

***The number of Sentinel Lymph Node
removed and Quality of Life
among Early Breast Cancer Patients***

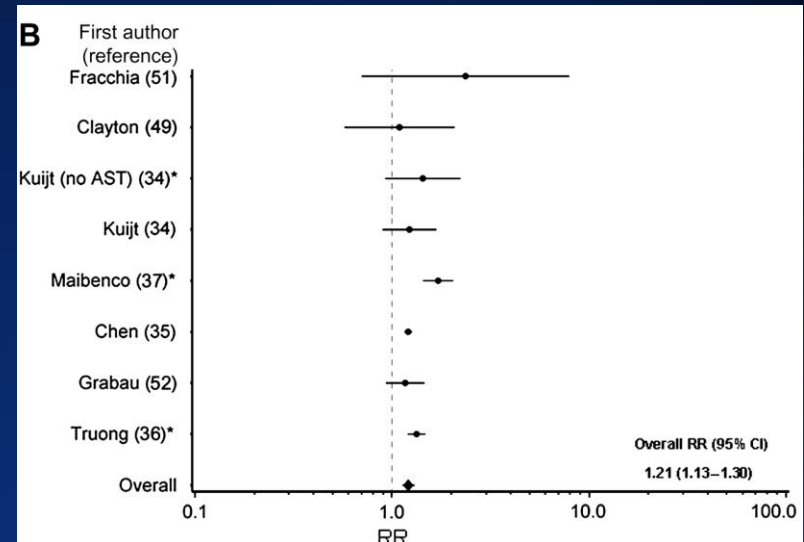
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Backgrounds

- The presence of metastases of 2 mm or less in diameter in ALNs was associated with poorer disease-free and overall survival.
- There are potentially significant short and long term morbidities associated with ALND.

A 10-year follow-up

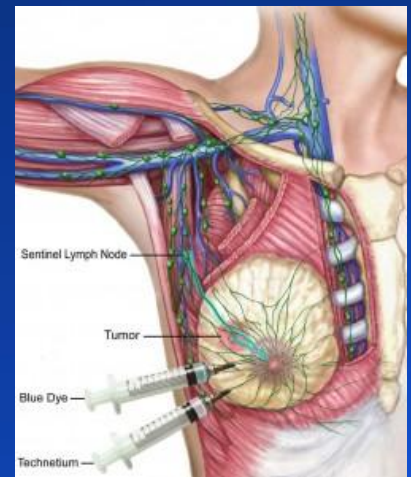


de Boer M et al. JNCI J Natl Cancer Inst 2010;102:410-425

Breast cancer prognosis and occult lymph node metastases, isolated tumor cells, and micrometastases

Backgrounds (continued)

- Few studies reviewed the relationship between the number of lymph nodes (LN) and morbidity & QoL.
- Whether the number of SLNs removed has the impact on the QoL is still unknown.



Research question

- Does number of SLND affect patients' quality of life?
- *Hypothesis*
 - Number of Lymph Node dissection is associated with quality of life
 - *Group 1: number of LND 1~3*
 - *Group 2: number of LND 4~6*
 - *Group 3: number of LND >6*

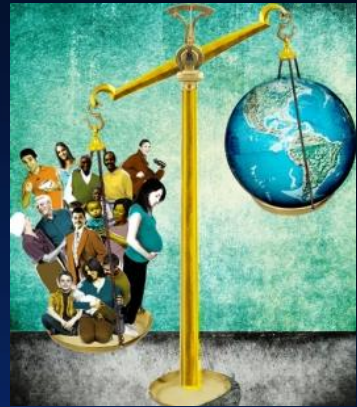
Methods: Design



- Prospective cohort study
- From Jun-2010 to April-2011, patients treated with SLNB were enrolled from two cancer hospitals in Korea.
- Data collection- pre surgery, and 2 weeks, 3 months, and 6 months post surgery.
- Quality of life were assessed by the European Organization for Research and Treatment of Cancer (EORTC) Quality of Life Questionnaire C30 (QLQ-C30) and the breast cancer-specific module (QLQ-BR23).

Methods

- Study population
 - Stage 1~3 breast cancer
 - Non pregnant
 - Excluding patients receiving neoadjuvant chemotherapy, had secondary cancer or psychotic disorder
- IRB approved from both institutes.

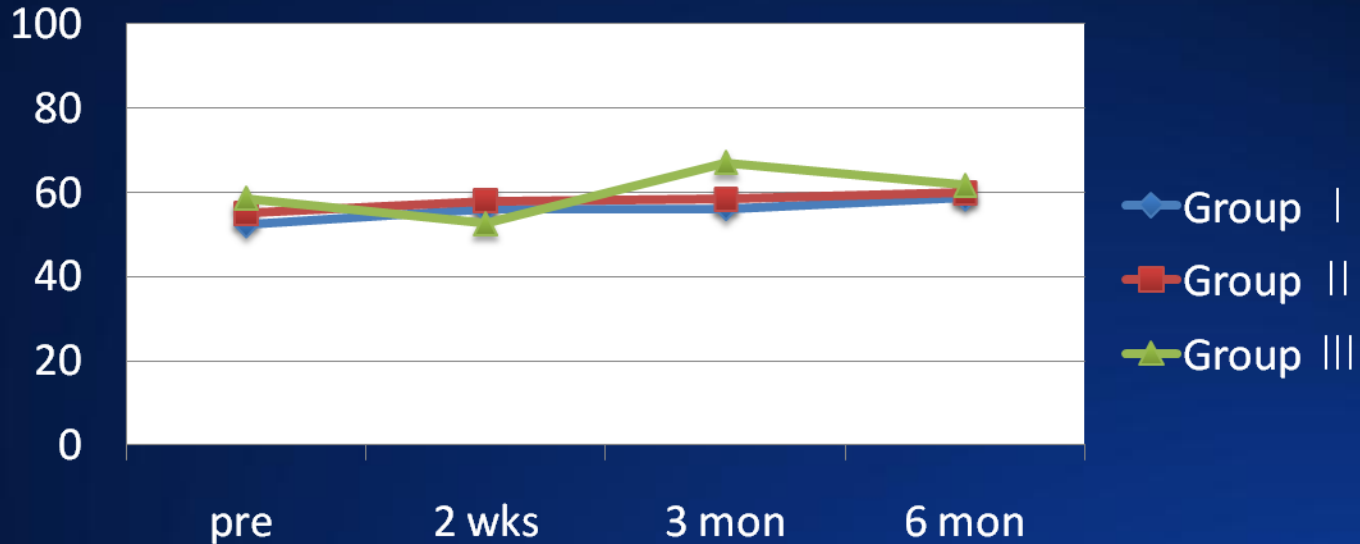


Results: Characteristics' among number of Lymph node dissection

Number of SLND N (%)	Group I. 1~3* 91 (35.3)	Group II. 4~6 112 (43.4)	Group III. >6 55(21.3)	P-value
Age Mean (SD)	48.1 (8.59)	46.5 (7.49)	46.2 (7.61)	<0.01
BMI Mean (SD)	23.4 (3.40)	23.5 (3.30)	22.4 (3.36)	<0.01
Stage				0.22
0	9 (10.6)	3 (3.0)	5 (12.8)	
1	57 (67.1)	72 (71.3)	22 (56.4)	
2	19 (22.4)	25 (24.8)	12 (30.8)	
3	-	1 (1.0)	-	
Type of surgery				0.02
Mastectomy	2 (2.3)	6 (5.7)	8 (17.8)	
Lumpectomy	83 (95.4)	97 (91.5)	36 (80.0)	
Reconstruction	2 (2.3)	3 (2.8)	1 (2.2)	
Treatment received				
Chemotherapy	42 (33.3)	60 (47.6)	24 (19.1)	0.25
Radiation	78 (39.4)	88 (44.4)	32 (16.2)	0.08
Hormone	66 (44.6)	63 (42.6)	19 (12.8)	<0.01

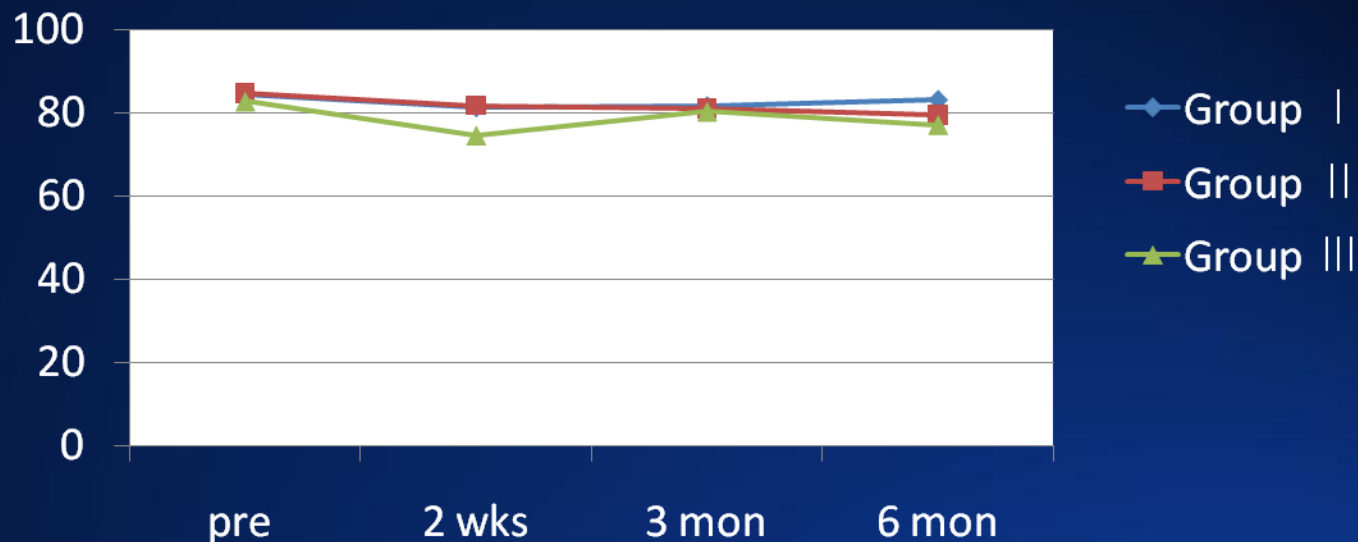
Results: Comparison of Quality of life among Sentinel Lymph node dissection

Overall QoL



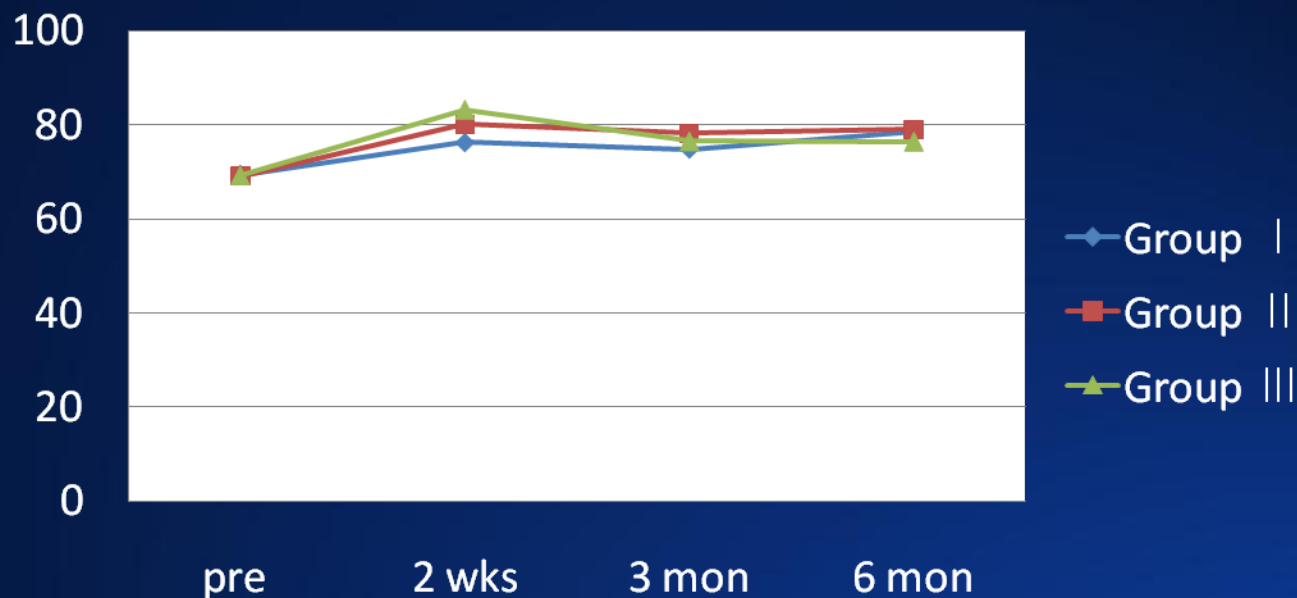
Number of SLND N (%)	Group I 91 (35.3)	Group II 112 (43.4)			Group III 55(21.3)		
Time Since Surgery	Mean (SD)	Mean (SD)	difference	p-value	Mean (SD)	difference	p-value
pre surgery (95% CI)	52.3(20.83)	55.1(19.72)			58.5(18.13)		0.19
post 2 weeks (95% CI)	55.94 (50.87 to 61.02)	58 (53.39 to 62.77)	-0.67	0.85	52.63 (43.51 to 61.74)	8.59	0.21
post 3 month (95% CI)	56.15 (50.79 to 61.5)	58.41 (53.30 to 63.52)	-0.53	0.89	67.09 (58.63 to 75.54)	4.74	0.35
post 6 month (95% CI)	58.68 (52.32 to 65.03)	59.92 (53.51 to 66.33)	-1.56	0.74	61.76 (48.62 to 74.9)	-3.11	0.68

Results: Comparison of **Physical function** among number of Lymph node dissection



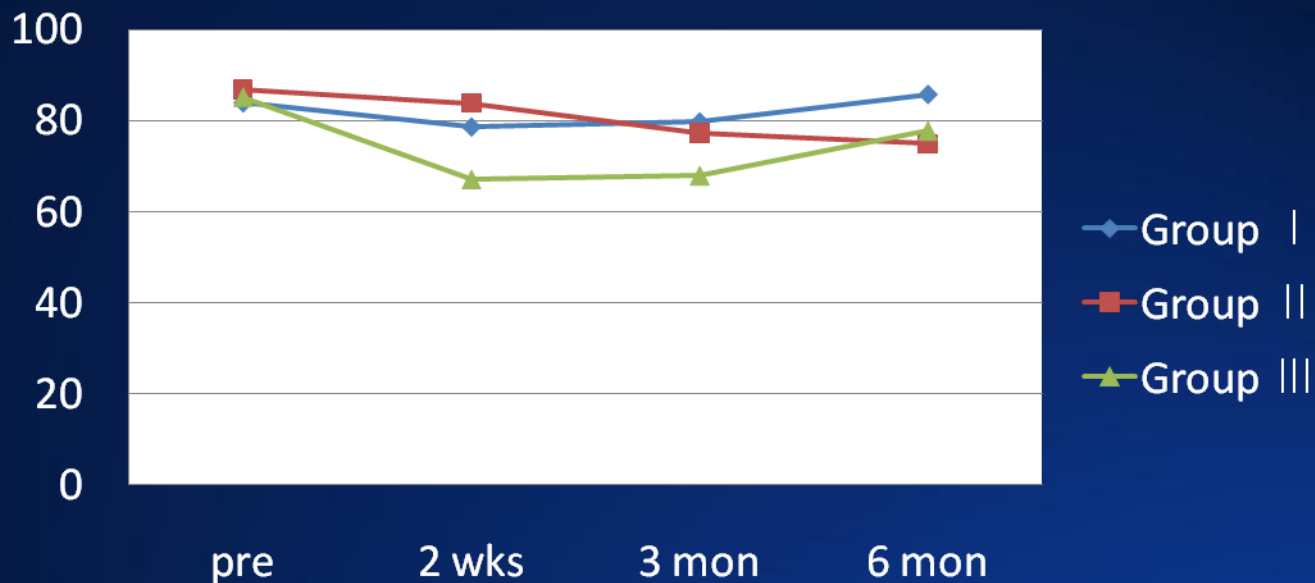
	Physical function (range 0~100)						
Time Since Surgery	Mean (SD)	Mean (SD)	difference	p-value	Mean (SD)	difference	p-value
pre surgery (95% CI)	84.4(14.37)	84.7(11.92)			82.7(14.91)		
post 2 weeks (95% CI)	81.36 (77.89 to 84.03)	81.71 (78.50 to 84.92)	-0.05	0.98	74.49 (69.25 to 79.72)	-5.17	0.11
post 3 month (95% CI)	81.66 (77.99 to 85.32)	80.95 (77.47 to 84.43)	-1.11	0.67	80.25 (73.39 to 87.10)	-5.62	0.48
post 6 month (95% CI)	83.12 (78.76 to 87.48)	79.49 (75.12 to 83.85)	-4.04	0.20	77.08 (68.06 to 89.11)	-4.34	0.4

Results: Comparison of **Emotional function** among number of Lymph node dissection



	Emotional function (range 0~100)						
Time Since Surgery	Mean (SD)	Mean (SD)	difference	p-value	Mean (SD)	difference	p-value
pre surgery (95% CI)	69.4(21.41)	69.1(25.73)			69.3(23.73)		
post 2 weeks (95% CI)	76.25 (71.79 to 80.71)	80.06 (75.96 to 84.16)	4.11	0.18	83.25 (76.59 to 89.90)	0.18	0.08
post 3 month (95% CI)	74.85 (70.13 to 79.57)	78.16 (73.68 to 82.63)	3.6	0.28	76.56 (69.08 to 84.04)	1.81	0.69
post 6 month (95% CI)	78.43 (72.8 to 84.07)	79 (73.38 to 84.62)	0.87	0.83	76.49 (64.76 to 88.22)	-1.85	0.78

Results: Comparison of **Role function** among number of Lymph node dissection



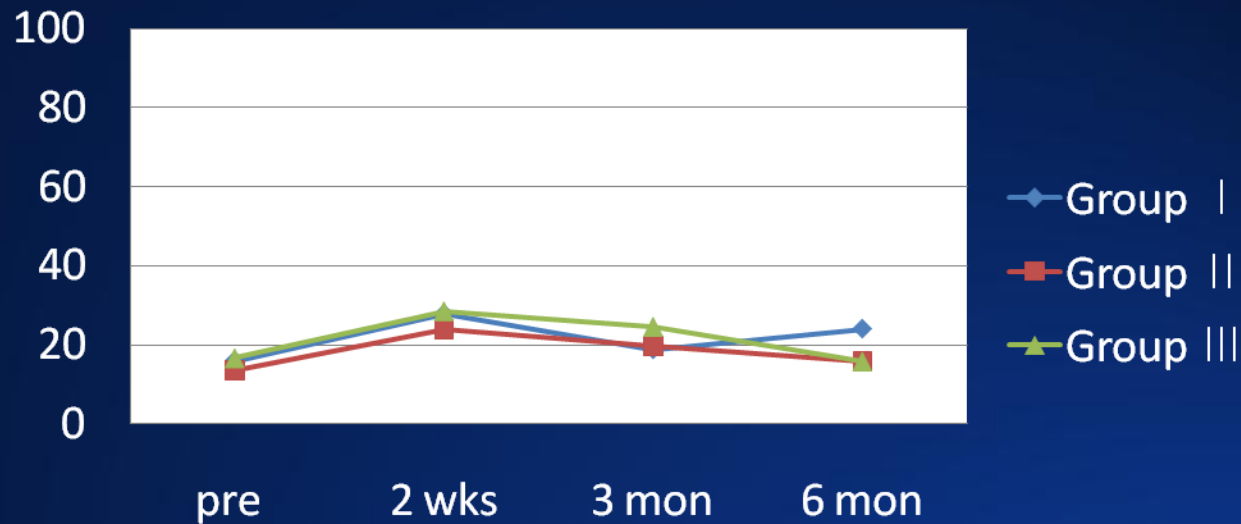
	Role functioning (range 0~100)						
Time Since Surgery	Mean (SD)	Mean (SD)	difference	p-value	Mean (SD)	difference	p-value
pre surgery (95% CI)	83.9(20.37)	86.8(21.22)			85.2(22.59)		0.63
post 2 weeks (95% CI)	78.57 (72.72 to 84.41)	83.84 (78.48 to 89.2)	2.37	0.56	67.16 (57.48 to 75.85)	0.56	0.02
post 3 month (95% CI)	79.68 (73.53 to 85.83)	77.25 (71.43 to 83.06)	-5.34	0.22	67.98 (58.31 to 77.65)	-13	0.03
post 6 month (95% CI)	85.72 (78.45 to 92.99)	74.9 (67.67 to 82.12)	13.72	0.01	77.78 (65.65 to 94.54)	-7.42	0.38

Results: Comparison of **Body image** among Sentinel Lymph node dissection



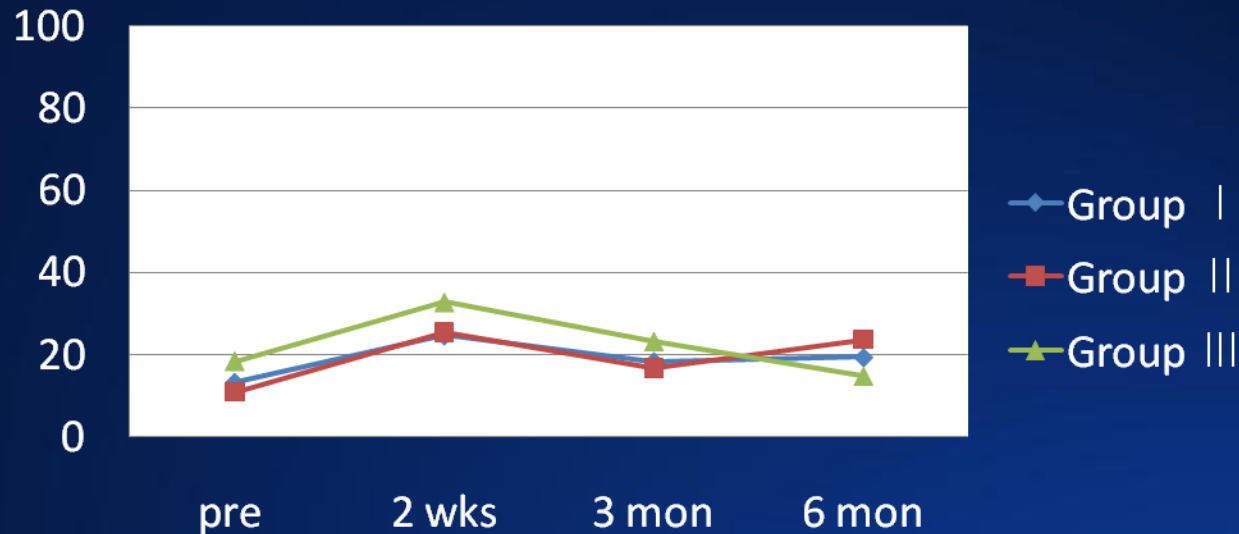
Number of SLND N (%)	1~3* 91 (35.3)	4~6 112 (43.4)			>6 55(21.3)		
Time Since Surgery	Mean (SD)	Mean (SD)	difference	p-value	Mean (SD)	difference	p-value
pre surgery (95% CI)	81.3(19.45)	81.3(21.16)			78.3(21.33)		0.65
post 2 weeks (95% CI)	81.25 (75.87 to 86.54)	80.04 (71.57 to 86.08)	-1.22	0.74	75.89 (65.47 to 81.48)	-2.36	0.63
post 3 month (95% CI)	70.68 (65.03 to 76.32)	69.05 (63.70 to 74.41)	-1.62	0.68	53.99 (44.85 to 63.13)	-13.68	0.01
post 6 month (95% CI)	80.3 (65.58 to 84.57)	64.60 (57.87 to 71.33)	-6.71	0.17	53.1 (39.15 to 67.04)	-15.21	0.05

Results: Comparison of **pain** among Sentinel Lymph node dissection



	Pain (range 0~100)						
Time Since Surgery	Mean (SD)	Mean (SD)	difference	p-value	Mean (SD)	difference	p-value
pre surgery (95% CI)	15.9(19.23)	13.51(17.48)			16.67(15.53)		0.47
post 2 weeks (95% CI)	27.73 (22.82 to 32.65)	23.88 (19.35 to 28.41)	-1.46	0.67	28.52 (21.19 to 35.85)	0.01	1.0
post 3 month (95% CI)	18.71 (13.53 to 23.89)	18.69 (13.78 to 23.60)	2.37	0.52	24.59 (13.42 to 29.77)	2.11	0.67
post 6 month (95% CI)	23.86 (17.72 to 30)	15.83 (9.81 to 21.94)	-5.65	0.2	15.82 (3.15 to 28.49)	-8.81	0.22

Results: Comparison of **Arm symptom** among Sentinel Lymph node dissection



Arm symptom (range 0~100)							
Time Since Surgery	Mean (SD)	Mean (SD)	difference	p-value	Mean (SD)	difference	p-value
pre surgery (95% CI)	13.3(14.74)	10.9(15.71)			18.4(14.93)		0.01
post 2 weeks (95% CI)	24.71 (20.17 to 29.25)	25.49 (21.28 to 29.69)	3.18	0.31	32.78 (25.95 to 39.60)	2.97	0.48
post 3 month (95% CI)	18.39 (13.61 to 23.18)	16.63 (12.08 to 21.19)	0.64	0.85	23.22 (15.61 to 30.83)	-0.27	0.95
post 6 month (95% CI)	19.39 (13.72 to 25.06)	23.71 (18.02 to 29.40)	6.72	0.1	14.73 (2.99 to 31.20)	-5.74	0.39

Conclusion

- Number of lymph nodes removed during the surgery was not associated with quality of life among breast cancer patients.
- Therefore, SLND was enough for the biopsy and may also lower the cost of the procedure and reduce morbidity.
- Longer follow up is necessary for clear conclusion.

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