

Understanding Lipedema

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INTRODUCTION

Very few physicians understand lipedema, its relationship to lymphedema and why it occurs only in women. The subject is rarely discussed in medical texts. When a doctor is confronted with a patient who has lipedema, the diagnosis is often not made, the condition is confused with morbid obesity or with primary lymphedema. Some authors believe that it is the same condition as "cellulite," a lay term that is often used by French doctors.

Lipedema is the name first used by Allen¹ in 1940. It is a chronic, incurable illness marked by a bilateral symmetrical, remarkable increase in stored fat, usually involving the pelvic girdle: hips, buttocks and thighs (*Figure 1*). Later on in its development it causes swelling of both legs, but not the feet or toes. It is usually hereditary and, as already mentioned, occurs only in women.

It begins typically at about the age of puberty or a few years later. Some patients have the same condition in the arms as well as the thighs. In these patients, the forearms and hands are uninvolved and, in fact, these can be extremely thin.

Lipedema is thus a hormonally-induced, oftentimes hereditary disorder marked by the abnormal storage and distribution of subcutaneous fat. Patients with this disorder are not usually hypothyroid, but should be tested for this condition without fail. Lipedema is a serious illness that often afflicts obese women. It leads to difficulty in walking, fatigue, the constant need to sit, to rest, to lie down and progressive invalidity.

Some authors² have divided the natural history of lipedema into three stages. In Stage I the skin surface is smooth and the tissues exhibit a soft, nodular texture. In Stage II the skin surface is uneven and is described as "peau d'orange" skin, while the soft tissues are filled with larger fat

nodules. Stage III is easily recognized by contour-deforming subcutaneous fat lobules and by large fat pads located just above the medial surface of the knees. These often rub against each other when walking and interfere with normal gait.

PATHOPHYSIOLOGY

Lipedema is marked by a great increase in subcutaneous fat storage from the iliac crests to the ankles and, occasionally, in the upper arms. When the arms are involved there is usually a huge fold of loose, hanging skin visible when the patient elevates her arms to the horizontal. Lipedema is therefore a bizarre abnormality of body fat distribution and storage combined with enlargement (hyperplasia) of the individual fat cells. The swelling gets worse during the second half

of the day because of the associated orthostatic edema and the diminished tissue resistance of fatty tissues that permits the edema fluid to accumulate easily. These, plus the increased capillary ultrafiltration and vessel wall permeability combine to complete the picture: peculiar pattern of fat distribution, orthostatic edema caused by the upright position and the various vessel wall abnormalities. The patient has frequent hemorrhages (black and blue marks) in the affected areas and, unlike lymphedema, the swollen areas are very painful.

Over time, because of increased ultrafiltration in such patients, mechanical insufficiency of the lymph system occurs, leading to typical lymphedema, the most common complication of long-standing lipedema.

Continued on reverse



Figure 1. Classic lipedema developed during puberty.

Lymphangiography has demonstrated that lower extremity lymph vessels in lipedema patients do not run in straight lines, but rather as twisted coils and spirals³, the result of pressure from the fat lobules and from the lack of normal tissue support in other fatty areas. Lymphoscintigraphic studies have demonstrated that the speed of lymphatic flow diminishes in lipedema patients much more quickly than in normal subjects³. All in all, it is easy to see how lymphedema develops in many cases of lipedema.

DIFFERENTIAL DIAGNOSIS

The principle differential diagnostic consideration in lipedema patients is lymphedema. This is true both for pure lipedema and for combined lipo-lymphedema cases. In pure lipedema, the feet are normal; the patient is usually overweight and has been dieting on and off for years. The tissues in long-standing lipedema remain soft and rubbery, not fibrotic or hard as in lymphedema. After a period of dieting, the patient may complain that she lost weight in the upper half of the body, but hips, buttocks and thighs are unchanged. Lipedema is bilaterally symmetrical, painful and never associated with cellulitis. The Stemmer's sign is negative.

Lymphedema is just the opposite. There is little or no pain, there are frequent attacks of cellulitis or lymphangitis, the feet and toes are swollen and the condition may be either unilateral or asymmetrical. When lymphedema complicates a lipedema, it is not difficult to make an exact diagnosis. The Stemmer's sign in lymphedema is positive.

LIPDEMA AND OBESITY

Many lipedema patients become morbidly obese because they sit a great deal of the time, do not engage in any sports, are always tired and become more and more sedentary. It is difficult for them to walk, to wear normal clothing, to climb stairs, etc. All of these factors contribute to increasing invalidity, to gaining weight, to compulsive eating, to becoming more and more reclusive and to the development of lymphedema.

NATURAL HISTORY OF LIPDEMA

Pure lipedema often develops in the teenage years and may hardly progress so long as the patient remains thin and active. Once the patient begins putting on weight, the condition worsens, the patient becomes more and more sedentary, lymphedema may develop and therapy becomes more difficult.

THERAPY

The only therapy recommended is the following:

1. Weight loss, if overweight;
2. Low fat, low salt, low calorie diet;
3. CDT for a few weeks and then from time-to-time;

4. Pantyhose compression (Class III) by day;
5. Bandaging overnight using low-stretch, multilayered bandages.

The patient should understand that, while the lymphedema component responds well to CDT, the lipedema responds more slowly and, sometimes, not at all. All must know that physical activity, proper diet, maintenance of ideal weight, compression and exercise are all vital to the success of the program and that enormous willpower is required for success. Lipedema patients can be totally rehabilitated if they are willing to follow such a program.

Lipectomy (excision of fatty accumulations) and liposuction are generally not indicated in the treatment of lipedema. Both are sometimes recommended and both may give good immediate results. But long-term, since both injure, disrupt, or resect lymph vessels and cause the lymphedema component to worsen, the problem only becomes greater.

LIPDEMA AND "CELLULITE"

"Cellulite" or panniculopathia oedematicosclerotica is a related condition that occurs in young women and causes changes (edema and mild lymphatic obstruction) in the subcutaneous tissues of the thighs and buttocks⁴. Patients complain of bursting pains and tension in these areas. The skin may also exhibit the "peau d'orange" phenomenon as in lipedema. In later stages of this condition, Curri⁵ has pointed out that the edema of the fatty layers becomes more and more sclerotic. Treatment consists of weight reduction, exercise and massage. o

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