

Lymphatics and Lymph nodes

Acute lymphangitis. Occurs when infection, commonly by streptococcus pyogens, spreads beyond a point of infection to the group of lymph nodes draining that area, where an abscess may form. Occasionally the infection bypasses the group to affect another at a higher level. For example, if the point of infection is in the foot an abscess may form in external iliac group of nodes rather than the superficial (lower) and deep inguinal group and because the point of infection may have healed and forgotten, by the time the mass appears it may be mistaken for appendix mass.

Acute lymphangitis is seen as red blushes and streak in the skin, corresponding to the inflamed lymphatics.

Treatment consists of bed rest, with the affected limb comfortably elevated, and gives cloxacillin, which usually causes rapid resolution. Only when there are signs of pus should an incision be made.

Chronic lymphangitis may follow repeated attacks of acute lymphangitis.

Lymph edema

Lymph edema is caused by accumulation of fluid in extra cellular, extra vascular fluid compartment and in the limbs it accumulates mainly in the subcutaneous tissues. Lymph edema can be congenital or acquired.

Congenital lymph edema the clinical classification of congenital lymph edema (Milroy's disease) depends on the age of onset.

Lymph edema congenita being present at birth.

Lymph edema praecox presenting at puberty.

Lymph edema tarda presenting in adult, but the condition is now commonly classified to the finding at lymphangiography:

1- **Hypoplasia and aplasia** are the commonest congenital abnormalities which result in lymph edema. The number of lymph vessels and nodes draining the affected limb is reduced, usually in the thigh where one or two vessels opacify instead of the usual five or more.

Sometimes impossible to find a lymphatic vessel in the subcutaneous tissues of the affected limb and these patients are usually diagnosed as suffering from lymphatic aplasia.

2- **Varicose lymphatics** are a rare cause of congenital lymph edema. The lymph vessels are dilated and tortuous and the condition is often associated with congenital arteriovenous fistula.

Acquired lymph edema (secondary lymph edema)

This form of lymph edema is usually due to obstruction and in such cases lymphangiography shows obstruction to the main lymphatic vessels with 'dermal back flow' into the subcutaneous lymph vessels. The causes of obstructive lymph edema are:

١. Trauma, e. g. removal of axillary lymphatics in radical mastectomy.
٢. Repeated acute infection, as in those who go about bare-foot.
٣. Chronic infection, e.g. Tuberculosis, fungus infection, and also chronic infection of cervix, even uterus.
٤. Advanced malignant disease.

In some patients with mild congenital lymphatic hypoplasia, lymph edema is precipitated as a result of lymphangitis.

Filariasis is a disease widely spread through tropical and sub tropical countries. It is to a nematode worm, *Filaria sanguinis hominis* which is transmitted by a mosquito. Once in the human body, the female worm find its way to the lymphatics and lymph nodes (especially the inguinal group).obstruction of lymph vessels ensues and this manifested in: (1) varicosities of lymphatic vessels producing chylous ascitis and hydroceles and, some times, chylous fistula on the scrotum on the scrotum and groins. (2) Solid edema (elephantiasis) often affecting the legs, scrotum and arms, though it may occur anywhere.

Treatment by diethylcarbamazine-citrate, which appear to kill the adult female worm. Prevention by anti-mosquito measure is vitally important. Elephantiasis may require surgery.

The Treatment of Lymph edema

1-*Palliative* for the attacks of inflammation, prolonged bed rest, elevation, and the appropriate anti biotic are important. Even between attacks, the patient should sleep with foot of the bed raised and may require to use efficient elastic stocking pressure. Intermittent limb compression pump can also be applied when available.

2-*Surgery* is reserved for those with severe disability. One of many surgical procedures is the removal of all the abnormal subcutaneous tissue and the covering of the exposed deeper tissue with split skin graft.

3-*Microsurgery* it is possible in many sites to anastomose dilated lymphatics to veins (lymphovenous anastomosis).

Lymph nodes

Acute inflammation lymph nodes, draining any area where there is acute infection, will also become inflamed.

Chronic inflammation is either simple (pyogenic) or specific.

1-*Chronic simple lymphadenitis* is due to persistence of infection, such as occurs in recurrent tonsillitis or pediculosis capitis, and the cause should be treated.

2-*Chronic specific lymphadenitis*

(a) Tuberculous lymphadenitis is common in children and young adult, it also occurs in the aged. The cervical lymph nodes are most often seen to be enlarged. The infected lymph nodes coalesce and break down to form caseous tuberculous pus, which may perforate the deep fascia and present as fluctuant swelling on the surface (collar-stud abscess).

Treatment anti T.B. drugs and when the patient's condition begins to improve, breaking-down lymph nodes must be removed, because the drugs will not reach the organisms in the avascular caseous material.

(b) Syphilitic adenitis lymph nodes in the groin associated with genital chancre are characteristic. Those in the submandibular region draining a chancre of the lip are softer. During the secondary stage a generalized enlargement of lymph nodes occurs.

