

암재활

게시일시 및 장소 : 10 월 18 일(금) 08:30-12:20 Room G(3F)

질의응답 일시 및 장소 : 10 월 18 일(금) 10:00-10:45 Room G(3F)

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Does breast cancer surgery affect spine alignment ?

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Introduction

Breast cancer is the second most common cancer in Korean women. The patients with breast cancer are in a risk condition of scoliosis due to a combination of asymmetrical body mass distribution by surgical procedure and increased risk of osteoporosis by systemic therapies such as chemotherapy or hormone therapy. For that reason, we have to attention to the association between breast cancer treatments and scoliosis. A few research has been carried out regarding the effect of breast cancer surgery on the postural changes using DEXA scan, chest radiographs or photogrammetry. We conducted this study to determine the impact of breast cancer surgery on scoliosis with whole spine anteroposterior standing radiographic assessment to look at the alignment of the entire spine.

Methods

This retrospective study was carried out from April 2014 to June 2019. Inclusion criteria are as follows: 1) patients who diagnosed with breast cancer and treated with mastectomy(MA) with or without immediate breast reconstruction(IBR)); 2) patients who underwent whole spine anteroposterior standing radiography within 60days after breast cancer surgery and repeated radiography at least 300days later. Exclusion criteria were 1) bilateral breast cancer operation; 2) spine operation in the past; 3) previous chemotherapy, hormone or radiation treatment for other cancer; 4) bone metastasis; 5) recurrent breast cancer; 6) delayed breast reconstruction surgery. The curvature of the spine was measured by using the Cobb method.

Result

Total 91 women met the criteria .The demographic characteristics in the two groups are shown in table 1. We found no significant differences between groups with the exception of age. Women in MA with IBR group were younger than those in MA without IBR group ($p=0.002$). The mean interval of X-ray follow up was 711 days and difference in Cobb angle was 1.41 ± 1.34 . We did not observe a significant time \times group interaction effect in Cobb angle after adjusting for age. At initial assessment, 10 out of our 91 women (10.98%) showed scoliosis. 3 more women had scoliosis during the follow-up and scoliosis was

present in total 13 out of 91 women, at a prevalence rate of 14.28%. 3 women who had scoliosis during the follow-up were in MA with IBR group and mean change in cobb angle was 3.7 degree.

Conclusion

Our findings suggest that breast cancer surgery did not affect scoliosis in breast cancer survivors. Mean interval of follow up in our study was about 2 years and further investigation is necessary to confirm the more long-term effect.

Table1. Demographic characteristics (n=91)

	Mastectomy without immediate reconstruction (n=43)	Mastectomy with immediate reconstruction (n=48)	p-value
Age (yr)	52.72 ± 9.94	46.52 ± 8.36	0.002
Time between surgery and initial X-ray (days)	26.63 ± 34.49	28.48 ± 11.56	0.727
Time between initial and follow-up X-ray (days)	716.72 ± 380.41	705.88 ± 316.00	0.882
Initial Cobb Angle	5.34 ± 4.58	5.35 ± 3.57	0.995
Follow up Cobb Angle	5.48 ± 4.25	5.47 ± 4.00	0.994
Difference of Cobb angle	1.35 ± 1.43	1.46 ± 1.27	0.685
Osteoporosis (n)	3	8	0.148
Chemotherapy (n)	34	38	0.991
Radiation therapy (n)	19	19	0.658
Hormone therapy (n)			0.448
- Tamoxifen	20	33	
- Aromatase Inhibitor	11	3	
- Mixed	0	1	

By student's t test for parametric data and Mann-Whitney test for nominal data