**Cases of lymphatic obstruction / by C.E. Richmond.**

# CASES

OF

# LYMPHATIC OBSTRUCTION.

BY

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# CASES OF LYMPHATIC OBSTRUCTION.

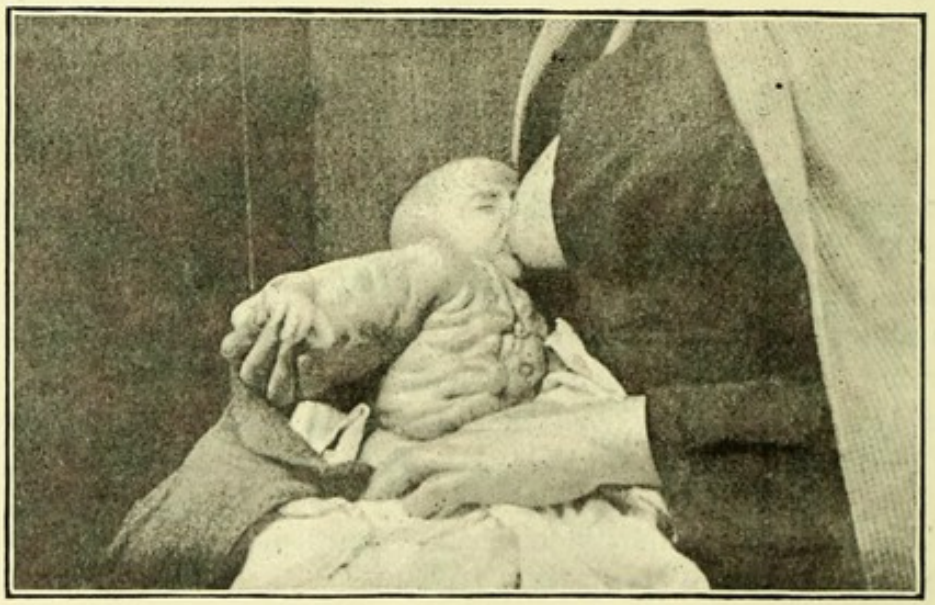
Degrees of lymphatic obstruction of varying duration and intensity are tolerably frequent phenomena in the history of many diseases and injuries, but the cases here described represent extreme conditions of this state, and belong to a class of rare occurrence, and of which the literature is scanty. One was of undoubted congenital origin, the other possibly accidental. Each evidenced, though in forms distinctly different, the lymphatic œdema of which obstruction is the necessary precursor.

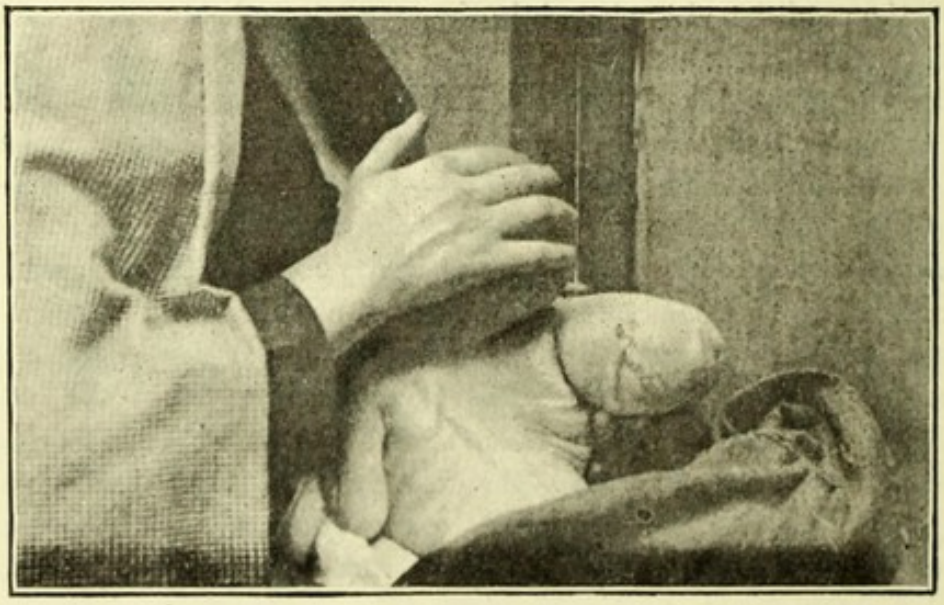
The form of lymphatic œdema of most frequent occurrence, is perhaps that seen in erysipelas. Here there is a lymphangitis of rapid extension accompanied by stagnation of the lymph current, and some œdema consequent thereon. In the milder and more rapidly subsiding cases, the condition of the lymph in the vessels is probably allied to blood stasis, and, not proceeding beyond this, permits speedy re-establishment of the current, and a return to the normal. After the more intense and extensive inflammations, however, the œdema is more pronounced and persistent. Here the condition of the lymph may be one of coagulation (the coagulability of inflammatory lymph being much greater than that of normal) and consequently the time for, and difficulty in, re-establishing the circulation would be much increased. Other cases present themselves where, after repeated attacks of erysipelas, a permanent œdema and induration remains, and here no doubt the inflammatory changes have led to permanent obliteration of some lymphatic vessels. The history of some elephantiases points to a distinctly similar origin, and consists in a progression and exaggeration of the processes above alluded to. The nature of the changes in advanced conditions of obstruction must be briefly glanced at as bearing on the cases presently to be detailed. These consist—

(1) Of obliteration of some lymphatic vessels and spaces, and dilatation of others, going on in some cases to the formation of cysts.

(2) Rupture of dilated (superficial) vessels, from over distension, and discharge of lymph, often from nipple-like processes, or crateriform ulcerations.

(3) Connective tissue hyperplasiæ of different density and development, contemporaneous with the preceding.





By variations in the preponderance of one or other of these processes at different parts of the diseased area, great variety of aspect is produced the presence of the " uberculated " or " smooth " variety of the œdema being thus effected.

*Case 1.*—The first case I wish to relate was of the class happily described as "giant growths," from the enormous and often horrible aspect they present. Dr. Busey, of Washington, relates particulars of 88 cases of this description, collected from reports from Europe, America, and the East. These, however, included cases of macroglossia, macrocheilia, and enlarged digits; many also were non-congenital cases. Few presented features analogous to my case, and not one was exactly similar. In four cases, however, the condition did approximate to the present one; but in all four it was fully developed at birth—an essential feature of difference.

The child was brought to me much in the state shown in the accompanying prints.

It was at this time four months old. The right side of the neck, thorax, shoulder, and arm—as far as the elbow—were involved in an immensely swollen, hardened, corrugated mass. This did not descend below, and was sharply limited at, the elbow; the forearm being quite normal. The skin covering this mass was blotched in patches, which in colour varied from purplish to a dirty buff. Here and there it was scaly and somewhat greasy looking—nowhere resembling normal skin. It was thrown into folds and puckers, and was not movable over the tissues beneath. There were no sinuses at any part, nor was the presence of cysts prominently indicated. Enlarged veins marked the growth at various parts. The rest of the child's body was flaccid and emaciated, and, I may here state, that it rapidly wasted and died about three weeks subsequently, the growth not having apparently altered much in the interval.

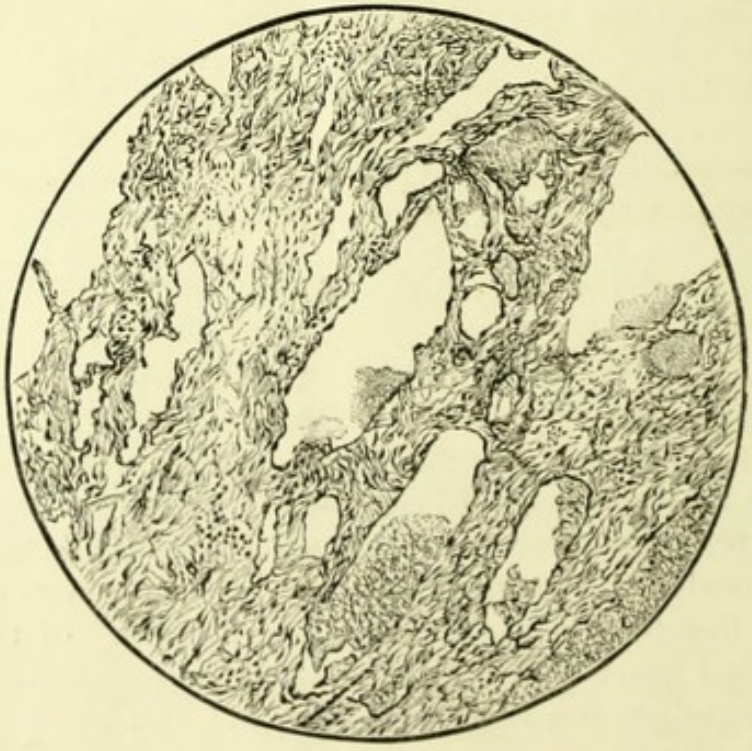
With great difficulty, I obtained permission to make a limited post-mortem examination, which I was compelled to confine to the growth alone, and was only allowed, in addition, to open the thoracic and abdominal cavities, but not to disturb the viscera.

The following are such particulars as I could gather. All the tissues of the affected regions were involved right down to the bone cartilages (*i.e.*, the ribs, humerus, etc.); these latter, however, were quite normal. The growth itself appeared to be made up of a mass of connective tissue, varying in consistence from the loosest areolar up to firm aponeurotic tissue. Muscular structure had disappeared. Cysts were very numerous, and varied from the size of a pea up to large channels. Of these some contained clear lymph-like fluid, some a semi-gelatinous, almost hyaloid, substance, some sero-pus, and some thick pus. This last was the case in a very large cyst, which occupied the axillary space, the contents

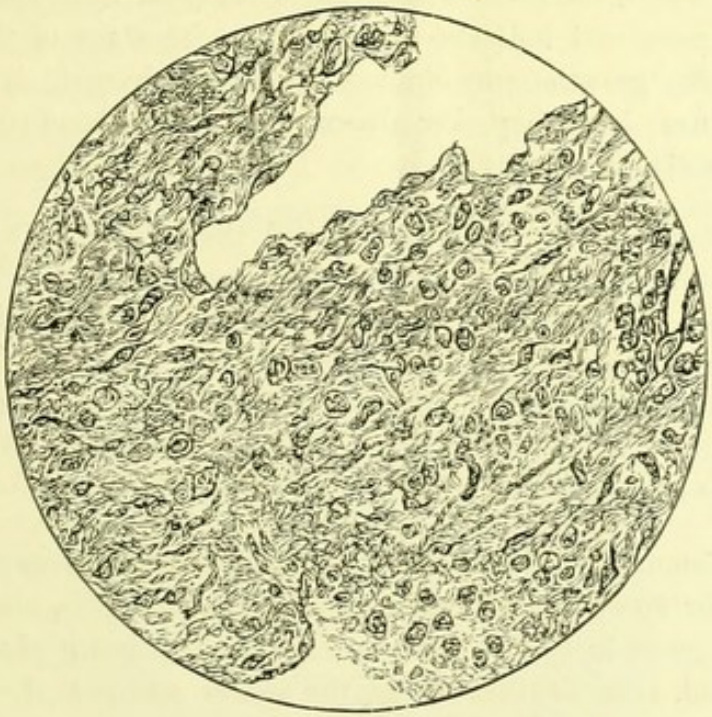
having an offensive odour. In most cases the cyst wall was distinct, being especially marked in those containing pus, thus evidencing inflammatory changes in and around the cyst wall. The pleura and thoracic viscera seemed quite healthy, the pleura limiting the growth internally, though all the tissues external to it and the ribs were implicated.

A section (microscopic) when mounted and held up to the light shows light irregular spaces, quite visible to the naked eye. Under the microscope these are seen in many cases to possess a distinct endothelial lining, and are evidently lymphatic spaces. They are surrounded by a fairly well developed fibrous tissue, but the greater part of the tissue separating the spaces is more embryonic in character, the cellular elements being most numerous in the neighbourhood of the smaller arteries, many of which are seen in the stroma. Some of the spaces are empty, but others contain a network of fine fibrils which appear to be fibrin, and in some this reticulum includes white corpuscles in its meshes. On account of the adult nature of their walls, these spaces must be regarded as pre-existent lymph spaces which have been distended. This distension has led to irritation of the surrounding stroma, hence the hyperplasia and cell infiltration near the small vessels. The contents of the spaces are mainly coagulated lymph.

Dr. Robinson, of Owens College, has most kindly supplied me with the accompanying drawings of sections, which beautifully illustrate the structure of the growth under both low and high magnifying powers.



I.—Low Power.



II.—High Power.

The history of the case is briefly as follows:—At birth the child—otherwise a fine and well grown one—exhibited on the right side of the thorax a puckered and discoloured patch about the size of a five-shilling piece. This spread and thickened with great rapidity, until at four months old it exhibited the appearance seen in the photographs. The mother had had several other children, all healthy.

The noteworthy features of this case are—(1) Its extreme rarity. (2) Its restriction to the region of the right lymphatic duct (indicating a local and not a constitutional origin). (3) Its lymphatic nature as evidenced in both microscopic and macroscopic features.

Whether the original nucleus of the disease was a small localized lymphangitis or a true lymphangioma it is impossible to say. Its mode of progression and involvement of the right lymphatic region only, together with the microscopic features before enumerated, would indicate that it should be classed outside the lymphangiomata and regarded as more allied to elephantiasis, with which also its grosser anatomical features are more in accord. The rapid extension from a single centre corresponds closely with the history of allied conditions occurring amongst adolescents and adults.

Some of the special features of the case may be shortly discussed. The cysts mentioned were of more frequent occurrence than is usual in these growths, and the presence of pus in some of them is an unusual,

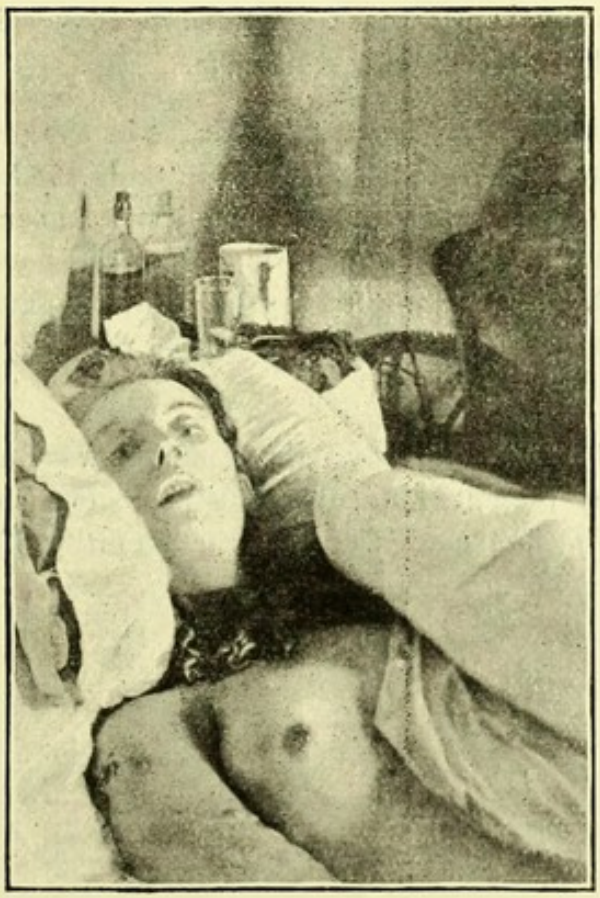
but still a recorded feature. The disappearance of muscular structure is certainly rare, and indicates a very advanced stage of the process. Soft nipple-like growths surrounding sinuses discharging lymph are a common feature; here they were absent, as also was bone enlargement, which frequently occurs.

The etiology of these obstructions and their resulting conditions is not well established. That inflammatory processes may in the fœtus, as in the adult, be the exciting cause is probable. In some cases heredity is marked, in others indiscernible. "Maternal impressions" have been adduced as connected with them, nor can this be dismissed as altogether illogical, seeing their apparent connexion with some nævoid markings. The influence of race and condition is uncertain.

The persistence and rapid extension of the disease presents interesting matter for speculation. A progressive lymphangitis, chronic as to time, but of great intensity, as viewed by the changes produced in the parts attacked, seems to have been the *modus operandi* of the morbid process. What initiated this process, and by means of what persistent "irritant" it was continually extended, is most obscure. The mere propinquity of diseased tissue cannot of itself be looked upon as sufficient irritant to the surrounding sound tissue to account for the extension into it of a process so unique in its manifestations, and so specialised as to attack the lymphatics chiefly.

*Case 2.*—In May, 1887, a girl of 18 came to my out-patient room, complaining of a sore on the back. I examined her, and found near the lower angle of the right scapula, between it and the spine, a discoloured patch, about 1½ inches in diameter. On the surface of this, two or three small sinuses opened, and from them oozed slowly a yellowish fluid. At first view, it seemed possible that these led down to diseased bone, but from them a probe travelled only laterally, the skin being somewhat undermined, and the sinuses connected with one another. They did not dip down, nor lead to any diseased bone. Being unable from want of time to go thoroughly into her case, I arranged to receive her next day as an in-patient. She, however, never returned to the hospital, and I lost sight of her. In October, 1887, a medical friend permitted me to see a curious case he was charitably attending, and I then recognised my quondam patient. She was in bed, in an advanced stage of phthisis. Her whole body was extremely emaciated, with the exception of the right lymphatic "tract." The right arm, breast, and half of the thorax were enlarged, but not tender, and hard lymphatic "cords" could be felt on the breast and thorax. There were patches of erysipelatous redness along the forearm and back of the arm. The discoloured patch I had remarked

at first had enlarged greatly, extending upwards between the spine and scapular posterior border. It was broken down and ulcerated in places, and stunk abominably. From the excavations flowed both pus and a clear, lymph-like fluid. The case was clear; it was one of lymphatic œdema arising from obstruction of the right duct, due, apparently, to continued lymphangitis, the nucleus of the mischief being the discoloured patch originally noticed.



In about a fortnight I again saw the girl, whose condition was now very striking. The whole of the arm and hand were studded over with vesicles, extremely like those of eight-day vaccination. These, however, were nearly all burst and discharging a slightly turbid lymph, which oozed slowly from the centre of a gelatinous coagulum occupying the crater of the burst vesicle. These appearances were confined to the arm, the swelling of which had greatly subsided on the discharge of lymph from the orifices. I submit a photograph, which was obtained with very great difficulty in the small, dark, dirty room. Owing to some shifting of the camera only the upper part of the arm is seen, though the breast enlargement is well shown. Through the stupidity of the mother I was

unable to obtain a second photograph. Examination of the photograph shows on the upper part of the arm the vesicular appearances I have mentioned, as also one which is more broken down and ulcerated in the deltoid region. The girl died a few days subsequently, and no post mortem could be obtained.

The causation of this case is very obscure. That the obstruction gradually extended from a small diseased area, which was the site of a lymphorrœa, seems certain; but I was quite unable to trace this lymphorrœa to any known cause. All chance of elucidation vanished, owing to inability to procure a post mortem.

I have omitted to mention that in this, as in the previous case, the enlargement proceeded from the shoulder towards the hand. This one also sees where the axillary glands are implicated in cancerous growths. A fairly well-marked lymphœdema, which, however, fluctuates considerably in amount, often follows, and often does not extend beyond the elbow, the enlargement moreover commencing centrally and extending peripherally.

Though in both of these cases the condition was due to lymphatic obstruction, they presented features widely different in aspect, origin, and history. The first case is one of extreme rarity, if not absolutely unique.

John Heywood, Excelsior Printing and Bookbinding Works, Manchester.