

as in the preceding case. When the patient left the hospital she was able to walk without pain.

These cases of acquired diffuse painful lipoma of the foot are clearly distinguishable from that form of "gigantism" known as congenital diffuse lipoma, where the affection is characterised by a general hypertrophy of the fatty and subcutaneous tissues, first affecting the toes or fingers. It spreads by direct continuity for a time; but as the hypertrophy increases, isolated masses of fatty material appear at some distance beyond the advancing edges. In time these masses become incorporated with the advancing growth. Incidentally, I should add that the microscopical characters of the congenital diffuse lipoma are entirely different from those seen in the painful acquired form of diffuse lipoma. In the former, while the main part of the section is occupied by fat and areolar tissue, yet the interfibrous spaces are crowded by small round cells, not unlike those seen in round-celled sarcoma. And clinically the diffuse congenital form of lipoma is somewhat akin to sarcoma in that it shows an inveterate tendency to recur very rapidly after removal. In the acquired diffuse form no such appearances are evident, but the blood-vessels are extremely numerous and somewhat hypertrophied. And in connexion with their origin cases are met with which throw some light on this point. Such an one is the following, occurring in a girl, aged 17 years, which was diagnosed as angioneuroma of the hands. In April, 1907, a swelling formed on the dorsum of the right hand towards the radial side. It was situated over the first and second metacarpal bones and appeared to surround more particularly the extensor tendon of the index finger. The growth was always extremely painful to the touch and sometimes gave her pain even when the part was at rest. The skin over the tumour was hotter than in other parts of the hand, at the centre it was red, but there was a dark bluish discolouration around the circumference. The swelling increased rapidly while she was under observation for a few days previous to operation. A mass of nœvoid tissue of about the size of half a crown was excised through a T-shaped incision. Dr. Hebb made the following report on the specimen: "It consists of fibrous and adipose tissue in which are numerous blood-vessels, the arterial walls being extremely thick." The left hand had been similarly affected in January, 1907, when the girl was operated upon by my colleague, Mr. Arthur Evans. In January, 1908, she reappeared at the hospital, as the angiomatous condition had re-formed on both hands. The striking feature of her case was the extreme tenderness, and the parts were so sore that it was impossible to examine them properly. Further, the swellings were hard and appeared hotter to the touch than elsewhere. An operation was undertaken by Mr. E. Rock Carling and a considerable mass of nœvoid tissue was dissected from the extensor tendons over which it had spread.

Now in the case of acquired painful lipoma, and in the nœvoid condition just described, in which fat was present, we have certain conditions in common—namely, their excessive vascularity, the size and thickness of the vessels, and their extreme tenderness. It is difficult to account for the tenderness. It may be due to irritation of the *nervi vasorum*. Certainly no nerve fibres or endings could be discovered in the substance of the growths. Whether the acquired diffuse form is due to fatty degeneration of nœvoid tissue is not proven, but this possibility should be borne in mind.

We now pass on to certain clinical points. Without careful observation the swellings due to acquired painful diffuse lipoma may partially fill up the arches of the feet, so that the condition can be mistaken for flat foot; but in all the cases I have seen, numbering now five, the tumours have always been between the inner edge of the sole of the foot and the internal malleolus, and have not extended further forward than the anterior part of the sustentaculum tali. In no case have I seen them over the scaphoid or internal cuneiform bone. The striking features about them are their slow growth and their indolence, their extreme tenderness, and their vascularity when cut into. It is also noticeable that any pressure, whether arising from an irregularity on the inside of the boot or from the employment of a "flat-foot" pad, renders the patient completely unable to get about on account of the pain. Finally, on removal, they do not, as far as I know, recur, and in this respect are entirely different from the congenital diffuse lipoma.

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SANITATION IN A TERRITORIAL CAMP.

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THE following account gives some idea of the methods of sanitation and sanitary training adopted at the Kent Brigade training at Walmer from July 25th to August 8th, 1908.

On appointment as sanitary adviser to the senior medical officer of the brigade I went over the ground and thought out the best means whereby the sanitation could be carried out so far as possible on the same lines as in the regular forces. I found that the methods used in the Hampshire training and manœuvre area 1907 were most applicable. The troops, over 2000 in number, consisting of four battalions of infantry, a battalion of cyclists, two field ambulances, Army Service Corps, and a cadet battalion (during the second week) were camped on the slope of a hill facing the sea. The formation of the hill was of chalk on the upper two-thirds and of loam on the lower one-third. The camp was divided into two parts by a public street kerbed and channelled. There were open fields to the south and to the north a plantation of trees. On my arrival I found that the camp had been pitched and that deep latrines had been dug on the flanks, which were already foul. The kitchens and the ablution benches adjoined the main street. There were no destructors and no urinals and the refuse tubs were uncovered. The latrines on the south flank were well away from the tents. Those on the north flank were in undesirably close proximity to the tents and the stores and to a public footpath. There was really no other place where they could have been dug. Water was laid on in iron pipes and standpipes were to be found in various convenient positions. It was obvious then that dirty water could be disposed of separately from excreta.

A detailed inspection was made on July 26th. Arrangements were made for inspecting all food supplies, dry canteens, kitchens, horse lines, and the sanitary accommodation generally, and for lectures to be given on sanitation to the troops. An official inspection was made every morning by the senior medical officer and myself, and I paid frequent visits to all parts of the camp at uncertain hours during the first few days.

Food inspection.—The meat supplied throughout was good. On three occasions meat was rejected: (1) a carcass of frozen mutton, which showed signs of recent pleurisy in the pleural cavities; (2) a forequarter of frozen meat which was tainted; and (3) a forequarter of frozen meat supplied instead of home-killed meat. The bread supplied was of good quality. Dry canteens were inspected and all food and comestibles ordered to be covered with muslin or wire-netting. Perishable food supplies were ordered to be kept in cool places and covered up. The cooking arrangements varied from field ovens to portable kitchens, stoves, and boilers. No two units were alike in their cooking arrangements. Messing as regards the battalions was in tents. This I consider to be undesirable, it fouls the ground and attracts flies. There is much unnecessary waste. A large proportion of the contents of the refuse tubs were found to consist of bread, butter, and cooked meat. There is no accommodation in tents for the keeping of rations nor for washing up. The field ambulances and the cadet battalion messed in marquees; their ground was always free from food refuse and was much easier to keep clean. If attention is given to detail men can be as easily fed in messes in marquees as on transports. They are more comfortable. The ground remains clean and labour is saved in the picking up of scraps and in the washing up afterwards.

Disposal of refuse.—Large tubs or barrels were supplied by a contractor who removed the food refuse periodically. He was required to supply wooden covers for the tubs. This, after a little pressure, he did. The lids, however, were not invariably to be found on the tubs.

Dry refuse.—On my suggestion each unit in the camp built a destructor. These were circular structures 3 feet in height and 2 feet across, with openings at the bottom to admit air. They were made of sods strengthened by wood battens, or of bricks puddled with clay. The plan was shown to the pioneers, and it was left to their ingenuity to carry it out in detail. These destructors worked well; dry rubbish, tins, &c., were burnt up, and they lasted all the camp. They were most satisfactory.

Dirty water.—This was drained off by surface drains into the paved gutter of the street except in the case of one regiment where special arrangements had to be made. These short drains ran obliquely and were banked up. The ground around the benches was paved with shingle from the beach and so kept dry. At the bottom of the street at each side two large deep soakpits were dug to take up the excess water. These being in the loam, and measuring each 8 feet by 6 feet by 6 feet deep, had to be pumped out daily, there being practically no absorption. They were covered by improvised wooden covers.

Horse lines.—Special attention was paid to these. They were kept scrupulously clean throughout. The field ambulance horse lines were shifted after seven days, there being insufficient space. Manure tended to accumulate at first. I was unable to find any way of keeping it covered up. It is obvious that all manure in a standing camp should be kept covered up pending removal. The heaps were kept as far as possible from the tents and were cleared away daily. Swarms of small brown flies were always to be seen at these heaps but nowhere else. The almost complete absence of flies was a marked feature of the camp.

Latrines.—The system adopted here was to insist on the men covering their dejecta with earth. The means adopted to secure this were (1) by battalion orders; (2) by policing; (3) by having notice boards in the latrines where they could not help being seen; (4) by having heaps of earth piled up in front of the latrine seats; and (5) by the supply of cheap metal scoops. (The latter are so cheap as not to be worth the removal. The pioneer's spade, if used for this purpose, tends to disappear.) This system when carried out by all ranks acted well. Two battalions were exceptionally good. In them I was well supported by the officers of all ranks, so that the system had a fair trial, and I was quite satisfied with the result. It must be said, however, that if the system is to be relied on all ranks must give their hearty coöperation. Once the habit is acquired the method will be carried out spontaneously. The space allowed for latrines should not be limited. Quicklime is unnecessary; it is not to be depended on and when thrown into latrine trenches indiscriminately is useless. One of the sanitary squad should pay a visit several times daily and any excreta left uncovered should be covered by him with soil.

Urinals.—The pattern adopted was that of a central pit, 2 feet across by 3 feet deep, covered over, and with shallow trenches from 6 to 8 feet long, radiating from the centre like the spokes of a wheel, and with a fall to the pit. These trenches for a regiment of 500 will last over two days. Earth scattered periodically over the edges of the trench and into the trench itself in a thin layer will keep the trench from becoming foul. At the end of this period fresh trenches should be dug in the angles. At the end of the week a fresh urinal should be dug. There should be standing accommodation, allowing 2 feet per man, for from 24 to 30 men to urinate simultaneously. Four trenches should be in use at a time. Observations during the "rush" hour—i.e., before and after parades—showed that for a strength of from 300 to 400 men, this accommodation was the minimum, otherwise men would foul the surrounding ground and the latrine screen. Where possible I arranged that the screens should be kept well clear of the trenches and that the urinal should be separate from the latrine. Some of the units had urine tubs. These were used in addition to the trenches and were emptied into the pits.

Hawkers.—These were not allowed in camp. Various vendors of shell-fish, ice-cream, and fruit congregated outside the camp, out of the jurisdiction of the military police. I visited their barrows occasionally. The shell-fish and ice-cream were of very dubious origin. The fruit sold by local tradesmen I found to be of good quality. One or two cases of gastric trouble attributable to the consumption of shell-fish were reported, and it would have done no harm had samples of these been taken by the local authorities for analysis.

Lectures on sanitation.—These lectures were given by me to all units and were attended by all ranks. They were short and given in simple language, and included such points as fouling the ground, covering the dejecta, clothing, cleanliness, care of the feet, water discipline, and the eating and drinking of unwholesome food and water. I think that these lectures had a good effect. They should not be given in the afternoon when men are tired and tend to fall asleep. More technical lectures on food and meat

inspection, infectious disease, contagious disease in animals, &c., were given to the Royal Army Medical Corps and Army Service Corps units.

Bathing parades were held and feet inspections were made. I was struck by the large number of deformed feet amongst the men.

Infectious disease.—One case of suspected enteric fever occurred in the first three days of the camp. The patient had been in contact with cases of enteric fever at his home. He was removed to Dover. His tent was vacated and all bedding, blankets, &c., were disinfected by steam. Contacts were bathed, had fresh clothing issued, and were inspected daily for the rest of the camp. A fresh latrine and urinal were dug and particular attention was paid to see that all excreta were covered. The sanitary arrangements of the regiment where this case occurred demand some mention. The kitchens and ablution benches were placed at the top of the hill on the opposite side from the main street. Surface drains were dug and three large soak-pits into the chalk at different levels. Interceptors filled with straw were dug at the entrance to these pits. The water soaked away rapidly. The straw took up the grease and soap. The pits were used alternately and periodically the sides were scraped down. They lasted well all the camp and no overflow occurred. In the same way all the urine was absorbed by two narrow and deep urine pits. I was materially assisted by the regimental medical officer and by the quartermaster of this regiment, the 5th Royal West Kent, in carrying out this plan. The latrines and urinals in this case were rather too close to the tents and stores for safety. These officers made it their business to see that the advice of the senior medical officer and myself was acted upon and their assistance was invaluable.

The Cadet Battalion of the Queen's Regiment was encamped at the top of the hill, next to the 5th Royal West Kent Regiment, during the second week. I was afforded the opportunity of planning out sanitary accommodation for them previous to their arrival. In this case the kitchens and ablution arrangements were kept separate. Covered soak-pits with intercepting traps filled with straw were dug. These soak-pits took up and absorbed all the waste water. The straw was burnt in the destructor when necessary and fresh straw put in the traps. These soak-pits lasted throughout the seven days of the training. A destructor was built. Covered refuse barrels were provided and notices were posted at each distinguishing the kind of refuse to be thrown into them. The latrines for the men were dug on the shallow trench pattern, the urinal on the wheel pattern. 15 of the former were dug in two rows measuring 3 feet long, 2 feet deep, and 1 foot across, and with an interspace of 2½ feet. The number using them would be about 200. Toilet paper was supplied in empty coffee tins. Notices were posted up, and scoops and heaps of earth supplied. The company officers were interviewed by me. The result was that this latrine was always clean. A few minutes' work twice a day sufficed to keep the place shipshape. A rail to hold on by was found to be unnecessary. The squatting position across the trench was used. The first series of trenches lasted three days; these were then filled in and fresh ones dug in the interspaces from 2 to 3 feet deep. These lasted the remaining four days and could have lasted a day longer. The deep trench system was used by the officers and non-commissioned officers and was not nearly so satisfactory. This camp was always found to be clean at whatever time it was visited.

I made some observations on the time taken to dig these trenches. One of the field ambulances had pitched a camp on one of the manoeuvre areas. I found that three men with spades and picks could dig three of these trenches in half an hour. Given plenty of space and men who can handle spades it is obvious that these shallow trenches involve much less labour and are more satisfactory in every way than the old pattern deep ones. A uniform pattern of latrines and urinals should be used by all ranks. Screens should not be limited in number. Pockets to button up should be made in each screen. Into these the scoops referred to should be placed. There would be little addition to the weight or space when the screen was rolled up and these articles would be on the spot when wanted.

I may add that I am much indebted to Colonel E. Satterthwaite, V.D., the colonel commanding the brigade, for the continuous interest which he took and for the support which he gave me in carrying out my duties.

Gravesend.