

CASE NOTE

Lymphatic cording or axillary web syndrome after breast cancer surgery

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Lymphatic cording or axillary web syndrome (AWS) refers to a ropelike structure that develops mainly under the axilla but can extend to involve the medial aspect of the ipsilateral arm down to the antecubital fossa. It usually appears after axillary dissection and can develop after a patient's last surgical follow-up. As a result, nonsurgical health professionals such as physio- and massage therapists often manage patient care relating to AWS. To illustrate the typical clinical course of the syndrome, we present the case of a patient in whom AWS developed after surgery for node-positive breast cancer. Hopefully, our report will encourage surgeons and physiotherapists to collaborate in the treatment of this poorly understood syndrome.

CASE REPORT

A 37-year-old otherwise healthy woman underwent lumpectomy, sentinel lymph node biopsy and axillary dissection for a node-positive breast cancer in September 2006. She regained full pain-free range of motion (ROM) immediately after surgery. However, about 1 week postoperatively she noticed a tightening, visible cord extending from her axilla to the antecubital fossa (Fig. 1). Two weeks after surgery, her ipsilateral shoulder flexion and abduction had reduced to 135° and 123°, respectively, and at 4 weeks after surgery, it was just 148° and 145°. At 90° abduction, a 1-cm thick ropelike structure was palpable under the skin extending into the mid-upper arm. Pain and tension limited her ROM. We noted no lymphedema or erythema.

A physician referred the patient to physiotherapy where she received moist heat to the axilla and inner arm for 10 minutes per session. A physiotherapist then assisted her with flexion and abduction ROM exercises and gentle stretching. The physiotherapist used an arm pillow for support at the patient's limit of abduction and palpated and stretched the cord along its length. This prompted a painless audible snapping sound followed by subjective relief of tension and a 10° increase in ROM. The patient was instructed to continue home exercises that consisted of gentle arm flexion and horizontal abduction: with her hand supported on a wall, she was to move to the point of substantial tension, hold the position for a few seconds, then release. Over a 3-week period she had 5 more physiotherapy sessions with similar manoeuvres. Her ROM gradually improved to 180° flexion and abduction. The cord became less visible but was still palpable at the termination of her physiotherapy sessions 7 weeks postoperatively.

DISCUSSION

Informal communications between the authors and surgeons showed that most surgeons are aware of the phenomenon of lymphatic cording, but few can describe clear clinical features or formulate a treatment strategy. Indeed,



Fig. 1. The ropelike structure of lymphatic cording that characterizes axillary web syndrome is clearly visible under the axilla of a 37-year-old woman who underwent lumpectomy, sentinel lymph node biopsy and axillary dissection for breast cancer.

a detailed literature search of surgical and physiotherapy journals showed only a few publications on the topic.¹⁻⁴ Moskovitz and colleagues³ described 44 cases of AWS out of 750 sequential patients treated for breast cancer (6%). The syndrome developed in 4 patients after sentinel lymph node biopsy with no axillary dissection. Tissue sampling of the cords in 4 patients showed fibrin clots in lymphatic and venous channels. Symptoms resolved in all patients in 2–3 months. Leidenius and colleagues² found a 20% incidence of AWS among 49 patients who underwent sentinel lymph node biopsy only and a 72% incidence among 36 patients who underwent axillary clearance. In the series reported by Lauridsen and colleagues,⁵ axillary “strings” were present in 57% of 139 patients after breast cancer treatment at first follow-up, declining to 31% at the second follow-up, 15% at the third follow-up at 6 months and to 0% at 1 year. Given the relatively loose definition of AWS, it is not surprising that the described incidence varies among the few reports in the literature.

Lymphatic cording is associated with pain and limitation of shoulder movement. Seventy-four percent of

patients with AWS in the study by Moskovitz and colleagues³ had shoulder abduction restricted to less than 90°. Most authors described resolution of the cord in 3 months, although timing is obviously quite variable, as shown by the longitudinal data in the study by Lauridsen and colleagues.⁵

Moskovitz and colleagues³ commented that the duration of symptoms of AWS did not appear to be shortened by nonsteroidal anti-inflammatory drugs, physiotherapy (details not provided) or ROM exercises. There are a few published reports of individual physiotherapists’ approaches,^{1,6} most of which involve a combination of gentle stretching of the cord, ROM exercises and manual lymph drainage. However, whereas physiotherapy often accompanies the resolution of symptoms, it is difficult to determine a causal relation between the two. The report by Lauridsen and colleagues⁵ comparing 2 schedules of physiotherapy in the postoperative management of breast cancer described no difference in the rate of resolution of the cord in the early versus the delayed physiotherapy group; however, the study is valuable in that it shows improvement in function and ROM with physiotherapy.

Axillary web syndrome is a definite clinical entity that tends to develop after axillary surgery for breast cancer. In Canada, if treatment is provided, it tends to be delivered by physio- or massage therapists, but it is more likely that patients receive no education or treatment. More collaboration among surgeons and these nonsurgical health professionals would improve education about and treatment of AWS, which can have an important impact on the quality of life of breast cancer patients.

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