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General Practitioner Information: LEG SWELLING

No day passes without me being asked to see a patient whose primary concern is "leg swelling". This may take several forms, but for the most part they are all pretty similar. I think the reason for this is that in truth the easy problems are easy and are mostly solved quite promptly in general practice.

A typical patient I am asked to see is elderly, overweight, with multiple co-morbidities. They usually have some arthritis, some renal and cardiac disfunction, they are often diabetic and get around with great difficulty. I think this highlights that the problem is mostly degenerative and wholistic rather than specific. It has usually been going on for some time. For the most part patients have high expectations of their appointment to see me.

Causes of Leg swelling
Systemic problems: renal and cardiac failure, systemic illness with low protein. Poor mobility.
Local problems: venous, lymphatic and inflammatory. Poor mobility and obesity.

It is important also to know that there is a group of patients whose legs are just bigger than other people. Over the years I have encountered people with legs that are out of proportion to the rest of their body shape. Unfortunately they just have an unfortunate distribution of body fat especially as they enter middle age. Weight loss is their only strategy. These people do not have leg swelling.

Bilateral vs. Unilateral
Bilateral oedema is more likely to be due to a systemic cause – these patients should be worked up for cardiac and renal disease as well as causes of hypoproteinaemia. Unilateral leg swelling is much more likely to be due to a local problem though patients with a local problem may experience worse swelling when they develop a systemic condition. Important historical context includes a history of trauma to the leg, any history of surgery to the leg and a history of venous disease including DVT. The duration of the swelling and a history of cancer is also important. It is important to know if the swelling goes away substantially by morning or if the relief is minimal from an overnight rest. Signs of local infection are important.

Important things to exclude at the first visit are cellulitis which should respond well to prompt antibiotic use. It is important to remember that the patient may be more aware of this problem than the symptoms may suggest at first. It is also important to consider if there is an acute DVT which requires urgent treatment (D-dimer and ultrasound assessment are both quick and inexpensive). In patients with a history of malignancy in the leg or elsewhere should raise the possibility of malignant lymphatic obstruction. Rarely this may be an initial presentation of a malignant process. However, malignant causes are rare in patients with a long standing problem.

Lymphoedema
This is a common cause of leg swelling and is often under recognised. It is characterised by a swelling which does not settle after a night's rest. Lymphoedema may be on the basis of infection, malignancy, trauma or surgery. Any damage to the leg at any time in the past puts a patient at risk of problems in the future sometimes many years down the line. Importantly orthopaedic surgery, varicose veins surgery, attacks of cellulitis, vascular surgery are all culprits. The scale of the problem is proportional to the scale of the previous injury. In some cases though lymphoedema can be precipitated by a relatively trivial infection in the leg, and so it is possible that a patient with chronic lymphoedema is not aware of some historical causative event. In my practice most patients are unaware that major surgery to a leg will leave them with at least a tendency to swell. In some this may be a permanent problem while in others it may be a problem that surfaces later in life as other issues play bigger and bigger role.

Mobility
Unless still young, we have just about all experience some leg swelling in our lives before. Often this is related to injury, immobility or illness. Normally our healthy physiology allows us to overcome this. The lower leg musculature acts as a secondary pump which pumps blood back to the right atrium. Activity also helps to mobilise interstitial fluid back into the blood stream and lymphatics helping us combat swelling. If our activity is reduced by an illness or a long flight we can no longer maintain normal leg homeostasis and the leg swells. Typically, once we get going again the problem resolves. If there has been a history of trauma, surgery, DVT or infection the problem is amplified. In people whose mobility is chronically impaired the swelling quite simply may never resolve. Elevation of the legs during a period of leg swelling also helps to keep swelling under control.

Varicose veins: varicose veins are often blamed for leg swelling and while to some extent this can be true is is usually not severe. Most patients with varicose veins have little or no swelling. Searching for venous incompetence is reasonable in this group of patients but usually less rewarding than is hoped. Patients with very large varicose veins and superficial incompetence only may be a candidate for some intervention. The problem is that varicose veins surgery is inclined to cause swelling in it's own right, so the problem must be approached cautiously with a "cause the least harm" approach

So back to the typical patient: Overweight, struggling to maintain their mobility, several co-morbidities, with a history of leg injury or surgery and generally believes that there is a solution to their problem which will erase years of trouble. Sadly not.

There are usually many contributors to their problem.

- Previous surgery or injury causes some lymphoedema
- Their arthritis makes movement difficult
- Foot and ankle pain which is common in the elderly also slows them down
- A tendency to spend long hours sitting with their legs in a dependant position is common.
- Previous or current infections adds to the mix.
- In many the presence a few long standing varicose veins is often claimed to be the problem
- Their central obesity impairs venous and lymphatic return and also decreases mobility
- Current cardiac or renal issues may cause fluid retention.
- Nutritional deficiency may contribute to hypoproteinaemia

Patients with one or two problems may easily keep the situation under control, however, as more and more issues supervene the problem may become permanent. Patients with systemic problems may find that optimisation of their cardiac or renal disease may result in a dramatic improvement of their problem – I tend not to see these patients, as they have been sorted in general practice. Equally those with an episode of cellulitis or venous thrombosis generally experience a steady improvement in their symptoms and do not present to me.

The patients who do present to me are those where General Practice intervention has failed to provide a solution and who still complain about swelling and pain. Often they link their immobility to the swelling rather than the other way round. Most are desperate for a "magic wand" that will solve this and many have placed a great deal of hope in their consultation with me, often they come along with one or even several family members anxious to ensure that their relative is not fobbed off. This makes these consultations very tricky.

I usually start by taking a good history, listening for references to cancer and previous surgery. Looking at their medication is informative. I ask open ended questions about their mobility, activity and self care. I undertake a simple examination: pulses, wounds, state of the lower leg, looking at previous surgical scars and so on. The patients will be disappointed if they are not examined. All the while I am compiling a list of features that precipitate swelling, usually there are several.

In talking with the patient and their family I build the list of problems gently allowing them to take stock of each point and helping them to realise that mostly their problem is degenerative rather than specific. I dwell significantly on the importance of mobility. If there is an easily reversible problem, I point this out to them.

Solutions:

- It is important that these patients spend at least 8 hours a night in bed with their leg elevated and their head down. Recliner chairs are not OK at night but are good during the day. During the day, leg elevation should always be preferred to dependency and a spell in bed after lunch is very helpful.
- Weight loss is extremely difficult but is a battle that should never be given up, the loss of even a few kilograms will improve matters
- Stockings may help to control the swelling and pain but are often too hard to get on or too weak to be of any help. My experience is that they may cause more harm than good through injury to the leg during application.
- Spells of antibiotics may help as will steroid ointments for the lower leg. Twice daily moisturisation of the leg is important.
- Beginning a slow and cautious exercise program is very helpful, walking, swimming, and even gym work may help. "Circulation Boosters" do not feature in current medical literature but some patients claim that they are helpful. Enlisting family support for this is a good way to share some of the responsibility with the concerned family
- Of course optimisation of medical co-morbidities may also be helpful.
- Many patients feel that their previous doctors have been unsympathetic, have not listened to them or that they have been victims of poor care. I spend some time explaining to these patients the difficulty of looking after a patient with a very real problem that lacks a good solution, understanding this seems to help.
- Empowering the patient to take responsibility for and control of their lives is the most important thing of all. They need most of all to be let down gently about the lack of a magic wand for this problem.