

Introducing a skin cancer lymphoedema prevention and rehabilitation scheme

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Key words

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Abstract

Lymphoedema is an incurable, progressive chronic condition and unfortunately it is a potential complication of the treatment for malignant melanoma following axillary node dissection and groin dissection. Referrals for this user group is ever-increasing to the Abertawe Bro Morgannwg University Health Board clinic presenting with established swelling, poor skin condition, and decreased range of movement. The skin cancer lymphoedema prevention and rehabilitation programme was implemented to assess whether it would be advantageous to target this user group both pre- and post-operatively to reduce the risk of lymphoedema and other physical effects associated from treatment. The data obtained via this scheme highlighted that the incidence of related lymphoedema in the melanoma group is under reported and under recognised.

The purpose of the skin cancer lymphoedema prevention and rehabilitation scheme was based on the identification of a gap in provisions for people with skin cancer; in particular, those with malignant melanoma who were presenting at the clinic with complex lymphoedema, poor skin condition, and a notable decrease in range of movement.

The overall aim was to provide a seamless, timely, proactive, equitable, cost-effective, fast access and culturally sensitive service, which decreases the incidence and severity of skin cancer-related lymphoedema.

The lymphoedema service noted increasing referrals in people with complex skin cancer, in particular, individuals with melanoma who had developed lymphoedema. These people were presenting not only with swollen limbs, but reduced range of movement, scar adhesions, and poor skin condition. More alarmingly, there appeared to be a common theme of a significant lack of knowledge on the part of the patient prior to surgery regarding the risk of developing lymphoedema and basic preventative advice. The lymphoedema service had already established award-

winning lymphoedema prevention rehabilitation schemes for people with breast and gynecological conditions. These were adapted to target the user group of people with malignant melanoma who were undergoing axillary node or groin dissections within Abertawe Bro Morgannwg University Health Board (ABMU HB).

Macmillan funding was applied for and successfully gained for one whole time equivalent (WTE) for 18 months to initiate and develop the skin cancer lymphoedema prevention and rehabilitation scheme.

Method

A four-phase intervention for all malignant melanoma patients undergoing axillary or groin node dissection was developed. The majority of these patients were obtained from the skin cancer multidisciplinary team (MDT), preoperative nurses from plastic surgery and the clinical nurse specialist in skin cancer.

Phase 1

The patient is seen pre- and postoperatively. Circumferential base-line measurements of the 'at-risk' and 'non-risk' limbs are taken,

range of movement, neural sensitivity, pain levels, and activity levels are recorded. The concept of lymphoedema is explained to the individual and they are offered preventative advice which is reinforced with approved local departmental patient information leaflets.

Phase 2

The individual is assessed in an outpatient setting and treatment implemented as necessary. This can include scar massage, release of axillary web syndrome/cording, neural desensitising techniques, compression garments and soft tissue mobilisation.

Phase 3

The individual is invited onto a cancer rehabilitation scheme which is a 9-week programme of 2½ hours once a week. This entails 1 hour of education of varied topics, an hour of exercise and half an hour of relaxation. Physical and psychological outcome measures are recorded at week 1 and repeated at week 9 in the form of the Hospital Anxiety and Depression Scale (this is a 14 item scale of which seven relate to anxiety and seven to depression with

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each question is scored from 0–3, therefore the score is between 0–21), as well as an interview with a psychology PhD student. Physical outcome measures are recorded as the “timed up and go” and “functional reach”. Timed up and go is a simple test that assesses a patient’s mobility and requires both static and dynamic balance. Basically, it refers to the time taken for an individual to rise from a chair, walk three metres, turn around, walk back to the chair and sit down. The time is then analysed – 11–20 seconds is within normal limits, while greater than 20 seconds means the individual requires assistance, while indicating further examination and intervention.

The functional reach test assesses balance and measures the maximal distance the individual can reach forward beyond arm’s length, while keeping feet planted on the ground.

Phase 4

Patients are given the opportunity to continue with their exercise regimen in a leisure centre with expert advice on hand if required.

Evaluation

Over the course of 14 months (November 2010–January 2012), 50 people with melanoma who have undergone groin or axillary dissections have entered the scheme. However, 26 of these individuals live out of the area served by ABMU HB. Those who live out of the area are discharged to the care of their local lymphoedema services following pre- and post-operative assessment. The following results are of the remaining 24 patients who were from the ABMU HB area at their first 4-week follow-up: 57% of the patients had limited range of movement, 38% had pain, and 94% had (lymph)oedema.

These dimensions were reviewed at their 6-month follow up. Fifteen people were available for follow up as the remaining patients had passed away or were to unwell to attend their review. Some 5% of the patients had limited range of movement, while 3% experienced pain, and 26% had lymphoedema.

Discussion

The results of swelling from the 4-week follow-up may be caused by postoperative trauma as opposed to lymphoedema. However, regardless of cause, intervention will be beneficial.

At the 6-month follow-up, 26% presented with lymphoedema, which does not reflect the incidence of 16% reported for the melanoma group as a consequence of treatment in a systematic review and met-analysis of cancer-related secondary lymphoedema (Cormier et al, 2010). Comparing these results, it can be suggested that the incidence within the literature is underestimated and therefore under recognised in this user group.

The authors’ clinical experience relating to the user group suggests that the incidence of melanoma-related lymphoedema is more likely to be on a par with breast cancer-related lymphoedema (20%–26%; Park et al, 2008). A number of factors may contribute to the discrepancy between clinical presentation and reported incidence rates in the literature. Sentinel lymph node biopsy (SLNB) is routinely adopted for the staging of the axilla within breast cancer, which has resulted in a significantly lower rate of lymphoedema postoperatively (McLaughlin et al, 2008). It is not currently routinely used in melanoma patients even though it provides important prognostic information and, therefore, these patients undergo axillary node clearance (ANC), which has a significantly higher rate of lymphoedema (McLaughlin et al, 2008).

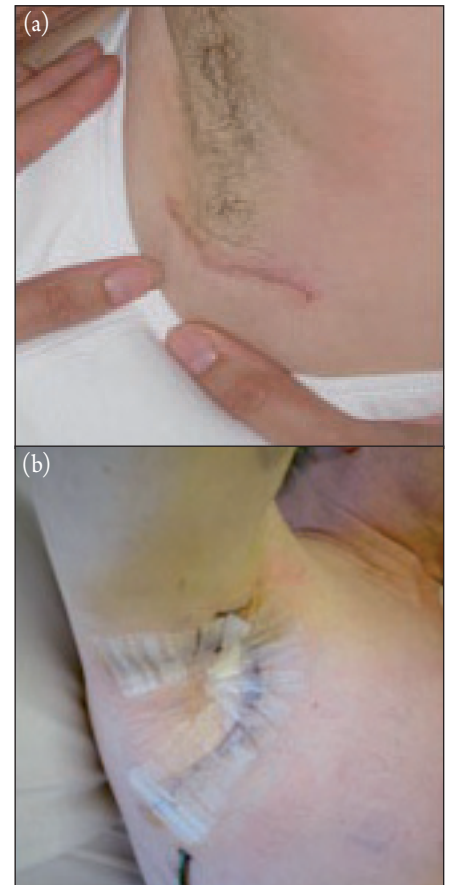
Another factor contributing to the discrepancy between clinical presentation and reported incidence is surgical technique. The surgical technique used in ANC in breast patients is not as traumatic and extensive as the ANC for melanoma (Starritt et al, 2004). In the person with melanoma, the pectoralis minor is retracted back to access the intrapectoral nodes – a technique not routinely performed in breast cancer ANC. *Figure 1* illustrate the respective incision lines for breast cancer and melanoma.

There is also the financial aspect to consider. Breast cancer is a highly published, high-profile disease with extensive funding and research to develop treatment techniques and raise awareness of treatment side effects. To date, melanoma does not have the same level of recognition and research, resulting in a discrepancy between the level of funding available for this condition, when compared with breast cancer.

Conclusion

Based on the data obtained via this scheme, the incidence of related lymphoedema in the melanoma group is under reported and under recognised. The most important issue to be raised is that skin cancer MDT

Figure 1. (a) Incision line of a breast cancer axillary node clearance. (b) Incision line of a melanoma axillary node clearance.



and lymphoedema services appear to be reactive rather than proactive in delivering care, due to the poor prognosis of people with melanoma. This is pertinent in that melanoma cases have quadrupled in the last 30 years and are continuing to increase (Cancer Research UK, 2012).

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