THE DIAGNOSIS OF ENLARGEMENT OF THE LYMPHATIC GLANDS

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Since there is often some enlargement of the glands in normal individuals, only experience may enable the observer to determine when they are abnormal, and even then there are occasions when doubt will arise. If the enlargement be generalized the law of probabilities will bring certain conditions to the fore, such as lymphatic leukaemia, Hodgkin's disease, lymphosarcoma, tuberculosis, syphilis, skin sepsis (including widespread furunculosis and the various dermatoses), Stills' disease, rubella, metastatic carcinoma, melanoma, Boeck's sarcoid, plague, lymphatism and other less common conditions.

More recently the term lymphoma has been used widely, vaguely and variously. From a clinical point of view it is advisable at present to think of benign and malignant lymphoma, the former being a localized swelling of lymph glands which on biopsy shows certain cellular changes and the latter, including Hodgkin's disease, lymphosarcoma and lymphatic leukaemia. We shall, at the same time, admit that the benign may merge into the malignant over a varying period of time, that all grades of malignancy exist and that lymphosarcoma may merge into lymphatic leukaemia.

With regard to the differential diagnosis, there are certain clichés that every student learns, such as Hodgkin's glands being firm and discrete and tuberculous glands being matted and perhaps attached to the chronically-inflamed skin, even with discharging sinuses, but we are then discussing a very obvious diagnosis that should have been made long before. Again, lymphosarcoma is often said to spread directly from group to group and to become attached to the skin quite early on. In many cases, however, it is multicentric and does not show early attachment with ulceration. The history of the illness may be

helpful. Thus a patient with early Hodgkin's disease is often a young adult who walks in and announces blandly that he has a few glands in the neck, while a patient with leukaemia may speak of many symptoms, such as sore throat, inflammation of the mouth, pains over the long bones, blood spots in the skin, or bleeding from various parts of the body, or merely of a swelling in the abdomen which is due to the large spleen. By taking a complete history and making a careful examination it can usually be inferred that the diagnosis lies between two or three conditions. The blood test, sternal marrow puncture, lymph gland examination by means of needle aspiration, needle punch or biopsy will then often determine the condition. With regard to the blood examination, a full count and W.R. examination should be made in every case and other tests to be described subsequently may also be required.

In early leukaemia, the blood examination is not infrequently inconclusive, for there may be no excess of cells, though the differential count may be very helpful. In other cases the picture, at first, resembles a profound anaemia of the pernicious type, though more often it simulates aplastic anaemia. Enlarged glands may not be present for some time and the diagnosis may be inferred from such investigations as sternal marrow puncture, and the absence of the normal reticulocyte response to liver therapy which would be present after some days of intensive treatment in the case of pernicious anaemia. Carcinoma of the stomach, perhaps, with a severe megaloblastic anaemia and metastatic deposits in the lymph glands (and more rarely a colon growth causing a similar picture), may be distinguished by such measures as X-rays, gastroscopy, sigmoidoscopy and peritoneoscopy, as well as

examination of gastric contents and faeces for occult blood.

There is no typical blood picture in Hodgkin's disease and since there are so many ways in which it may manifest itself, biopsy of a gland will frequently be required. In older people it may be indistinguishable from carcinoma of the lung, even after bronchoscopy. In younger people, when only the abdominal glands are enlarged, it may cause only a pyrexia of unknown origin over a period of some months, or be revealed when laparotomy has been performed for vague pain, or other indefinite abdominal symptoms. In yet other cases the advent of the Pel-Ebstein syndrome may be conclusive. Here the pyrexia continues for a period of from 10 to 14 days and, after a somewhat shorter remission, it recurs again. Gordon's test—the production of encephalitis in rabbits by the injection of an extract of gland tissue—has been shown to be of no value.

Tuberculous glands will more frequently be local, and often in the cervical chain only. Generalized enlargement from tuberculosis is uncommon, but when it does occur it is very chronic, slowly progressive and almost never associated with breaking down from caseation, as the lesion is of the proliferative type. In such cases the history may suggest that Hodgkin's disease is unlikely, but biopsy will usually be required. In children who are atonic, ill-nourished, rickety or who suffer from tonsils and adenoids, or from the catarrhal diathesis, small, firm, bean-like catarrhal glands can often be palpated under the jaw and down the cervical region and, as a rule, these do not give rise to doubt. Sometimes, however, when the child is catarrhal and in poor condition, glands of the same type arise in other sites as well. This state has been termed 'lymphatism,' and if a gland be excised, no characteristic changes will be found on section. With general tonic treatment, including intensive vitamin D therapy or ultra-violet ray therapy, the glands gradually subside over a period of weeks or months. In doubtful cases, tuberculin tests, such as the Mantoux, or Vollmer's patch test are considered by many to be of great value, but in children of school age the results may be confusing. To mention only one of many, a

boy of ten had an enlarged tonsillar gland for some months after acute tonsillitis, which also affected his brother, who quickly recovered. Occasionally this lad had bouts of pyrexia, usually between 99° and 100°. He looked and felt very well. Clinical, pathological and X-ray examinations of sinuses, lungs and abdomen were negative. Three tuberculin tests, the Von Pirquet, the Mantoux and the Volmer, when performed by a very skilled pathologist, were negative. Some time later the boy suddenly developed tuberculous meningitis and died. The gland, which was about the size of a small walnut, remained firm and unattacked, but it was tuberculous. In this case it was not tender, though this point is worth noting as a rule in the diagnosis between T.B. and Hodgkin's glands, for the latter, besides being quite firm and separate over a period of time, are not tender on pressure.

Generalized enlargement from syphilis is apt to occur in the secondary stage, though it does occur in the early tertiary stage as well and, in a few cases, the glands become permanently enlarged from chronic inflammation followed by fibrosis. Almost invariably in this condition, enlarged glands will be present in the suboccipital region, as well as in the usual sites and the epitrochlear glands may also be enlarged. It is inadvisable to think merely of a roseolar rash, but rather to bear in mind that syphilis may simulate any skin condition that has ever been described. Again the disease process may be very latent, particularly in women, and whenever glands are found to be enlarged in the suboccipital area, the genitalia, anal region and mucous membranes of the mouth and throat should be carefully examined. Thus one woman who was chief cook at a large hotel complained that she had caught German measles from her child. It was noted, however, that the rash on the body was dull red, rather than pink, and that, while the eyes and eyelids looked inflamed, the face was, nevertheless, free from the rash. The whole faucial area was injected and on one tonsil there was an elongated patch which was suggestive of a commencing 'snail-track' ulcer. There was general glandular enlargement, but in the suboccipital region there were firm, rubbery, almond-like glands.

When asked when her child had the rash, she replied, 'Three days ago,' but the incubation period for rubella is usually from 17 to 18 days. The W.R. was found to be double positive in this case.

Another woman complained of lassitude, glands and rheumatic joints. In her case the glands were slightly enlarged in the usual sites, but larger, almond-like glands were present in the suboccipital region. The hair showed diffuse thinning, the face was pale and puffy, the wrist and elbow joints were slightly swollen and tender. There was obvious anaemia and oedema of the ankles. The urine was characteristic of nephrotic nephritis. The W.R. was triple positive, but the complement fixation test was negative. All the symptoms disappeared with the administration of iron and antispecific measures.

The subacute rheumatoid arthritis of childhood described by Still gives rise to no difficulty in the way of diagnosis as a rule, since the joints are quite typical. The glands are usually moderately enlarged but they are not tender. The spleen is palpable in about half the cases. Usually enlargement of the epitrochlear gland occurs early and though this may be found as well in the rare multiple synovitis of congenital syphilis, the characteristic spindle enlargement of the first interphalangeal joints is not present in the latter condition, whereas other signs of congenital syphilis will be evident. Should any doubt arise in such a case, the W.R. would be conclusive.

Glandular fever in children frequently runs an obvious course with a history of sore throat and malaise, followed by quite marked enlargement of the glands about halfway down the sternomastoid, then perhaps enlargement of the glands on the opposite side and elsewhere. Unlike leukaemia, the constitutional symptoms are seldom severe and anaemia is not a feature. Usually the total white count lies between ten and thirty thousand with a mononucleosis of from 50 to 80 per cent. The glands are discrete, usually only slightly tender, they never suppurate and, though the W.R. and Kahn tests may become feebly positive for the time being, the occipital glands are not enlarged, and the Paul Bunnell test is positive

in high titre. This is based on the presence of heterophile antibodies in the patient's blood, which produce agglutination and haemolysis of sheep's red cells. Normal blood may give a titre of one in eight, but in glandular fever, it will be one in 32 or higher. A titre of one in 64 is practically pathognomonic of this condition. The test often becomes positive within a few days, but occasionally it is delayed for about two weeks. In adults the manifestations are protean and, in the absence of glands, the test may be diagnostic. Thus a middle-aged woman, after sore throat and malaise, developed jaundice with enlargement of the liver and spleen. The W.R. was negative, the Van den Berg test showed a biphasic reaction, guinea pig inoculation of the blood and blood culture were negative for leptospira icterohaemorrhagiae, but there was a leucocytosis of 12,000 with 70 per cent. mononuclears and the Paul Bunnell test was strongly positive. After a few days the temperature subsided, but the jaundice and liver enlargement remained for some weeks, after which the patient recovered and has since remained well.

Boeck's sarcoid or benign lymphogranuloma is rather a rare condition which has come to the fore of recent years in view of the tendency to diagnose lung findings as such even in the absence of changes elsewhere. The X-ray picture is usually that of enlargement of the mediastinal nodes, especially of those below the hilum, with reticulation of the lung fields sometimes with superimposed widespread nodulation. In some cases this takes a miliary form but, despite this, the clinical course is usually benign and the patient subsequently recovers. Other cases show marked enlargement of the cervical glands or widespread glandular enlargement. In yet others there may be indolent, hard, reddish-brown nodules and plaques on the skin, especially of the face—the so-called lupus pernio. A host of other manifestations may appear singly or collectively, such as sweating, loss of weight, anaemia, enlarged liver and spleen, enlargement of lachrymal and salivary glands constituting one cause of the Mikulicz syndrome; osteitis multiplex cystoides, involving the short bones of the hands and feet may also be present and the X-rays then show clear cystic spaces with slight expansion of the bone.

The condition is generally regarded as a chronic granuloma which is probably not tuberculous. The Mantoux reaction is negative and if B.C.G. be injected the adjacent lymph nodes develop a sarcoid reaction, whereas in normal individuals, not previously infected with Koch's bacillus, a typical T.B. lymphadenitis occurs. The plasma protein is often much increased in this condition, but this is not pathognomonic, as it occurs in many other states as well.

Having considered the main causes of general enlargement of the lymph nodes at some length, the various sites may now be briefly described, and it must be emphasized at the outset that, though each group drains a particular area, it may, nevertheless, be the metastatic signal of an insidious and silent infestation of some other part of the body apparently far removed from the scene of action. Thus in Hutchison's tumour of the suprarenal glands in children (medullary neuroblastoma), in addition to tumours of the skull, haemorrhage into the eyelids and proptosis, the lymphatic glands above the clavicle on the affected side are usually enlarged and sometimes before other signs are present. Similarly, the signal node of Virchow above the inner half of the clavicle may be enlarged, particularly in carcinoma of the stomach, and also in the case of any abdominal or thoracic neoplasm from carcinoma of the breast, kidney, prostate or skin, or from melanoma of the genitalia or lower limbs. Other glands in the neck or axillae may be similarly involved and should always be sought for.

The Cervical Glands

Enlargement of the cervical nodes is very common particularly in children, and if no general cause is obvious, inflammation of regions whence they drain, such as the face, lips, mouth, ears, nose, scalp, tongue, tonsils, larynx, pharynx, antra and sinuses have all to be reviewed. Such states as boils, acne, impetigo, carious teeth, infected gums, seborrhoea capitis, pediculi capitis, with scratch dermatitis, staphylococcal dermatitis and sore throat are all very common. Diphtheria often installs itself very insidiously and the glands may be slightly enlarged or not at all in some cases, while in others, they are so big as to

constitute the so-called 'bull neck.' A child with a sanguinous or purulent nasal discharge who is a little the worse for it, may show a few enlarged glands under the jaw, yet he may cause an outbreak in the ward of severe faucial diphtheria. Two weeks after an outbreak of diphtheria in one institution a boy of seven got up one morning, began to dress, then suddenly dropped dead. He had complained neither of sore throat nor of any other symptom, and since the first case was discovered, all the children's throats had been carefully examined every day. No evidence of the disease was present in his throat, but myocardial changes were present at autopsy. He was obviously one of the first to be infected. A girl of eight was brought to hospital because, for a week, she had 'lollled about and had no life in her.' Enquiry revealed no complaint of sore throat, but the tonsils, faucial pillars and soft palate were covered with membrane, and the glands in the neck were much enlarged. Despite large doses of antitoxin she died next day in the fever hospital. Another boy had diphtheria with large glands in the neck, but recovered only to develop what was thought to be pneumonia by his doctor. Examination revealed active collapse of the lung with displacement of the heart to the affected side, as described by William Pasteur. He made a speedy recovery. Another patient had what appeared to be fairly typical lupus of the nose, but glands were present under the jaw and the W.R. was positive, and the apparent lupus rapidly disappeared on the administration of antispesific measures. A woman of 50 had an inflammatory swelling of the cheek with considerable oedema around the eye. According to the history given by the patient, the onset was fairly acute. A few fairly-hard, non-tender glands were present under the jaw and the W.R. was found to be positive. The swelling was revealed as a gumma which must have been present for some considerable time. A man of 50, whose father had died of cancer of the liver, complained of a sore under his tongue, which he had noticed for only ten days, and of a gland in the mid-cervical region. A small, hard, craggy sore was present. The diagnosis of epithelioma was made and confirmed by biopsy. After radium and clearance of glands, a further gland appeared in the lower

cervical region in 12 months' time. This was removed and he remained well for nine years, when he began to complain of dysphagia. Oesophagectomy was performed for a primary growth of the lower oesophagus, but within a few months he began to complain of gastric symptoms and operation revealed a large metastatic deposit in the liver, which must have been present before the previous operation was performed.

Usually arising in association with oral sepsis (especially an infected tooth socket) Ludwig's angina is a hard, tense, phlegmon of the lymphatic and cellular tissue of the neck, associated with severe constitutional symptoms. Dyspnoea and dysphagia may occur at an early stage, but in the presence of calor et dolor, rubor et tumor, the cause is obvious.

The Axillary Glands

Infected wounds of the hand and arm are very common causes of enlarged, tender glands in the axilla. Not infrequently in such cases the epitrochlear gland is enlarged as well and, in very acute cases, angry-looking red lines of inflamed lymphatic vessels may be seen extending up the arm. Apart from subungual whitlow, it is not usual for infection involving the nails to cause enlargement of the lymph nodes. Thus ringworm, eczema and psoriasis of the nails do not usually cause any increase in size, but syphilitic onychia often does and, in any doubtful case, the W.R. examination should be made, whether or not the glands appear to be enlarged. Occasionally, a trivial infection of the finger will cause deep suppuration in the axilla, associated with enlargement of the glands and it is remarkable in some cases how latent the infection can be. The history of one woman who was sent with the diagnosis of obscure pyrexia was striking. She had complained for about eight weeks of bouts of pyrexia, the temperature rising to 100°, sweating occasionally at night, and stiffness and slight tenderness of the upper part of the right arm. Examination revealed a few moderately-enlarged, slightly-tender axillary nodes, but below and deep to these, several fluctuant swellings could be palpated. After a searching cross-examination it was revealed that about two weeks before the pyrexia ensued she had

pricked her finger on a rose thorn and, after this, it had been somewhat inflamed and distinctly tender for a few days. Under local anaesthesia a small sharp-pointed Bard Parker blade had to be inserted as far as the hilt in order to reach some of the swellings so that pus could be obtained. The abscesses drained readily and no further treatment was required. Another interesting case was that of a man who developed an indurated sore on his forearm. Within three days a central black eschar had formed surrounded by a ring of small blebs, and the brawny induration had increased greatly. In view of this, fomentations were ordered but, fortunately, the man became alarmed when he discovered a large gland in the armpit, and requested another opinion. When seen he did not look ill and, despite the induration, little tenderness was present over the sore or over the gland. He was a hide porter and, not only was the pustule typical, but a film stained with carbolthionin revealed chains of anthrax bacilli.

As in other sites, enlargement here may be caused by infection from afar, such as chest and back, abdominal wall, breast, mediastinum and lung. In carcinoma of the breast or abdomen it is not always easy to say that the glands are definitely shotty, but the signal node of Virchow should be sought for, and the hand should be swept, as well, along the thoracic wall below the left axilla, as a gland occasionally appears here in carcinoma of the stomach. The skin of the abdominal wall should also be observed and any suggestion of a swelling should be palpated. There are always aggregations of lymphoid tissue over the body, which now and then form hard, non-tender, gland-like masses (more often on the upper part of the abdomen on the right side) when there is rapid metastasis from a highly malignant tumour of the lung or thorax. A man was sent to a sanatorium for T.B., but a small hard nodule was felt in the skin over the right hypochondrium, and a shotty gland was palpated in the left axilla. Subsequent investigation revealed a carcinoma of the bronchus with atelectasis of the lung. A woman with supposed abdominal carcinoma was so ill that the surgeon required a medical opinion as to whether operation should be attempted. It was pointed out that the patient

showed all the signs and symptoms of Addison's disease, but the surgeon rightly submitted that this condition could be simulated by malignant disease of the abdomen, and he demonstrated the presence of one or two small gland-like nodes in the skin above the right breast towards the right axilla. He was reminded, however, that there was a history of tuberculosis of the lungs and abdomen in childhood, that the patient had (with two other women who had died at the time), been infected by a nurse with a sore throat during parturition 20 years before and, after a very stormy fever with the formation of an abscess involving the right breast, she had recovered. Apart from being very thin, she had remained fairly well from that time, until recently, when she had complained more and more of great lassitude, associated with nausea, vomiting and constipation. It was also pointed out, on examination, that the pigmentation, which was slight on the skin, also involved the mouth and that the blood pressure was only 85/50. Under the influence of adrenal hormone, she made a good recovery without operation and the dose was later reduced as she developed oedema of the ankles. The oedema then disappeared. Four years later she is still very thin and complains of variable lassitude, of anorexia, flatulence, occasional vomiting and constipation. A practitioner, on seeing her for the first time, could not be convinced that she was not suffering from malignant disease of the abdomen, but a thorough X-ray examination made recently showed no evidence of obstruction, but only marked atonia of the bowel. The lymph nodes above the right breast are enlarged as before and no doubt result from the septic infection which occurred long ago and which must have involved the pituitary gland as well. She is a case of 'pituitary Addison's' disease and for some time she has refused all injections including corticotrophin, though she takes salt and glucose by mouth.

The Inguinal Glands

Whenever the inguinal nodes are found to be enlarged, a careful examination should be made of the external genitalia, the anal region and of the skin over the buttocks, lower part of trunk, legs and feet. Abdominal, pelvic and

rectal examinations should never be omitted and a long, well-illuminated speculum is here a very useful aid. Fungus infections, such as athlete's foot, are not usually associated with glandular enlargement, unless secondary septic infection has ensued. Sometimes, low grade sepsis, such as that which is associated with an ingrowing toenail, is not very obvious and must always be borne in mind.

In plague the inguinal glands are apt to be picked out more particularly and they enlarge rapidly to form a matted, tender mass of buboes, sometimes in the course of a day or two. Usually there is an abrupt onset with severe constitutional symptoms, but in the so-called 'pestis minor' mild ambulatory forms occur which are very deceptive and which may give rise to an epidemic of virulent plague. Therefore, when any doubt arises, as, for instance, in the case of a seafaring man with enlarged inguinal nodes, gland puncture will reveal the typical bipolar bacilli and the white rat may also be infected by inoculation or scarification with the application of the pus from the bubo.

Characteristic syphilitic glands are associated with signs of acute inflammation and periadenitis is also absent. Usually some enlargement of the glands on either side is evident, thus forming the 'syphilitic rosary'. They often have an almond-like shape and feel like india-rubber. They are apt to appear in association with the primary sore from two to six weeks after infection, but the history is never reliable. The sore may not be evident, as it may form within the urethra, the rectum, the vagina or on the cervix. In any case, the glands may not be enlarged in the presence of an obvious sore and especially when vaginal and cervical chancres are present, as the lymphatics from these organs drain into the abdominal glands. Again, in the case of anal chancres, at most only the outer inguinal glands are apt to be involved. A lad aged 17 developed a urethral discharge and enlarged glands in the groin two weeks after exposure to infection. He at once consulted the family doctor and said, 'I've got syphilis.' After examining him the latter laughed and said, 'You've only got clap, which is a local disease of the pipe.' The discharge got better fairly quickly and the glands disappeared. A few

CHANCRE

(1) The edge of the sore slopes gently towards the eroded part within and the normal skin without.

(2) There is a pinkish red band or areola around the erosion as though it had been painted with a brush.

(3) The base of the chancre is often built up, so it may overtop the edge.

(4) A band of induration around the sore forms an india-rubber-like plaque.

(5) Serum rather than blood is extruded.

(6) The sore is apt to be more or less painless.

(7) Incubation from ten days to six weeks.

(8) Repeated dark ground illumination reveals spirochaetes.

(9) The W.R. and Kahn tests become positive in due course.

(10) Usually a single sore.

years later he married and, with his wife, went to Shanghai. He remained well and several healthy children grew up and had healthy children of their own. His wife died of 'pernicious anaemia' at the age of 50. Not long afterwards he consulted an ophthalmic surgeon in Shanghai, as his vision began to fail. He was advised to return to England, as he had primary optic atrophy. In his case there was no 'early atrophy, late ataxia,' for when seen in a London hospital in 1926, well-marked signs of tabes were present and he was soon unable to walk.

The bubo of soft sore or chancroid may develop within a few days of infection, or after the sores have healed. There is usually an acute onset of large, tender, inflamed glands with much periadenitis. Constitutional symptoms are sometimes quite marked, such as raised temperature, rigors and the pain may be so great as to make walking impossible. In other cases, but little disturbance is present, apart from the chancroid. Either one or both inguinal groups may be involved and the red, boggy, overlying skin may subsequently break down to leave a chronic, discharging ulcer. Sometimes chancres and soft sores are present at the same time but here, as in all doubtful cases, repeated dark field illumination, W.R. and Kahn tests and the search for Ducrey's bacillus on smear and culture, as well as Ducrey's skin test will differentiate between

CHANCROID (SOFT SORE)

The edge is sharp and undermined on the inner side, and often rises abruptly from the normal tissue without.

The edge may show a bright red line but no painted areola, and the tissues immediately beyond are normal.

The base is usually sunk one or two mm. below the edge and is apt to be pitted or have a worm-eaten appearance.

Any hardness is confined to the ulcer itself, and there is no extension into the surrounding tissues.

It bleeds readily.

The sore is often painful.

Incubation period a few days only.

No spirochaeta pallida, but Ducrey's bacillus may be seen on slide.

W.R. and Kahn tests negative.

Frequently multiple sores.

the two, or establish the presence of both organisms.

As to the differentiation of the sores, the table above after Harrison's description may be helpful.

In gonorrhoea the glands are moderately enlarged, swollen and painful. Unless the condition is neglected and secondary infection with streptococci or staphylococci ensues, suppuration is nowadays never seen. Examination of a pus smear will usually show the typical gram negative diplococci, many of them lying within the pus cells. In the female the swab should be taken carefully from the cervix and urethra, never from the vagina, because of the presence of so many contaminants. In doubtful cases culture on special media will be required.

Malignant glands in the groin from melanoma, carcinoma or the genitalia or elsewhere, have the characteristics hitherto described. In some cases, glands which are not enlarged clinically show definite neoplastic changes on section.

Granuloma inguinale is a chronic infective granulomatous condition of the skin of the anal and genital regions, almost confined to negroes and it is not associated with enlargement of the lymph nodes.

Lymphogranuloma venereum (climatic bubo, lymphogranuloma inguinale, lymphopathia venereum) is a contagious venereal

disease caused by a filterable virus. A small herpiform nodule appears on the genitalia and frequently heals quite rapidly, so that it may never be noticed. Some weeks later the so-called climatic bubo appears and forms a painful, matted mass, which becomes attached to the overlying skin, which breaks down to form a chronic ulcer. Deep ulcers may also be present in the rectum and subsequent stricture is quite common. Sometimes the lesions extend throughout the whole colon and carcinoma develops in a considerable proportion of cases. The intracerebral inoculation of material from the glands into a mouse causes meningoencephalitis. The Frei test consists of the intracutaneous injection of an emulsion made from the brain of a laboratory animal. In infected patients an intense inflammatory reaction occurs within 48 hours.

The Mesenteric Glands

The diagnosis of *tabes mesenterica* is often very difficult, as the symptoms are frequently decidedly vague. Associated with lassitude and anorexia there may be attacks of abdominal pain or discomfort and diarrhoea may alternate with constipation. In many cases the stools are normal, but at times they are large, pale and porridgy, as in Coeliac disease, owing to an excess of split fat. Palpation of the abdomen, especially in the region of the right iliac fossa, may reveal the presence of the enlarged nodes. In the latter situation symptoms may arise which are indistinguishable before laparotomy from acute appendicitis. In other cases, evidence of obstruction, more often partial, may appear in due course. Increasing constipation, abdominal distension and discomfort may then be associated with bouts of copious vomiting. A plain X-ray of the abdomen is of value in that it sometimes reveals calcified tuberculous glands.

Now and then children are admitted to hospital as cases of *tabes mesenterica*, when they really have scybalous nodules in the colon. Administration of castor oil then readily dispels any lingering doubt as to their nature. It is obvious that, apart from such states as malignant disease, typhoid, Hodgkin's disease and appendicitis, any inflammatory condition involving the stomach and intestines,

may be associated with enlargement of the abdominal glands.

The Mediastinal Glands

The diagnosis of enlargement of the mediastinal glands is often largely a matter of inference. In children a paroxysmal cough may continue for a long time and, at first, by its very nature, it is certain to arouse in the doctor's mind the fear of pertussis. The absence of the bacillus of Bordet from cough plate or post-nasal swab cultures is strong evidence against this condition. There may also be dullness to the right of the sternum beneath the clavicle, between the scapulae or in the axillae and a 'hilar flare' may be present on X-ray examination. From a practical point of view, in childhood, such glands may be regarded as tuberculous in origin, for though they may become enlarged with any respiratory infection and with acute specific fevers, they seldom give rise to symptoms in such cases and unless they subsequently become secondarily infected with Koch's bacillus, as may occur, for instance, in measles and pertussis, they quickly subside in the majority of cases. It follows, therefore, that general symptoms may also be present, such as lassitude, anorexia, loss of weight, pyrexia and sweats. Other signs often quoted, such as dilated veins on the chest, downy hair on the back and arms, a venous bruit heard over the inner end of the clavicle when the head is fully extended (Eustace Smith's sign) and whispering pectoriloquy below the second dorsal spine (D'Espine's sign) are really of little value. In the adult, lymphadenomatous or malignant glands may give rise to stridor, cyanosis, engorgement of the head and neck together with cough and dilatation of the veins over the chest, which may readily be shown by obliteration and subsequent release with the fingers, to fill from above, thus denoting obstruction from pressure on the superior vena cava. There may also be lobar collapse with weak air entry in some cases, as well as snoring rhonchi over the affected lobe.

It will be evident from what has been written above that a simple classification of lymphatic gland enlargement could be made, such as the following :

CLASSIFICATION OF THE CAUSES OF ENLARGEMENT OF THE LYMPH GLANDS

I. Infective states :

(a) Various known organisms such as T.B., typhoid, typhus, syphilis, scarlatina, diphtheria, chancroid, gonorrhoea, staphylococcal and streptococcal infections, erysipelas, malaria, anthrax, glanders and tripanosomiasis.

(b) Virus and query virus infections, such as rubella, varicella, variola, infective mononucleosis, Hodgkin's disease, lymphogranuloma venereum and Boeck's sarcoid.

(c) Fungus infections such as trichophyton, actinomycosis, torula histolitica, sporotrichosis and coccidioidal granuloma.

2. Lymphatism in children, perhaps from debility and upper respiratory tract infection.

3. Skin conditions, including the various dermatoses arising from chemical agencies, infection, or both.

4. Neoplasms :

(a) Primary :

Lymphatic leukaemia.

Hodgkin's disease.

Lymphosarcoma.

(b) Secondary from tumours arising in various parts of the body.

BIBLIOGRAPHY

HARRISON, L. W., "The Diagnosis and Treatment of Venereal Disease in General Practice," London.

THE DIAGNOSIS, PROGNOSIS AND SYMPTOMATIC TREATMENT OF CARCINOMA OF THE STOMACH

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Carcinoma of the stomach is usually so silent in its onset, its radical cure is consequently so disappointing in effect, that many clinicians despair of ever curing a patient suffering from this disease. It is probably true to say that in the majority of cases when the diagnosis is made on an appreciable filling defect on roentgenological examination, as it usually is, the patient is already past hope of radical cure. Our duty, however, is clear ; we must employ all available means to discover the early case for the surgeon, and, in the filling defect stage mentioned above, do all we can to prolong a potentially useful life by well judged surgery and to alleviate suffering by medical means. The importance of the problem is shown by the fact that a third of all carcinomas in men involve the stomach and, in women, stomach carcinomata constitute a fifth of the total cases.

Diagnosis resolves itself into two parts. When is carcinoma of the stomach to be suspected, and if suspected, how is it to be confirmed ?

With an age distribution of 4 per cent. under 30 years, of 7 per cent. between 30 and 40 years and the rest over 40 years, it is clear that we must concentrate on the age group over 40, especially as the younger the patient the more rapid and malignant is the type of growth, so making the outlook even more hopeless.

Of local symptoms what type of dyspepsia does carcinoma of the stomach produce ? The answer is any type of dyspepsia, ranging from mild epigastric discomfort with eructation of wind immediately after food to continuous severe pain or regular intermittent pain at an interval after food as in duodenal ulcer. The main feature of carcinoma dyspepsia is that in about 80 per cent. of cases it begins after the age of 40 in a person not previously subject to indigestion. *Thus gastric symptoms in a patient over 40 years of age which last for more than seven to ten days should be fully investigated immediately.* In a minority of cases in which there is a preceding dyspepsia for a year or more, due possibly to ulcer or gastritis, the