DYSPHAGIA ASSOCIATED WITH ANAEMIA.

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THIS paper is an attempt to bring together under one heading some points of importance which have been mentioned at intervals when dealing with the subject of spasmodic dysphagia.

The symptom-complex of dysphagia and anaemia occurs practically always in women ranging between the ages of 35 and 60, and all cases present almost identical signs and symptoms. They are usually referred to as difficulty in swallowing localized to the level of the larynx, or as taking place during the first stage of swallowing; such terms as "small swallow," "inability to grip the food," or "difficulty at the back of the tongue" being given to describe the condition. The duration of the dysphagia is invariably of long standing, ranging between twelve months and eight years.

The patients appear to be anaemic, and are occasionally yellowish, but not what would be called cachectic; yet the tint is such as to compel the thought that such conditions as pernicious anaemia, subacute combined degeneration of the cord, and malignancy have to be ruled out for diagnosis. The lips are pale, and as a rule sore areas or fissures are seen in one or both corners of the mouth. Most of the cases are edentulous, the teeth generally having been extracted years previously. The tongue is smooth, glazed, and atrophic, devoid of papillae, and sometimes coated with irregular patches of desquamated epithelial cells. The pillars of the fauces are pale and glossy, the tonsils generally small and buried.

On direct examination with the oesophagoscope the same thin pale appearance of the mucosa is seen, flecked with white sticky patches of mucus. Sometimes the lumen of the gullet may appear greatly reduced by a thin membranous web, or tense bands of raised thinned mucosa may pass in various directions. Occasionally there may be complete absence of the sphincter-like appearance found in the deep part of the normal hypopharynx. In other cases a tonic contraction at the commencement of the gullet is found, making difficult the passing of the tube.

Cytological examination of the blood reveals marked decrease in the number of red corpuscles, a low haemoglobin percentage giving a colour index below 1. The differential white count shows little or no abnormality. In some cases some poikilocytosis and polychromasia can be seen. Inasmuch as no megalocytes or nucleated red cells are present, and the colour index is low, the anaemia is regarded as of the secondary type. All the cases give a negative Wassermann reaction, although on cursory examination the labial fissures and patches on the surface of the tongue suggest a possible syphilitic basis. X-ray examination of the oesophagus with a bismuth meal shows nothing beyond perhaps a slight hesitation at the level of the larynx.

In 1919 Brown Kelly and D. R. Paterson described in detail the clinical picture of this type of dysphagia. They regard it as being due to a spasm at the entrance of the oesophagus, accompanied by definite mucosal changes limited to the upper food passages. The spasm was described as being analogous to spasms seen in other parts of the alimentary canal. The condition, therefore, is associated with the question of innervation peculiar to the various parts. It was pointed out in support of this contention that a disturbance of balance may exist between the motor portion (Auerbach's plexus) and the sensory portion (Meissner's plexus). Through either being in the hyperaesthetic state the oesophagus is unduly irradiated, and may lead to abnormal local contraction and spasms. According to Chevalier Jackson, once this spasm is established it will tend to be perpetuated by the nerve cell habit, and therefore to recurrent spasms.

Furthermore, it is pointed out that mucosal changes might lead to aggravation of the disturbed nervous balance, and possibly, also, the want of resiliency in the oesophageal lining from infiltration of the underlying tunica propria. The increase in the difficulty of passage of food might act as an irritant to cause spasms.

More recently a type of this dysphagia has been described under the title of the Plummer-Vinson syndrome. The dysphagia was described as functional, but nevertheless associated with secondary anaemia and splenomegaly. It appears that the glossitis and the mucosal changes mentioned were not emphasized by Plummer and Vinson (of the Mayo Clinic); they attributed the anaemia and splenomegaly to prolonged unbalanced diet. Later Hurst, in the *Guy's Hospital Reports*, published a case which he thought corresponded very clearly with the syndrome described by Plummer and Vinson. In this case—that of a woman with long-standing history of dysphagia and anaemia—the dysphagia appeared to be definitely spasmodic. The passage of the oesophagoscope was difficult owing to the tightness of the pharyngo-oesophageal sphincter. She also had secondary anaemia and splenomegaly. The characteristic point which he mentioned was the glossitis, with the tongue covered by a thick coating of mucus. But this case differed from the Hunterian glossitis of Addison's anaemia, as in the latter condition the tongue is clean. Hurst considered this condition of dysphagia, anaemia, and splenomegaly to be primarily due to streptococcal infection, since a pure culture of *S. longus* was obtained from the spittle. The dysphagia was probably due to a reflex spasm caused by the local inflammation.

The clinical recognition of this type of dysphagia is therefore established. When first described the emphasis was laid upon the dysphagia as spasmodic in nature and not purely functional, and also accompanied by definite mucosal atrophy in the upper food passages. Later the dysphagia was described as accompanied by anaemia and splenomegaly, with the emphasis laid upon the blood changes and the splenic enlargement.

From cases seen and examined at the Cardiff Royal Infirmary it is evident that equal emphasis and attention should be paid to the dysphagia, mucosal changes, and the anaemia to make the condition a complete clinical entity. Apparently the splenomegaly is not so common. According to Plummer and Vinson, out of 69 cases only 12 had splenomegaly.

The difficulty of associating the morbid histology of the clinical facts under the one and the same pathology is recognized. To begin with, the majority of the patients are women who are edentulous. The teeth generally have been extracted years prior to the onset of the dysphagia. It would, therefore, be unlikely and untrue to regard the buccal and pharyngeal secretions as septic, and the glossitis and mucosal atrophy cannot be attributed to the localized sepsis. Yet there is the possibility of spasmodic contractions taking place at the entrance of the gullet as the result of irritation of a hyperaesthetic nervous arc. The irritation can be the result of an anatomical lesion of the oesophagus in the nature of altered mucosa. The relationship between the anaemia and mucosal atrophy and dysphagia is difficult to establish in the absence of definite localized sepsis. More work, however, is being done in the endeavour to establish a relationship between the dysphagia and the anaemia. In all the cases that came under our notice the blood counts showed that the patients were suffering from simple secondary anaemia, with the exception of one case, which was a definite primary anaemia of the pernicious type. As a matter of fact, minute examination into this patient's history showed that she had had difficulty in swallowing for years, but did not seek advice until the progressive anaemia compelled her to do so. This case is of particular interest, as the association of dysphagia and primary anaemia is rare. In the future "following up" of the dysphagic cases it will be interesting to see if any of the so-called secondary anaemic cases will have developed into a primary anaemia. Possibly some of them may have been very early cases of pernicious anaemia. The publication of details of patients suffering from dysphagia and primary anaemia is so rare that to give details of this case is not without value.

A married woman, aged 53, was first seen for general weakness, loss of appetite, and inability to swallow solid foods. Further inquiry showed that the dysphagia was occasionally associated with "ulceration" of the tongue and had been a source of discomfort to her for about three years. She paid little attention to it until her general weakness forced her to seek advice.

On admission examination showed: (1) the mucous membranes of the mouth to be very pale. She was edentulous; the teeth had been extracted years previously. (2) The tongue was red, smooth, glazed, devoid of papillae, with patches of sticky mucus present. (3) The tonsils were small and septic.

Blood examination showed poikilocytosis, anisocytosis, polychromasia, and punctate basophilia. Haemoglobin 32 per cent.; colour index 1.4; red cells 2,200,000, white cells 5,000; polymorphs 57 per cent., lymphocytes 37 per cent., large mononuclears 6 per cent.; normoblasts and one or two megaloblasts seen.

The spleen was enlarged and could be felt projecting 1½ inches below the costal margin.

The central nervous system showed no abnormality. Wassermann reaction negative.

The urine contained acetone, bile salts, and pigments.

Van den Bergh test: direct—delayed positive; indirect—immediate positive.

Fractional test meal: achylia with no delay. X rays showed the stomach to be very large and atonic, reaching well down into the true pelvis. There was no irregularity or tenderness. Six hours later the bulk of the meal was in a terminal ileum.

A swab from the throat gave pure growths of *Streptococcus viridans* and *S. longus*.

The diagnosis of pernicious anaemia was made and treatment carried out accordingly.

Five months later tonsillectomy was performed and a few weeks later the dysphagia became much more marked. She was therefore obliged to exist on liquid diet only. Examination of the food passages showed the usual atrophic changes. She was x-rayed again and the report was as follows: "Heart and vessels normal. Posterior mediastinum clear, and opaque food passed down the oesophagus into the stomach easily, but showed a temporary arrest at the level of the larynx. Oesophagus not dilated."

Direct oesophagoscopy showed no evidence of a neoplasm present. The hypopharyngeal mucosa appeared thin and tense. She died at home three weeks later. Unfortunately, no *post-mortem* examination was performed.

Treatment.

There is no doubt that benefit is obtained by the passage of the oesophagoscope and dilatation with bougies. The result is very often striking, as after the initial soreness following the direct examination patients are able to partake of normal meals and immediately announce themselves as being cured. Relapse, however, will result—some within three weeks, others may go on for years. When relapse does take place normal deglutition can be re-established for another period by further dilatation. It may be stated that the patient with the primary anaemia showed little improvement after dilatation.

One further point may be mentioned—the not infrequent supervention in such cases of malignant disease at the mouth of the gullet. Logan Turner and Paterson state that this happens too often to be merely a coincidence.

We are indebted to Dr. D. R. Paterson for his kindness in allowing us to make use of the cases from his department at the Cardiff Royal Infirmary.

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FIVE CASES OF ILEO-CAECAL RESECTION.

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DURING the last six years five cases in which ileo-caecal resection has been necessary have come under my care—two for intussusception with carcinoma of the caecum, two for carcinoma of the ascending colon, and one for tuberculosis of the caecum. The immediate results of this rather formidable operation seem to me worthy of record. All the cases recovered from operation with practically no shock.

CASE I.

A man, aged 50, was admitted to hospital on December 7th, 1921; he had had absolute obstruction for four days, constipation for four months, with vomiting and pain after meals. He had lost a deal of weight. There was no melaena. Temperature 99° F., pulse 64. An enema produced a good result.

Operation.—On December 8th a right rectus incision was made over a mass in the caecal region. The small intestine was distended, and there was free fluid in the peritoneal cavity. An

irreducible intussusception was found with diffuse thickening of the caecum. The lower end of the ileum and the caecum, as far as it was mobile, were excised. The ascending colon was closed and the proximal end of the ileum anastomosed to the transverse colon by the end-to-side method.

The pathological report was adenocarcinoma, with marked inflammatory reaction and congestion.

Result.—A notable feature was the complete absence of shock and rapid convalescence. The patient left hospital on December 21st, within a fortnight of operation.

CASE II.

A woman, aged 47, was first seen as a private case, and a diagnosis of caecal tumour was made. She was admitted to hospital on January 20th, 1923, with twelve months' history of pain occurring in attacks over the umbilicus. There was no melaena or haematemesis, but she complained of diarrhoea.

Operation.—On January 23rd, through a right rectus incision, an intussusception was found similar to that in Case I, but the ileum was laterally implanted into the transverse colon.

On section the resected portion showed columnar-celled adenocarcinoma with intense inflammatory reaction within the supporting tissues.

Result.—The patient had an uneventful recovery, leaving hospital ten days after operation.

CASE III.

A woman, aged 54, was admitted to hospital on January 10th, 1924, with a history of pain, vomiting, and constipation, which had recently become worse.

Emergency Operation.—There was great distension of the small gut, with ring carcinoma near the caecum. The patient collapsed somewhat, and no attempt was made to bring the growth out. The bowel was short-circuited between the ileum and the left end of the transverse colon.

Resection Operation.—On January 26th the patient was passed on to me for resection. This case showed a typical glandular distribution, as described by Dobson, and the resection included the transverse colon, as advised by him, the anastomosis being carried out as before.

The specimen was a typical ring carcinoma, and no sections were cut.

Result.—The patient left hospital within a fortnight.

CASE IV.

A woman, aged 49, was admitted to hospital on September 8th, 1924.

Operation.—Through a right rectus incision a one-stage Dobson resection of the ileo-caecal region with half the transverse colon was performed.

Section of the portion resected showed large masses of carcinomatous cells in the intestinal wall.

Result.—The patient left hospital within a fortnight.

CASE V.

A woman, aged 53, was admitted to hospital in June, 1924. She complained of pain, dull in character, in the right iliac fossa of five months' duration; she felt distended, but the bowels acted well. A fixed tumour was felt in the right iliac fossa.

Operation.—On June 18th an operation revealed what appeared to be a malignant growth in the caecum, with glands in the mesentery. The ileum was anastomosed to the transverse colon.

Resection Operation.—On July 9th the patient was passed to me for resection. The mesentery was much thickened, and numerous large glands were present, which, on section, were obviously breaking-down tuberculous ones. The resection in this case was far more difficult than in any of the cases described above, as it was deemed advisable to remove the thickened mesentery in which the glands lay, and unfortunately the ureter was injured.

Section of the portion of bowel removed showed tuberculosis to be present.

Result.—Strangely enough, this non-malignant case compares very unfavourably with the other cases in the immediate result, but possibly the eventual outlook may be better. The patient did not leave hospital until November 7th, owing to a faecal fistula, which has now almost closed; her general condition is very good.

Case IV returned to hospital on January 1st, 1925, with an implantation growth in the abdominal wall, which was removed and radium introduced. The abdominal cavity appeared to be free from recurrence. The remaining four patients speak enthusiastically of their present state of health.

It will be noticed that in two of these cases resection was preceded by a short-circuit operation, but this is only necessary in the presence of acute obstruction. The presence of carcinoma in both intussusception cases is a reminder that a wide resection is advisable in these chronic cases, as they are almost always associated with a malignant growth. For the pathological reports I am indebted to Dr. A. F. Sladden, director of the Beck Pathological Laboratory, Swansea Hospital.

Since writing the above notes I have had two cases of carcinoma of the caecum. One was inoperable, but a short-circuit operation has given relief. The other patient, a middle-aged woman, after resection has returned to her duties as a school teacher.