0.0%)	8 (100.0%)	8	
Number of dissected nodes		(Mean ± SD)	2.85 ± 1.83	10.45 ± 5.81		<0.0001*
Number of positive nodes		(Mean ± SD)	0.37 ± 0.82	2.41 ± 3.59		0.003*
Diameter of tumor		(Mean ± SD)	2.15 ± cm 1.34 cm	3.28 cm ± 1.87 cm		0.003*

BMI: Body Mass Index; SD: Standard Deviation; SLNB: Sentinel Lymph Node Biopsy; ALND: Axillary Lymph Node Dissection.





survival for sentinel lymph node positive patients [24]. Likewise, Ram, et al., found that the former criteria did not significantly vary

Foroutan MA, Moayeri H, Sabooni K, Ardeshiri MR (2023) Gamma Probe Assisted Axillary Lymph Node Biopsy Compared with Axillary Dissection in Breast Cancer. J Cancer Diagn 7:184.

- 350 Hack TF, Cohen L, Katz J, Robson LS, Goss P (1999) Physical and psychological morbidity after axillary lymph node dissection for breast cancer. J Clin Oncol 17: 143-149.
- 360 Hwang RF, Gonzalez Angulo AM, Yi M, Buchholz TA, Meric Bernstam F, et al. (2007) Low loco regional failure rates in selected breast cancer patients with tumor positive sentinel lymph nodes who do not undergo completion axillary dissection. Cancer 110: 723-730.
- 370 Jazayeri SB, Saadat S, Ramezani R, Kaviani A (2015) Incidence of primary breast cancer in Iran: Ten years national cancer registry data report. Cancer Epidemiol 39: 519-527.
- 380 Krag DN, Anderson SJ, Julian TB, Brown AM, Harlow SP, et al. (2007) Technical outcomes of sentinel lymph node resection and conventional axillary lymph node dissection in patients with clinically node negative breast cancer: Results from the NSABP B-32 randomised phase III trial. Lancet Oncol 8: 881-888.
- 390 Krag DN, Anderson SJ, Julian TB, Brown AM, Harlow SP, et al. (2010) Sentinel lymph node resection compared with conventional axillary lymph node dissection in clinically node negative patients with breast cancer: Overall survival findings from the NSABP B-32 randomised phase 3 trial. Lancet Oncol 11: 927-933.
- 3:0 Langer I, Guller U, Berclaz G, Koechli OR, Schaer G, et al. (2007) Morbidity of Sentinel Lymph Node biopsy (SLN) alone versus SLN and completion axillary lymph node dissection after breast cancer surgery: A prospective Swiss multicenter study on 659 patients. Ann Surg 245: 674/461.
- 3;0 Li CZ, Zhang P, Li RW, Wu CT, Zhang XP, et al. (2015) Axillary lymph node dissection versus sentinel lymph node biopsy alone for early breast cancer with sentinel node metastasis: A meta-analysis. Eur J Surg Oncol 41: 958-966.

- 420 Lucci A, McCall LM, Beitsch PD, Whitworth PW, Reintgen DS, et al. (2007) Surgical complications associated with Sentinel Lymph Node Dissection (SLND) plus axillary lymph node dissection compared with SLND alone in the American college of surgeons oncology group trial Z0011. J Clin Oncol 25: 3657-3663.
- 430 Mansel RE, Fallowfield L, Kissin M, Goyal A, Newcombe RG, et al. (2006) Randomized multicenter trial of sentinel node biopsy versus standard axillary treatment in operable breast cancer: The ALMANAC trial. J Natl Cancer Inst 98: 599-609.
- 440 Petrek JA, Pressman PI, Smith RA (2000) Lymphedema: Current issues in research and management. CA Cancer J Clin 50: 292-307.
- 450 Ram R, Singh J, McCaig E (2014) Sentinel node biopsy alone versus completion axillary node dissection in node positive breast cancer: Systematic review and meta-analysis. Int J Breast Cancer 2014: 513780.
- 460 Veronesi U, Paganelli G, Viale G, Luini A, Zurrida S, et al. (2003) A randomized comparison of sentinel node biopsy with routine axillary dissection in breast cancer. N Engl J Med 349: 546-553.
- 470 Veronesi U, Viale G, Paganelli G, Zurrida S, Luini A, et al. (2010) Sentinel lymph node biopsy in breast cancer: Ten years results of a randomized controlled study. Ann Surg 251: 595-600.
- 480 Wang Z, Wu LC, Chen JQ (2011) Sentinel lymph node biopsy compared with axillary lymph node dissection in early breast cancer: A metaanalysis. Breast Cancer Res Treat 129: 675-689.
- 490 Zahoor S, Haji A, Battoo A, Qurieshi M, Mir W, Shah M (2017) Sentinel lymph node biopsy in breast cancer: A clinical review and update. J Breast Cancer 20: 217-227.

Page 7 of 7