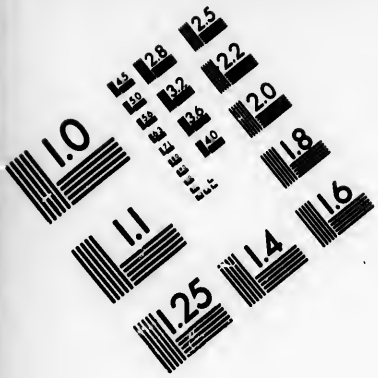


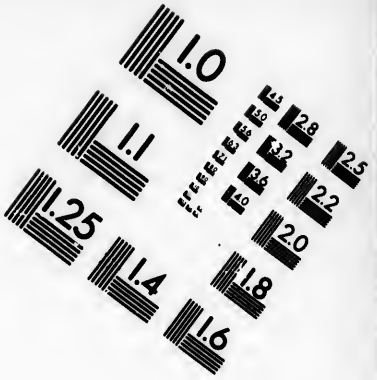
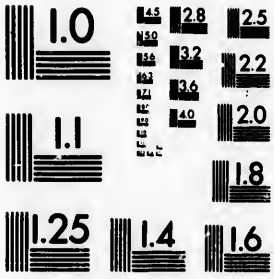
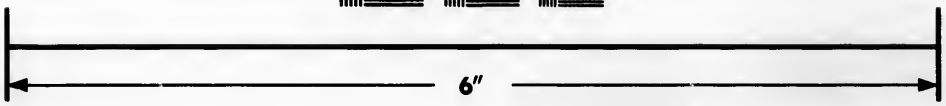


IMAGE EVALUATION TEST TARGET (MT-3)





Photographic Sciences Corporation

23 WEST MAIN STREET
WEBSTER, N.Y. 14580
(716) 872-4503

Technical and Bibliographic Notes/Notes techniques et bibliographiques

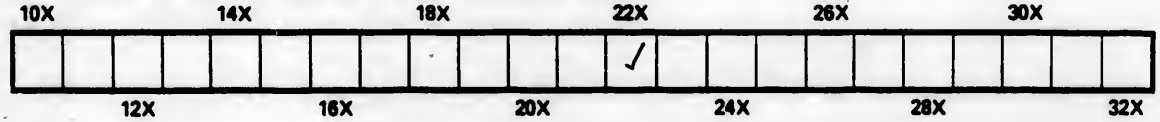
The Institute has attempted to obtain the best original copy available for filming. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of filming, are checked below.

- [x] Coloured covers/ Couverture de couleur
- [ ] Covers damaged/ Couverture endommagée
- [ ] Covers restored and/or laminated/ Couverture restaurée et/ou pelliculée
- [ ] Cover title missing/ Le titre de couverture manque
- [ ] Coloured maps/ Cartes géographiques en couleur
- [ ] Coloured ink (i.e. other than blue or black)/ Encre de couleur (i.e. autre que bleue ou noire)
- [ ] Coloured plates and/or illustrations/ Planches et/ou illustrations en couleur
- [ ] Bound with other material/ Relié avec d'autres documents
- [ ] Tight binding may cause shadows or distortion along interior margin/ La re liure serrée peut causer de l'ombre ou de la distorsion le long de la marge intérieure
- [ ] Blank leaves added during restoration may appear within the text. Whenever possible, these have been omitted from filming/ Il se peut que certaines pages blanches ajoutées lors d'une restauration apparaissent dans le texte, mais, lorsque cela était possible, ces pages n'ont pas été filmées.
- [ ] Additional comments:/ Commentaires supplémentaires:

L'Institut a microfilmé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de filmage sont indiqués ci-dessous.

- [ ] Coloured pages/ Pages de couleur
- [ ] Pages damaged/ Pages endommagées
- [ ] Pages restored and/or laminated/ Pages restaurées et/ou pelliculées
- [x] Pages discoloured, stained or foxed/ Pages décolorées, tachetées ou piquées
- [ ] Pages detached/ Pages détachées
- [x] Showthrough/ Transparence
- [ ] Quality of print varies/ Qualité inégale de l'impression
- [ ] Includes supplementary material/ Comprend du matériel supplémentaire
- [ ] Only edition available/ Seule édition disponible
- [ ] Pages wholly or partially obscured by errata slips, tissues, etc., have been refilmed to ensure the best possible image/ Les pages totalement ou partiellement obscurcies par un feuillet d'errata, une pelure, etc., ont été filmées à nouveau de façon à obtenir la meilleure image possible.

This item is filmed at the reduction ratio checked below/
Ce document est filmé au taux de réduction indiqué ci-dessous.



The copy filmed here has been reproduced thanks to the generosity of:

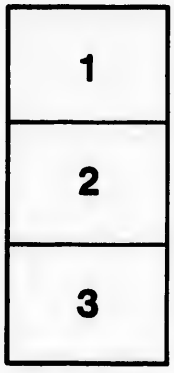
Medical Library
McGill University
Montreal

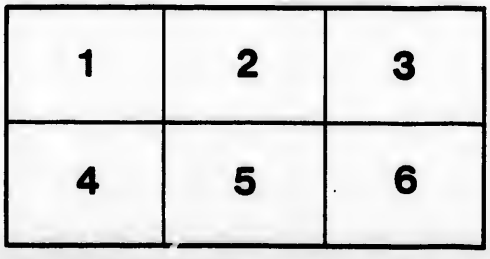
The images appearing here are the best quality possible considering the condition and legibility of the original copy and in keeping with the filming contract specifications.

Original copies in printed paper covers are filmed beginning with the front cover and ending on the last page with a printed or illustrated impression, or the back cover when appropriate. All other original copies are filmed beginning on the first page with a printed or illustrated impression, and ending on the last page with a printed or illustrated impression.

The last recorded frame on each microfiche shall contain the symbol → (meaning "CONTINUED"), or the symbol ▽ (meaning "END"), whichever applies.

Maps, plates, charts, etc., may be filmed at different reduction ratios. Those too large to be entirely included in one exposure are filmed beginning in the upper left hand corner, left to right and top to bottom, as many frames as required. The following diagrams illustrate the method:





L'exemplaire filmé fut reproduit grâce à la générosité de:

Medical Library
McGill University
Montreal

Les images suivantes ont été reproduites avec le plus grand soin, compte tenu de la condition et de la netteté de l'exemplaire filmé, et en conformité avec les conditions du contrat de filmage.

Les exemplaires originaux dont la couverture en papier est imprimée sont filmés en commençant par le premier plat et en terminant soit par la dernière page qui comporte une empreinte d'impression ou d'illustration, soit par le second plat, selon le cas. Tous les autres exemplaires originaux sont filmés en commençant par la première page qui comporte une empreinte d'impression ou d'illustration et en terminant par la dernière page qui comporte une telle empreinte.

Un des symboles suivants apparaîtra sur la dernière image de chaque microfiche, selon le cas: le symbole → signifie "A SUIVRE", le symbole ▽ signifie "FIN".

Les cartes, planches, tableaux, etc., peuvent être filmés à des taux de réduction différents. Lorsque le document est trop grand pour être reproduit en un seul cliché, il est filmé à partir de l'angle supérieur gauche, de gauche à droite, et de haut en bas, en prenant le nombre d'images nécessaire. Les diagrammes suivants illustrent la méthode.

A CASE OF

CONGENITAL HYPERTROPHY

OF THE LEFT FOOT

WITH ASSOCIATED LIPOMA.

BY

A. D. BLACKADER, M.D., M.R.C.S., ENG.,

Instructor in Diseases of Children in McGill University, Montreal.

REPRINTED FROM THE "ARCHIVES OF PEDIATRICS," OCTOBER, 1884.

PHILADELPHIA
JOHN E. POTTER & CO., PUBLISHERS,
617 SANSOM STREET.
1884.

Clinical Memoranda.

A CASE OF CONGENITAL HYPERTROPHY OF THE LEFT FOOT WITH ASSOCIATED LIPOMA*

BY A. D. BLACKADER, M.D., M.R.C.S., ENG.

Instructor in Diseases of Children in McGill University, Montreal.

In bringing this case before the notice of the association I am aware, to use the words of Curling when presenting a similar case before the Medico-chirurgical Society of London, that such facts as these do not offer the same interest as do others more frequently met with, and perhaps more practical; still they should be deemed worthy of record, and may become of much interest to the physiologist. Since Curling first recorded his cases, and he was one of the earlier ones in England to do so, other cases have been recorded, and several writers have called attention to the many curious facts in connection with them. One of the latest is Mr. William Anderson, who has reported a case in St. Thomas Hospital Reports for 1882, and along with his case has given a most excellent resumé of what is known on the subject. To his paper I am indebted for much which I now lay before you.

Among the earlier cases described was one by v. Klein, of hypertrophy of the right hand of a boy, in which the four fingers were enlarged and associated with fatty tumors. Wagner about the same time mentions the case of a girl of sixteen years in whom the second toe of the left foot was much hypertrophied and the plantar surface of the foot covered with a thick layer of fat. Reid followed in England, and then Curling; and since then numerous contributions

* Read before the Canada Medical Association.

have been made in Germany, England, and America. Of a few of the more interesting cases I present you here with sketches and short notices.

Anderson defines the condition as follows: A gigantic growth, probably congenital in origin, of various segments of the body, exclusive of the viscera. It is almost invariably unilateral, and is generally limited to one extremity or portion of an extremity. It tends to implicate especially the bony, ligamentous and integumentary tissues, and is frequently associated with lipomata and with angiectases, and angiomata in connection with the circulatory and lymphatic system. It does not, as a rule, impair to any important extent the functional capacity of the part.

With regard to the term "congenital" he says, "although there is little doubt that the abnormality has its origin in fœtal life, as yet direct evidence of its existence at birth has seldom been adduced. In only three cases, Owen, Higginbottom, and Friedberg, has it been averred that the deformity was seen immediately after birth of the child. In one case an operation seems to have been the exciting cause.

To the term "hypertrophy" Anderson also objects, stating that although in a few cases the general characters of true hypertrophies are present, in most their histological character and associations should delegate them to a lower pathological status than that occupied by the true hypertrophies.

Of the etiology little is known. It does not appear to be hereditary. There was certainly no such history in my own cases for several generations back. Mental impressions on the mother during gestation are quoted. In Anderson's case the mother referred the deformity to the fact that she had been trodden on by a cow while carrying the child. In my own case the mother is firm in the belief that the whole trouble is owing to a somewhat prolonged fright about the tenth week of her pregnancy. She was out driving with her family in an open wagon, with her left foot, for want of room, hanging out-

side. The road was narrow, and a carelessly driven heavy cart came up from behind and was driven alongside them for some distance. She said she expected every moment her foot would be crushed. While these impressions may be mere coincidences, until we can prove them so, it were better that facts of this kind should be noted.

The extent of the part hypertrophied varies from a single digit to the entire half of the body. The hypertrophy always increases towards the distal end, thus the phalanges will be more hypertrophied than the metatarsal or -carpal bones, and they more in proportion than the bones of the fore-arm or leg. The hypertrophy, however, seldom includes the whole of the digits. The localization of the affection does not appear to be related to any special vascular or nervous territories. Its course is generally progressive; sometimes, for a time, the growth appears uniform with the rest of the body, but generally sooner or later the hypertrophy becomes more marked, and its nutrition evidently excessive. The rate of increase may vary from time to time; periods of slow development, or even apparent arrest, may be followed by new and rapid growth. In most cases the process does not extend beyond the seat of the original hypertrophy, but in a few we notice extension towards the trunk. As a rule, the growth goes on without pain, inflammation, or much interference with function.

As to the classification of these cases, Anderson sets aside as unsatisfactory, and I think justly, that of v. Fischer, which is founded in great part on the extent of the hypertrophy, and prefers the division into true and false. The first class forms a very small one, yet there are a few cases sufficiently well-marked where all the structures of one side are hypertrophied, the vascular supply on that side enlarged, the temperature elevated, and the power of the limb increased. Into the other division is placed all those where the size of the part is augmented by an unequally distributed hyperplasia of the skeleton and soft parts. This forms by far the larger division. In these the arterial supply is proportionate

only to the normal size of the part, and the functional capacity is somewhat deteriorated. These cases for practical purposes he divides into two groups:

1. No deformity—parts being symmetrical.
2. Deformity. Arising from
   a. Excess of adipose tissue or vascular tissues.
   b. Articular distortion.
   c. Associated defects of development, *e.g.* syndactyly.

With regard to the several tissues of the hypertrophied part we notice that the bones are always enlarged, but principally in their extremities. The cartilages and ligaments of the joints and the tendons, are usually thickened. The muscles, themselves, the arteries, and the nerves are seldom increased in size.

The pathology, like the etiology, is very obscure. Friedberg suggested some affections of the vaso-motor nerves, or some impediment in the circulation of a lymph vessel during intra-uterine life. A primitive vice of the middle lamina of the blastodermic membrane is opposed by the fact that the walls of the trunk, which are directly formed from the middle lamina, are comparatively seldom implicated. The theory of partial intra-uterine strangulation fails to explain cases where half the body is effected. We were surprised that Mr. Anderson makes no reference to the writings of Dr. S. C. Busey, of Washington, who has carefully studied these growths in connection with a case of congenital lymph-angiectasis, which came under his observation. In a most exhaustive article published some years ago in the *American Journal of Obstetrics* he thus sums up: These considerations lead me to the conclusion that the lipomatous and fibromatous degenerations exhibited in the foregoing cases of giant growth are the pathological results of a stagnation of lymph. This stasis may be occasioned by conditions which affect the lymph channels, or which primarily involve the circulatory apparatus causing excessive transudation of blood-serum, or both systems may be concerned either proximately or remotely. In the lipomatous form of degeneration the altered nutrition is due principally

to some defect of the lymph apparatus producing lymph stasis, while connective tissue hyperplasia is due to augmented venous supply.

And again, it cannot, however, be denied that inflammatory processes, either erpsipelatous or elephantoid, do constitute the beginning of many of the cases of hypertrophic development, which are characterized by all the phenomena which I have ascribed to occlusion and dilatation of lymph channels, and consequent stasis of lymph. But this fact does not antagonize my view, for it is admitted that such changes as result from the inflammatory processes necessarily cause lymph-angiectasis, and the argument relates to the effects, not the causes of the stasis of lymph. I have previously referred to the suggestion that the congenital cases of ectasia, stenosis, and obliteration of lymph channels, may have been caused by inflammatory conditions taking place during intra-uterine life, and am willing to accept this hypothesis as a probable explanation, but the numerous cases of congenital defect of formation of portions of the lymphatic system, accompanied by hypertrophic enlargements, will not admit of its universal application. The one essential condition is interruption to the current and detention of the lymph, it matters not whether it be caused by devastated glands, absence of valves, absence of anastomotic connection between the superficial and deep-seated system of vessels, or other congenital or acquired conditions.

The following is the history of my case:

In March of last year, Mrs. W., aged thirty-four years, was confined by me of her fourth child. The confinement was in every respect a normal one, and her recovery good. The child was a strong, healthy one, of more than average weight, well-formed in every respect excepting the peculiar formation of the left foot, which was noticed the night of the birth, and more carefully examined the following morning. The following are my notes about that time: Both legs and thighs apparently the same, and well developed; no distinguishable difference in size, firmness nor appearance; no marks on skin; posterior half of foot

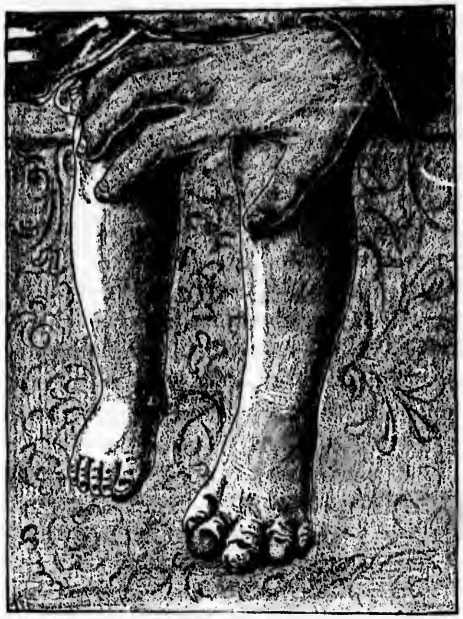
scarcely if at all enlarged, but anterior half enlarged in all its diameters, and presents on its plantar surface a large, firm, yet somewhat elastic tumor of smooth, rounded surface, extending whole breadth of foot, and from middle of foot to root of toes; the second and third toes are webbed, much larger than the great toe, and project a full half inch beyond it; the fourth and fifth toes are both enlarged, but to a much less extent; the skin is perfectly normal in appearance; the movement of the toes is considerably interfered with, apparently by the tumor; there is no perceptible tenderness over the enlargement, and no increase of temperature above its fellow.

Dr. Roddick was called in consultation, and it was decided that there should be no immediate interference.

About six months afterwards, the mother again brought the child to me, saying that the foot was rapidly increasing in size—growing, she thought, faster than the other. I now determined on using continuous pressure by means of a Martin's bandage, and obtained one 2½ inches broad; had numerous holes punched in it, and then slit it up lengthwise through the middle for about two yards, that I might apply it more evenly. Very gentle pressure was made, but after a few night's use of it the mother got discouraged, as it caused the child much irritation, and has made it very restless and wakeful.

After this I did not see it again until the beginning of the year, when I again saw it, and as Dr. Roddick was out of town, called in Dr. Fenwick in consultation. He strongly advised me to persevere with the pressure for the present. This was now with great care kept almost constantly applied for nearly two months. Twice a day the skin was sponged with spirits of wine, well dusted with starch powder, and the bandage reapplied. Till I was confident that they could apply it well I called every day, and either applied it myself or saw it done. The results were not very encouraging to the mother, although I convinced myself it had some slight effect in retarding the growth, as the measurements, which were very carefully taken, will show.

An operation was now decided on. The child was about fourteen months old and in perfect health. To secure a good room, quietness and skilled nursing, it was taken to a private hospital, where, with the assistance of Dr. James Bell, and myself, Dr. Roddick performed the operation. Just before the operation, while the child was under ether, the following notes and measurements were taken: Heel enlarged; about centre of plantar surface a



CONGENITAL HYPERTROPHY.

tumor-like mass, extending to base of big and little toe, and forward to terminal phalanx of second and third toes, which latter are webbed and much hypertrophied, and project beyond the large toe three-quarters of an inch, as if carried forward; third toe also much enlarged, but considerably shorter than the two previous; great toe scarcely at all enlarged, but small toe two or three times the size of opposite; the dorsum of the foot also considerably thickened; no apparent enlargement of either the

posterior tibial or anterior dorsal arteries; no alteration of the skin over the whole leg noticeable, and no apparent alteration in the lymphatic or venous system; no nevus to be seen on any part of the body.

The operation was commenced by an incision commencing on the under surface at junction of great and second toes, and extending backwards to centre of foot at posterior edge of tumor, where it was joined by another similar incision from the junction of third and fourth toes; similar incisions were made on the dorsal surface, and the whole of the second and third toes, with anterior two-thirds of the metatarsal bones, were removed. Finding that the third metatarsal bone was also hypertrophied, that toe, with the anterior portion of its metatarsal bone, was removed, and as much of the tumor-tissue, which was now seen to be a diffuse lipoma, was removed, and the edges brought together. The whole operation was done under strict antiseptic precautions. The temperature never rose over 99½°, the parts seemed to unite by first intention, there was scarcely any discharge, and by the tenth day most of the stitches were taken out.

After the operation I asked Dr. Wilkins, as a pathologist, to examine the tumor, which he pronounced to be principally fatty, but to contain numerous bands of fibrous tissue. Dr. William Sutherland, Assistant Demonstrator of Anatomy in McGill University, kindly examined the amputated toes, and reported: Phalanges enlarged but principally at their articular extremities, which were much increased in size; cartilages apparently thickened; tendons hypertrophied at their insertion.

As to the full results from this operation, a much longer time must be allowed to elapse before we can make any assertions. It will be sufficient for the present to say that the child can now walk well. A slight tendency to talipes varus is developing; but we think that can be easily overcome; and the foot, though still somewhat larger than its fellow, can be accommodated in a shoe of ordinary size, and thus presents no deformity:

MEASUREMENTS.

	Normal foot.		*Hypertrophied foot.*	
	January.	May.	January.	May.
Length (inches).....4		4⅜	5¼	6¼
Circumference around ball of foot..4¾		5	7⅛	7⅛
Circumf. around heel and ankle...6		6¼	6½	6¾
Circumference around calf.....7		7⅛	7¼	7¼
Circumference around thigh.....9		9¼	9¼	9¼

THE

ARCHIVES OF PEDIATRICS,

THE ONLY JOURNAL IN THE ENGLISH LANGUAGE

DEVOTED TO THE

Diseases of Infants and Children.

— EDITED BY —

WILLIAM PERRY WATSON, A.M., M.D.,

Assistant to the Chair of Diseases of Children in the New York Polyclinic.

JOHN E. POTTER & CO., Publishers,

617 Sansom Street, PHILADELPHIA