Results.

Two cases of cancer in the region of the pharynx and larynx have been treated. In both relief from pain and distressing symptoms was experienced, and not only so, the discharges were free from the fetor usually associated with the disease when found in these regions. The patient died when defeated by the disease, and painlessly passed away in sleep.

In one case of lymphatic recurrence in a woman whose breast my friend, Mr. Lockwood, removed in St. Bartholomew's Hospital, the gland disappeared rapidly after treatment, and the elderly patient remains well two years at least after operation.

In a second case of growth in the breast, the patient, a nurse in the middle period of life, refused operation absolutely, but she clamoured for treatment because she suffered so much pain during the exertion of moving patients in bed that the fear of losing her work was always before her. I am forced to confess that I only undertook the treatment after pressing operation upon her as forcibly as is in my power, and refused to take any responsibility upon myself in case of disaster. That woman has been continuously employed in her work for two years past, and although the tumour cannot be said to have disappeared, it has markedly altered so far as the sense of touch is concerned, and now gives no pain. So far as my judgement goes it was a scirrhus tumour, but in the absence of microscopical evidence it is not my intention to assert its nature. The case is given for what it is worth.

A third case of breast tumour was more successfully treated, because the tumour disappeared altogether. The woman in whose breast this tumour was found had been previously treated for cancer in the abdominal cavity; the signs and symptoms presented certainly suggested to me that the patient was suffering from cancer, either of the pyloric end of the stomach or the upper end of the duodenum. All symptoms, such as pain and vomiting, slowly subsided after treatment, and the patient, after many months of comfort, died of heart disease, from which she had suffered for many years. It was only during an examination of the heart after its final breakdown that I discovered the lump in the breast; the patient had been afraid to tell me of this lump, which she had noticed three months previously. In advanced cases of cancer of the breast failures of surgery, no failure to alleviate has been observed except in two cases.

Abdominal Cases.

Of cases of cancer which have been tested by the microscope one of spindle-celled sarcoma of the spleen excited great interest. The unfortunate man had had one testicle removed, and had been under one operation for the removal of glands. When the patient came under observation a very large tumour of the spleen presented itself. The man, under treatment, lived for many months without pain, and died peacefully when the disease was victorious. It may be noted that when the treatment was interrupted, owing to inability to come to me, pain was complained of, and the treatment was then carried out, under my direction, by Dr. Berry of Grantham.

At the same time that this patient was under treatment, a man afflicted with a large growth of liver, which had been investigated by Mr. Lockwood by means of exploratory incision, came under my notice; the result was the same.

Several cases of cancer of the bowel have been placed under treatment, and the points noted have been relief of symptoms of obstruction and of pain. In one case there was a very marked cessation of collection of ascitic fluid. This patient had a considerable ascites when he first presented himself. After one tapping there was no further collection.

It appears to me that enough has been stated in order to demonstrate the fact that there is a remarkable reaction in patients when the drugs in question have been exhibited. The view taken of their therapeutic action is this: If the case is advanced it appears improbable from the nature of the disease to suppose that any treatment can remove it, but there is no doubt in my mind that the administration of the treatment suggested inhibits the activity of the organisms which are connected with putrefactive changes. The relief from pain is in all probability due to this fact, and so is the prolongation of life.

When this treatment was not in my hands it was my experience that patients died in a very large percentage of cases from the results of sepsis. In no case treated by my method have I seen a patient so die.

Patients, so far as my observation goes, die from simple exhaustion, and not with the old horrors connected with the

disease. The relief of obstruction in the bowels, however, rather inclines me to believe that even in old cases the treatment is capable of profoundly influencing the character of the growth, and certainly the treatment of very early cases leads in the direction of the belief that the disease is more capable of satisfactory treatment than is usually supposed.

Early diagnosis, as in all cases of disease, is here of the most supreme importance, and I believe that the treatment in the hands of those who have cases of difficulty connected with the abdominal cavity in which there is reasonable suspicion that the disease is cancerous in its nature will lead to surprise. I must confess to have experienced these feelings of surprise myself.

In conclusion, gentlemen, I express a hope that some of you, at all events, will be sufficiently interested to carry on the work further; and I may add that my friend, Dr. Morgan, of the Royal College of Science, has already furnished me with other allied chemical substances of which I have hopes.

A CASE OF CANCEROUS DISEASE OF THE STOMACH,

WITH SECONDARY INFECTION OF THE LIVER, OF THE THORACIC DUCT, AND OF THE CERVICAL LYMPHATIC GLANDS.

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THE case which forms the subject of this communication is of especial clinical and pathological interest, being one of "latent" carcinoma of the stomach in which I was able to make an early and correct diagnosis by discovering the presence of glandular enlargement in the left supraclavicular region and in which a *post-mortem* examination showed extensive cancerous affection of the stomach and liver associated with marked cancerous disease of the thoracic duct and localized infection of the above-mentioned glands.

REPORT OF CASE.

J. D., a labourer, aged 46, came under my care as an out-patient at the Cardiff Infirmary on September 30th, 1904, complaining of swelling of the legs and genitals of about a week's duration.

History.

Except for an attack of ague in India in 1890, he had enjoyed excellent health until about twelve months ago, when he became pale and somewhat weak, and he states that he was then supposed to be suffering from "anaemia."

Since that time until the advent of the dropsy he had been able to do his work, though he never felt really well but had noticed that he was getting gradually weaker and rather short of breath. His appetite had been good; he states that he had not lost any flesh, he had no gastric symptoms, and, indeed, there had been no localizing symptoms of any kind.

Condition on September 30th.

The patient is somewhat sallow and exhibits a moderate degree of pallor, and there is slight wasting. While lying down he is perfectly comfortable, but when walking he is obviously weak and short of breath. There is no jaundice. There is extreme oedema of both legs and of the scrotum and penis, and slight puffiness of the lower eyelids.

The pulse is 84 per minute, of low tension, and quite regular. The heart and arteries present nothing abnormal except a very faint haemic murmur over the pulmonary area.

The lungs are perfectly normal. The tongue is slightly furred, the appetite is good, the bowels are regular, and there is an entire absence of any gastro-intestinal symptoms.

There is no abdominal swelling or tenderness, the spleen is not palpable, nor is the area of splenic dullness increased, and the stomach is neither tender, nor enlarged, nor can any physical signs be discovered except an enlargement of the liver, the lower border of which can be felt extending to two fingerbreadths below the costal margin. The hepatic enlargement is perfectly uniform, and there is no associated pain nor tenderness.

The urine is normal in every respect. A blood examination presented nothing except a moderate degree of diminution in the red corpuscles.

In the left supraclavicular region there is an enlarged gland about the size of a hazel nut which is situated just under the posterior border of the sterno-mastoid muscle, and is fairly movable, but very hard.

October 14th. On this date he was admitted as an in-patient with the diagnosis of malignant disease of the stomach and liver. His condition is much the same as when first seen, except that the liver has increased in size, now extending to within an inch of the umbilicus, but the enlargement is uniform and smooth, and there is no local tenderness nor pain, though there is a slight feeling of fullness in the right hypochondrium associated with a nasty taste in the mouth and slight flatulence after food. The glandular enlargement in the neck has obviously increased, and involves several glands. His weight is 9 st. 10 lb., and though he says he has not lost flesh there can be no doubt that he is mistaken.

October 29th. The patient's weight is 9 st. 12½ lb. The oedema of the feet and external genitals has entirely disappeared. There is now no complaint of any unpleasant taste in the mouth nor of flatulence after food. The appetite is good, the tongue is clean, and, except for slight weakness, the patient feels well. The liver and the glandular enlargements are slightly better marked. The patient, at his own request, was discharged, and again attended as an out-patient.

December 1st. The patient is gradually losing ground. He is getting progressively weaker, and is losing flesh. He complains of much "fullness" in the right hypochondrium, but there is no local pain nor tenderness and the appetite is good, and gastro-intestinal symptoms are entirely absent. The liver now extends downwards to the umbilicus, but its surface is smooth and not tender. The glands in the neck have increased in size. Careful examination fails to reveal any other physical signs.

December 29th. He was readmitted as an in-patient. There is now a well marked cachectic appearance with great wasting. He is very anaemic, and exceedingly weak and breathless. He complains of much "fullness" over the liver, of flatulence, of epigastric pain after taking solid food, and of occasional vomiting. There is a slight icteric tint of the conjunctivae. The liver now extends beyond the umbilicus, and is also felt in the left hypochondrium, its surface presents small irregularities, and a distinct localized nodule is felt just below and to the left of the xiphi-sternum, and there is localized tenderness in the epigastric region. The glands in the neck now form a matted, fairly movable mass about the size of a Tangerine orange.

January 12th. The patient is rapidly losing flesh and becoming weaker. For the last three days he has complained of aching pain in the epigastrium. He is

unable to take solid food as it causes severe pain and is rejected by vomiting. Some small but distinct tender nodules can be felt on the surface of the liver. The veins over the lower part of the chest are enlarged and prominent.

January 21st. There is no pain. The liver is increasing in size and becoming more nodular. The appetite is good, but he cannot take solid food, and there is slight flatulence after taking liquid nourishment with a feeling of "dead weight" in the epigastrium. There is now moderately marked ascites, and the feet and legs are slightly oedematous.

January 21th. Cachexia is very marked. There is a good deal of epigastric pain, especially at night time.

February 4th. For the last few days the patient has been vomiting a dark brown offensive material which on examination shows the presence of blood. The liver is now greatly enlarged, tender, and markedly nodular. There is marked

oedema of the legs, external genitals, and the abdominal walls. There is slight but distinct jaundice.

February 14th. Emaciation is now extreme, and the vomiting very distressing.

February 25th. The patient died to-day.

Necropsy.

The necropsy was performed by me on February 26th. The body was excessively emaciated. On opening the abdomen, a large quantity of clear straw-coloured ascitic fluid was evacuated. The peritoneum, spleen, kidneys, and intestines were healthy. The mesentery showed a few dilated lymphatic vessels containing a milky fluid.

The stomach was not enlarged, nor was there any constriction of the pylorus, and its contents consisted of a small quantity of grumous material. On the posterior wall of the stomach there was found a hard growth involving almost the whole of that aspect of the organ, and the only parts of the posterior surface free from growth were those in the immediate neighbourhood of the cardia and of the pylorus. The surface of the growth was not ulcerated except for a small area the size of a half-crown situated almost in the centre of the mass. The outlines of the growth were well defined, and the part situated nearest to the pylorus showed a tendency to be of soft consistence and of cauliflower-like aspect.

The liver weighed 12 lb. 8 oz., and it showed enormous deposits of greyish-yellow, rather soft cancerous masses, so that there was but little normal hepatic tissue left.

Glands: There were several enlarged cancerous glands round the hepatic fissure, and also several from the size of a cherry to that of a walnut, situated behind the stomach and along the upper border of the pancreas, and one large gland had pushed itself into that organ. The pancreas itself was free from growth. There was no apparent pressure upon the inferior vena cava.

The thoracic duct, with the receptaculum chyli and the enlarged cervical glands were carefully dissected out, and showed the appearances presented in the accompanying photograph. The receptaculum chyli and the whole of the thoracic duct were extensively infiltrated with hard greyish-white cancerous growth, and the lumen of the duct was obliterated. At intervals along the course of the duct the growth formed nodular tumours, and no part was free from growth. Just before the ending of the thoracic duct there was found adherent to it a cancerous gland of the size of a hazel nut, and above that the lower cervical glands formed a nodular mass the size of a Tangerine orange, which on section showed extensive cancerous infiltration.

A careful search failed to reveal morbid changes in any other parts than those above mentioned.

Microscopical sections showed an exact reproduction of the gastric cancer in the thoracic duct and in the cervical glands.

REMARKS.

This case is interesting from both its clinical and pathological aspects, and the following points are, I think, worthy of notice:

1. *Duration.*—The entire duration of symptoms was seventeen months. Until the last five months of his life the patient had worked fairly regularly and had complained but little.

2. *Early Symptoms.*—The earliest symptoms were slight weakness and pallor, with an entire absence of gastric trouble, so that he was supposed to be suffering from "anaemia." The prominent symptom which brought him to the infirmary was the marked oedema of the legs, scrotum, and penis, and this, combined with pallor, with shortness of breath, with his denial of any wasting, and with an entire absence of any gastro-intestinal symptoms, naturally caused me to believe that he had either cardiac or renal disease. On examination, however, it was found that his heart, except for a faint, obviously haemic, murmur, was perfectly healthy, as were also the lungs. A history of swelling of the lower eyelids in the morning, together with the passing of small quantities of urine, next led to an examination of that excretion, with entirely negative results. It was thus obvious that there was neither cardiac, pulmonary, nor renal disease. A further consideration of the case then led me to suspect that the oedema was due to pressure upon the inferior vena cava, and the presence of anaemia (probably "secondary") combined with slight though distinct weakness, and with some wasting (which, though denied by the patient, nevertheless seemed to be present), led one to suspect "latent" malignant disease. An examination of the abdomen then showed that

Fig. 1.—A, Ending of duct in large vein; B, large nodule of growth of the duct; C, receptaculum chyli; D, glands in neck; E, isolated deep-seated gland.

the liver was enlarged, though there was no local pain nor tenderness. A careful examination discovered nothing else in the abdomen, but palpation of the neck showed an enlarged, hard, fairly movable gland just above the left clavicle and behind the posterior border of the sterno-mastoid muscle. Since there was no disease to be discovered in the immediate neighbourhood, it appeared that this glandular enlargement was probably secondary to malignant disease within the abdomen (the infection having been carried upwards by the thoracic duct), and since this was associated with a liver enlargement, I concluded that there was probably malignant disease of the liver. As malignant disease of the liver is nearly always secondary in origin, and since no primary disease could be discovered elsewhere, it seemed probable that one was dealing with a case of "latent" cancer of the stomach which had been followed by secondary infection of the liver and cervical glands, and probably by an enlargement of the lymphatic glands in the abdomen, which latter had caused the oedema by pressure. I therefore, within half an hour of seeing the case, was enabled by the above method of reasoning to arrive at a correct diagnosis.

3. *Absence of Gastric Symptoms.*—The entire absence of gastric symptoms until the latest stages is both interesting and instructive. Throughout the whole course of the case it is especially interesting to note that the patient's appetite was good. When we consider, however, that there was no constriction of the pylorus and no ulceration of the growth till its latest stages, it is not at all peculiar that there should have been no local pain or tenderness or vomiting. The early anaemia is what would be expected from the great destruction of gastric glands. It is remarkable, however, that there should have been such an absence of the ordinary symptoms of "indigestion." In the later stages when ulceration had occurred there was gastric pain, vomiting, and haematemesis.

4. *The Liver Enlargement.*—Until the latest stages there was no hepatic pain nor tenderness nor jaundice, and the hepatic enlargement showed no nodules.

5. *The Oedema.*—No distinct signs of pressure upon the inferior vena cava could be found. I am inclined to believe that the oedema was dependent upon several causes, such as pressure, lymphatic obstruction, and cachexia.

6. *The Enlarged Cervical Glands.*—The striking point in this case was the enlargement of the glands above the left clavicle. When first seen the small, hard gland suggested secondary infection from malignant disease, and a careful search failed to reveal any source of infection in the immediate neighbourhood and pointed towards infection through the thoracic duct. Although it is a long cry from the abdomen to the neck, nevertheless, when one bears in mind the ease with which infection may be carried by the thoracic duct, it is remarkable that such comparatively few cases have been recorded. Particular attention has been drawn to this mode of infection by Toisier, and it has been naturally believed that the connecting link was the thoracic duct, but so far as I know this has never been so conclusively demonstrated as in the above-recorded case.

7. *The Thoracic Duct.*—The amount of disease in this duct was very remarkable. The non-occurrence of chylous ascites and of other effects shows that the lymphatic anastomoses were very free, although I was unable to discover any obvious dilatation of lymphatic channels.

In conclusion, I may say that this case demonstrates well the following points: (a) The marked oedema which may be due to intra-abdominal disease; (b) the "latency" of the symptoms in some cases of cancer of the stomach; (c) the absence of typical signs or symptoms of cancer of the liver; (d) the transference of infection by the thoracic duct; (e) the significance of glandular enlargement above the left clavicle.

GRAFTING OF COMPLETELY-SEPARATED SKIN-FLAPS IN THE TREATMENT OF CONTRACTIONS DUE TO CICATRICES.

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THE characteristic property of a cicatrix to undergo contraction is, as is well known, responsible for the production of many unsightly deformities and serious losses of function of the parts involved. Such deformities are most often seen from cicatrization after burns, for the reason that heat is the most usual agent by which considerable areas of the skin

are destroyed. The result of the destruction of tissue by a burn is a granulating wound which slowly heals, and contraction usually proceeds as the process of healing progresses, despite all efforts to prevent the contraction by means of splints, passive movements, etc. Deformities resulting from such a process are most often seen about the face, neck, and hands or arms.

The difficulty of getting rid of extensive cicatricial bands is only too well known. Thus, when the cicatrices affect the fingers, these may be fused with the palm, being bound down so firmly as to be quite immovable. If treated by mere division of the cicatrices, cure does not result; for, as the gaps which result from straightening the fingers heal, the contractions are surely reproduced. There is but one way of restoring the parts under such circumstances to anything like the normal condition, and that is by means of complete removal of the scar tissue, followed by grafting of a layer of tissue consisting of epidermis and cutis vera.

Some years ago I published¹ cases in which fingers drawn into the palm by cicatrices were cured by means of excising the cicatrices, and filling up the gaps by pieces of the entire thickness of the skin removed from the arm or leg. In the same paper I discussed the comparative value of the three methods of grafting—Reverdin's,¹ Thiersch's,² and Wolfe's.³ The result was to show that recurrence of contraction would occur after Reverdin's and Thiersch's methods, in both of which merely epithelium is planted on the surface of the wound. I showed also that the result of employing not only epidermis, but also cutis vera to cover the entire wound, was that no contraction resulted either during healing or remotely. This method, originally employed by Wolfe³ in Glasgow in 1875, and subsequently by Krause⁴ of Albona, is undoubtedly the proper one to adopt in all cases in which a grafting operation is required to remove deformities due to contraction of cicatrices, provided that the parts can be rendered and kept aseptic; for it is only by this method of grafting that complete freedom from recurrence of contraction can be secured. As compared with the older method of Reverdin¹ (1870) it undoubtedly demands a higher technique for its successful performance, probably demanding perfect asepsis. It is therefore well suited for cases in which perfect asepsis can be attained—for example, cases of completely-healed cicatrices in parts which can be rendered and kept aseptic, or newly-made aseptic operation wounds in parts which can be kept aseptic.

There is good reason why the graft of the entire skin should be superior to the graft of Thiersch; for in the former all the normal structures of the skin are contained in the graft, and remain after it has healed in, while in Thiersch's method a mere shaving of epithelium is laid on. The latter method, therefore, merely hastens cicatrization and still leaves a scar, thinner, perhaps, than the natural scar would have been, and therefore not so liable to contraction, but still merely an epithelial covering and a scar. In Wolfe's or Krause's graft, however, there are the glandular structures and hair follicles and muscle cells, etc., of the true skin, and therefore this graft when healed in is not a scar. I am aware that Enderlen⁵ holds that in the process of healing these grafts are gradually eaten away, and replaced almost entirely from below, and that by the end of four weeks they are almost entirely replaced. Braun,⁶ however, and also Henle,⁷ subsequently reinvestigated this point, and came to the conclusion that the various structures normally present in the true skin are not absorbed, but persist. The latter is the only view which can be held in the light of observations which are easily made clinically; for the persistence of the hair follicles is demonstrable by the growth of hairs over the surface of the graft.

Since publishing my first cases I have frequently employed this method, and have found it almost invariably successful. I have used it for various purposes, for example, for removal of contractions due to cicatrices which could not otherwise be relieved, to fill defects caused by removal of tumours, etc., when it was not possible to get the edges of the wounds to meet, and to fill the defect left in the brow after removing the flap for rhinoplasty, and for syndactylism.

I have recently had a case of cicatricial contracture due to a burn affecting the thumb on its dorsal aspect, and therefore producing hyperextension, which, indeed, was so extreme that dorsal dislocation resulted, rendering the thumb useless. As the functional restoration by means of this method of grafting has been perfect, and as no other possible method could have produced this *restitutio ad integrum*, I think it right to record this case. The only other proposal which could have been made would be excision of the head of the