

Facing up to the obesity crisis: outcomes of a bariatric lymphoedema clinic

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Key words

Bariatric, lymphoedema, motivation, obesity, weight loss

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Abstract

There has been an increasing number of referrals of obese patient to lymphoedema services. Lymphoedema in obesity is often complicated by multiple comorbidities. Treatments for lymphoedema have been shown to be unsuccessful without concurrent and sustained weight loss. This article describes the initiatives of a specialist lymphoedema service in attempting to manage lymphoedema in the presence of obesity and highlights some of the issues around this problem, and interventions undertaken to encourage weight loss among a group of overweight outpatients with lymphoedema.

The World Health Organization (WHO) classifies a BMI of >30 as obese and BMI >40 kg/m² as morbidly obese (WHO, 2014). The obesity epidemic is an escalating challenge for the NHS, with the treatment of obesity-related diseases predicted to cost £1.9–2 billion annually by 2030 (Wang et al, 2011). Approximately one quarter of men and women in England are obese (Department of Health, 2008) and this figure is forecast to climb to 60% of men and 50% of women in the UK by 2050 (El-Sayed et al, 2012).

There is an established link between obesity and the development of lymphoedema (Lewis and Morgan, 2008; Table 1). Obesity is also an independent risk factor for the development of secondary lymphoedema (e.g. breast-cancer related lymphoedema mastectomy; Helyer et al, 2010). Consequently, the rise in the obese population has resulted in an increasing number of referrals of obese patients to lymphoedema services (British Lymphology Society, 2013).

Lymphoedema in obesity is often complicated by multiple comorbidities such as chronic venous insufficiency, cardiac failure or obstructive sleep apnoea. Assessment often requires additional equipment and staff time. Standard lymphoedema treatments in the

form of compression bandaging and manual lymphatic drainage have been shown to be useful, but only when patients are motivated to lose weight and show commitment long-term for their chronic condition (Fife, 2008).

This article describes the initiatives of a specialist lymphoedema service in attempting to manage lymphoedema in the presence of obesity and highlights some of the issues around this problem, and interventions undertaken to encourage weight loss among a group of overweight outpatients with lymphoedema.

Background

LOROS Hospice was founded in 1985 and now cares for more than 2500 people

annually across Leicestershire and Rutland. This includes 550 people admitted to the 31-bed inpatient unit, as well as outpatient, community, day therapy and lymphoedema specialist services. Expenditure on patient care totals £7.5 million per annum; the NHS provides one-third of this figure, with the balance made up by charitable donations.

The specialist lymphoedema service at LOROS was established in 1995, initially providing care solely for patients with cancer-related lymphoedema and extending care to include those with non-cancer related lymphoedema in 1997. Cases of primary lymphoedema gradually rose to account for 63.7% of the service's caseload by May 2014. Some 23.9% of the patients with primary

Table 1. Causes of oedema in obesity.

- Obesity and poor mobility lead to venous hypertension, chronic venous insufficiency and poor lymph return (Jawein, 2003)
- Obesity results in overburdening of the lymphatic system, leading to ultrafiltration and increased production of lymph (Damstra, 2008)
- Obesity causes chronic skin changes and several dermatological conditions including lymphoedema (Yosipovitch et al, 2007)
- Obese patients often suffer with multiple co-morbidities (e.g. obstructive sleep apnoea); patients with OSA often sleep in chairs – due to difficulty breathing if lying horizontal – and therefore impair circulation (Iftikhar et al, 2008)

lymphoedema treated by the service have a BMI of ≥ 40 kg/m² by May 2014 also.

Interventions

Three interventions were initiated to provide a multidisciplinary approach to the problems people with lymphoedema face, including practical and emotional issues. Each initiative evolved from the previous one. As lymphoedema is unlikely to improve without sustained weight loss, the lead consultant for lymphoedema services and a team of lymphoedema nurse specialists instigated a number of new outpatient interventions. The aim was to decrease BMI among overweight and obese patients, thereby increasing the likelihood of conventional treatments for lymphoedema (e.g. compression bandaging) being successful. This would then hopefully allow discharge of patients back from the specialist centre to primary care. Success would be measured by the degree of weight loss and reduced numbers of obese patients with primary lymphoedema requiring ongoing specialist follow up.

The Living With Lymphoedema Clinic

A wellbeing clinic called 'Living with Lymphoedema' ran weekly over a period of 4 weeks, consisting of four workshops. Sessions consisted of presentations and discussions by a lymphoedema nurse specialist, physiotherapist, occupational therapist, dietician, counsellor, social worker and a representative from the Lymphoedema Support Group. The idea was to provide a holistic approach to lymphoedema treatment, with one session dedicated to the benefits of weight loss and exercise. It was open to all patients, who were informed of it when they attended clinic. Those interested were sent a written invitation with dates for the next available course and groups of up to 12 were invited. The workshops were discontinued due to poor uptake.

Healthy eating sessions

Patients were invited to attend a monthly healthy eating session ran by a dietician and healthcare assistant. Following the Living with Lymphoedema workshops, a healthy eating session was introduced. This was a group session designed by a dietician with support from the lymphoedema healthcare assistant and concentrated on calorie and fat content of food and portion size. It was offered to patients with a BMI of 40 or more

and/or had concerns about their weight and appearance. It ran monthly, with patients being invited to one session. Again, it was disbanded due to lack of patient attendance.

The Bariatric-Lymphoedema Clinic

The aim of the Bariatric-Lymphoedema Clinic was to offer those patients referred with a BMI of >40 a 'one-stop' assessment and dietetic review. Referrals came from both hospital-based doctors and GPs. Professionals were made aware of the clinic either via the LOROS website or through access to the donut website (a primary care intranet system including information about referrals, pathways and guidelines). Referred patients would first see a doctor and LNS and then be invited to see a dietician. Education was provided into the cause of swelling, the need for good skin care and emphasis placed on the need for weight loss before treatments such as compression were likely to be successful. Unless compression was considered appropriate, the patient would then be discharged from the clinic with dietetic follow up. If, having lost weight, the patient was still having problems with lymphoedema, the referrer was invited to re-refer the patient.

A survey was conducted prospectively for all patients seen in the Bariatric-Lymphoedema Clinic between September 2012 and August 2013. This was designed by the lead consultant, the lymphoedema specialist nurses and the dietician, and was completed by all those professionals throughout the time period, both during and outside clinic times. As well as past medical history (including any previous dietetic input or bariatric surgery), questions focused on whether patients took up the offer of a dietetic review, total weight lost over 6 months and adherence to follow up.

Outcomes

Thirty patients were referred to the Bariatric-Lymphoedema Clinic between September 2012 and August 2013. Nine patients did not attend their appointment. A total of 21 patients (four men, 17 women) were seen.

Twenty-seven patients were referred by GPs, two by non-specified hospital doctors and one by a dermatologist. BMI of the referred patients ranged from 39.2 kg/m²–73.6 kg/m² (average, 52.3 kg/m²). Two patients were not weighed due to logistical difficulties. Bariatric surgery had been performed in three of these patients and one

other was awaiting bariatric surgery.

Eight of these patients had been previously reviewed by a dietetic service, and five by a bariatric dietician.

All patients had ≥ 1 comorbidity (10, hypertension; 9, joint problems; 8, diabetes; 3, ischaemic heart disease; 3, obstructive sleep apnoea [OSA]; 2, renal failure; 5, chronic obstructive pulmonary disease; 4, mental health problems; 2, hypothyroidism; 1, heart failure; 1, stroke; 1, deep venous thrombosis; 1, asthma).

Fifteen patients were reviewed by the dietician in clinic, while four patients declined. For the remaining two patients no dietician was available, but follow-up referral was arranged if the patient wished.

Fifteen patients were discharged from the lymphoedema clinic following the initial appointment. The main criteria for discharges was as follows:

- Comorbidities, such as cardiac failure
- Inability to tolerate compression in the past
- Inability to put on compression hosiery (e.g. arthritis of hands, unable to reach feet due to obesity)
- Open leg ulcers
- Lack of patient motivation (e.g. no interest in losing weight, declined dietetic input, previous history of missed appointments, failed bariatric surgery)
- Difficulty attending the clinic due to individual habits.

Although these patients were discharged, the referrer was invited to re-refer the patient if the symptoms persisted, despite weight loss. Four patients were offered a follow-up appointment in the standard nurse-led lymphoedema clinic for assessment for the use of compression hosiery or bandaging.

Discussion

The above results and reflection on the sessions highlighted a number of clinic-specific and general challenges in managing lymphoedema in the presence of obesity.

The high rate of patient non-attendance – almost one third – was almost three times higher than the average of 12% for non-attendance at outpatient clinics in the UK (Sharp, 2001).

Identified risk factors for defaulting that may be applicable to this population are lower socio-economic status, psychological problems, not deeming health problems as urgent, not holding the belief that the service can improve their complaint, and having

difficulties with mobility and transport. (George and Rubin, 2003).

Poor uptake of dietician review was also a barrier. Furthermore, the high number of patients being referred resulted in longer than anticipated waiting lists. At the peak, patients waited 6 months before being assessed.

Treatments for lymphoedema have been shown to be unsuccessful among obese patients without concurrent and sustained weight loss (Stigant, 2009). Many of the patients had seen a dietician in the past and/or undergone bariatric surgery without any resulting weight loss.

Treatment for both obesity and lymphoedema are labour and resource intensive. Lymphoedema being a chronic disease, treatment needs to continue long-term but the patients were generally poorly motivated.

There are a number of differences in treating obesity-related oedema. A high number of skin folds on obese patients lead to higher rates of skin break-down, fungal infections and cellulitis (Lewis and Morgan, 2008; Figure 1). Large abdominal circumference makes reaching to extremities to perform good skin care difficult (Sigant, 2009). Thus, obese



Figure 1. Distorted limb shapes with skin folds representative of an obese limb with oedema.

patients experience a higher incidence of lymphorrhoea and chronic skin ulceration. The higher incidence of diabetes in obese populations further increases the incidence of lower-limb ulceration (Lewis and Morgan, 2008; Todd, 2009).

From a care delivery point of view, treating obesity-related oedema requires made-to-measure hosiery to fit distorted limb shapes, which is expensive (Figure 1). The clinic setting has to be adapted to accommodate larger patients with wheelchair space, wider doors, bariatric chairs and appropriately designed examination couches and scales (Todd, 2009).

Patient-factors also make treatment difficult. Concurrent heart disease, respiratory disease (including obstructive sleep apnea) and osteoarthritis in these patients make exercise tolerance poor (Todd, 2009). Low socio-economic status and psychological problems may be linked to non-attendance of appointments (George and Rubin, 2003).

This clinic was running within a charitable hospice organisation. As such, consideration needs to be given to the allocation of resources and the intentions of donors must be taken into account (i.e. caring for those with progressive / terminal illness versus obesity-related disease). The clinic was time-intensive for the LNS, dietician and clinician involved and – due to poor outcomes – was deemed not cost-effective and was discontinued. Patients are now assessed by the LNS in a routine clinic. If there are doubts or concerns about a case, the patient will be referred to a joint clinic with a doctor.

Conclusion

Experience at the Bariatric Lymphoedema Clinic highlight poor motivation among obese patients to participate with services and to remain driven to lose sufficient weight for lymphoedema treatments to be successful. All the patients suffered from comorbidities that are likely to compound their lymphoedema, including mental health issues.

Effective management of lymphoedema among obese patients needs to include a collaboration between specialist clinics and primary care services. Emphasis must be placed on the importance of sustained weight loss through diet and exercise before standard therapies will be effective. Both

healthcare professionals and patients need to be educated that referral to specialist lymphoedema service is unlikely to be appropriate until patients have engaged successfully with weight-reduction programmes. Production of clear referral criteria and patient participation guidelines would be helpful (Fife and Carter, 2008).

It is important that centres throughout the country share their experiences so that guidance can be drawn to offer the best care with the most efficient use of limited resources.

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