

**FACTORS ASSOCIATED WITH THE DEVELOPMENT OF ARM
LYMPHEDEMA FOLLOWING BREAST CANCER TREATMENT:
A MATCH PAIR CASE-CONTROL STUDY**

K. Johansson, K. Ohlsson, C. Ingvar, M. Albertsson, C. Ekdahl

Department of Physical Therapy (KJ,CE), Department of Occupational and Environmental Medicine (KO), Lund University, Department of Surgery (CI), Lund University Hospital, and Department of Oncology (MA), Malmö University Hospital, Sweden

ABSTRACT

We examined factors that may influence the development of arm lymphedema following breast cancer treatment including the specific mode of therapy, patient occupation and life style. Medical record data and a questionnaire were used to collect information after surgery concerning such issues as wound seroma, infection, adjuvant treatment, vessel string (phlebitis), body mass index, smoking habits and stress. Occupational workload was assessed after surgery whereas housework, exercise, hobbies and body weight were assessed both before and after surgery. Seventy-one breast cancer treated women with arm lymphedema lasting more than 6 months but less than 2 years were matched to women similarly treated for breast cancer but without arm lymphedema (controls). The matching factors included axillary node status, time after axillary dissection, and age. In the lymphedema group, there was a higher body mass index at time of surgery ($p=0.03$) as well at time of study ($p=0.04$). No differences were found in occupational workload ($n=38$) or housework, but the lymphedema group reduced their spare time activities including exercise after surgery compared with the controls ($p<0.01$).

In conclusion, women treated for breast cancer with axillary node dissection with or without adjuvant radiotherapy could maintain their level of physical activity and occupational workload after treatment without an added risk of developing arm lymphedema. On the other hand, a Higher BMI before and after operation obesity increases the lymphedema risk.