writer of the leading article in the *Lancet* of June 8th, 1935, who states that this disease is an acute infection, that recovery appears to depend on the spontaneous development of immunity to the infecting organisms, and that it is doubtful if local treatment shortens the duration of the attack. We are convinced that this disease is not an acute infective fever, but is merely a local subepithelial dermatitis, and that local treatment can abort it. We protest very strongly against the not only discouraging but totally erroneous dogma that fatal cases are doomed from the onset. Fatal cases are due to late diagnosis and inefficient treatment.

We wish to thank Dr. W. M. Frazer, medical officer of health, City of Liverpool, and Dr. C. O. Stallybrass, deputy medical officer of health, for their interest and statistical help, and Mr. C. H. Walsh, visiting obstetrician, the Matron, and the maternity staff of Mill Road Infirmary for their co-operation.

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DYSPHAGIA DUE TO UNILATERAL PULMONARY FIBROSIS

BY

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(With Special Plate)

Pulmonary disease appears to be a very rare cause of dysphagia. Lord, in *Diseases of the Bronchi, Lungs, and Pleura* (1925), says that it may occur in cases of pleurisy with effusion, and also states that the passage of food through the oesophageal foramen may be attended with pain when there is diaphragmatic pleurisy. I have, however, been unable to collect any reference to the condition being caused through pulmonary fibrosis.

My attention was drawn to the condition by the following case.

Case I

The patient, a tuberculosis dispensary nurse, aged 45, was admitted to Oakwood Hall Sanatorium on September 9th, 1935. She gave a history of having had an attack of pneumonia at the age of 16, which left her with a cough. She did not regain her normal strength, and was admitted to a sanatorium six months later as a case of pulmonary tuberculosis, and had five months' treatment. She was unable to say whether or not her sputum was ever found to be positive, and the medical superintendent of the sanatorium stated that her records had been destroyed, and therefore no information could be obtained on this point.

Since then she remained well until the onset of the present condition, with the exception of an attack of influenza in 1918 (not off duty), and another in 1932.

Previous History.—In February, 1934, she felt weak, and suffered from slight cramps in the limbs. This improved, but in July, 1934, she complained of hesitancy and difficulty in speaking. This also improved, and she remained at her work. In March of last year she complained of difficulty in swallowing, both fluids (if hot) and solids. She stated that the dysphagia was worse while she was in company and when she was tired. There was never any vomiting or regurgitation of food, but she complained of dyspeptic symptoms, including acid eructations, flatulence, and some epigastric pain. She was advised to have large doses of iron, as her haemoglobin was found to be 70 per cent. She did not improve, however. An ear, nose, and throat specialist whom she consulted advised the passing of an oesophageal

sound. This was not done, and she was admitted to Oakwood Hall Sanatorium for observation.

Clinical Findings.—On admission her general condition was fairly good, though she was underweight and rather pale. She had no cough and no sputum, but clinical examination showed marked fibrosis of the left lung, with pleural thickening at the base. A few moderately coarse rales were heard in the middle third of the lung after coughing.

The heart was only slightly displaced to the left. The cardiac sounds were normal and the abdominal examination negative.

X-Ray Findings.—X-ray examination revealed a marked dimming of the left side of the chest with a comparatively clear area in the upper half laterally. The dimming at the base was so great that the heart shadow was very indistinctly seen, lying slightly displaced to the left. The trachea was also seen to be displaced. The right lung was clear except for a few calcified nodules in the first intercostal space. The diaphragm was not clearly visible on the left side, but a lateral radiograph showed it to be considerably raised. It is curious that there was practically no narrowing of the left bony hemithorax in the presence of such marked fibrosis.

The tuberculin reaction (Mantoux) was strongly positive to a dilution of 1 in 1,000.

Discussion.—There is some reasonable doubt whether her condition was brought about by tuberculosis or not, especially as she has been, in spite of the severe damage to her left lung, symptomless for so many years after only five months' routine sanatorium treatment. The fact that her father is said to have died of tuberculous peritonitis, that an aunt, with whom she had no contact, is also said to have died of tuberculosis, and the presence of a great deal of deposited calcium in the left lung and a small amount in the right lung does, however, point to the primary condition having been most probably tuberculous.

Diagnosis.—In the presence of the unilateral fibrosis the symptoms pointed to oesophageal displacement. Accordingly she was screened and films were taken while she was swallowing a barium preparation.

The oesophagus was shown to curve markedly to the left, just above the sterno-clavicular joint, and to be narrowed at the level of the first costal cartilage. This examination was repeated a few days later in order to obviate the possibility that the narrowing was due to muscular spasm. The stricture in the second film appeared in exactly the same position and in the same degree as in the first. The films taken in the lateral position showed no oesophageal abnormality.

Commentary

It therefore appears that the symptoms of dysphagia were due to torsion on the oesophagus by the unilateral pulmonary fibrosis. The radiograph of this case showing barium in the oesophagus is reproduced (Fig. 1 on Plate).

A very practical point is introduced by the reflection that this patient was advised to have an oesophageal sound passed. The grave danger of injury to the oesophageal walls, and even of haemoptysis from the rupture of fibrous tissue in the lung, incurred by this procedure is obvious.

A considerable degree of visceroptosis was present, as shown by the barium in the stomach and intestines. This would explain her dyspeptic symptoms. She improved to some extent with rest and routine sanatorium treatment, and is now discharged and will shortly return to work.

Six other cases of unilateral pulmonary fibrosis were investigated in the same way. Five of those were undoubted cases of tuberculosis, and the sixth was an old-standing case of bronchiectasis, probably due to massive atelectasis with only partial re-expansion. Five of these cases (including the case of bronchiectasis) showed a marked degree of oesophageal displacement. The sixth case, a man on whom a thoracoplasty had been performed two years previously, also showed the same condition, but only in a moderate degree. None of these cases had symptoms of dysphagia or dyspepsia, and none showed oesophageal stricture.

Case II

One of these cases was a girl, aged 6. Her radiograph is also reproduced (Fig. 2). In her case the oesophagus was markedly pulled into the right hemithorax along the whole of its length, and this caused a rather acute bend at its lower end, where the oesophagus crossed in front of the spine to enter the stomach. Screening showed a delayed entry into the stomach, caused by the stretching of the oesophagus in the region of the cardiac end, and probable narrowing of the opening. The whole oesophagus seemed slightly dilated, as shown in the radiograph. This child, however, had no symptoms of dysphagia, and appears to swallow normally.

A further case, one of hydropneumothorax with a greatly displaced mediastinum, was similarly investigated. Here the oesophagus was displaced to the contralateral side.

There appears to be little to offer in the way of treatment to cases of this condition, where the dysphagia is severe and proving dangerous to life, except thoracoplasty. The patient already mentioned who had had this opera-

tion had a tremendously fibrosed right lung with complete pathological dextrocardia, and the fact that he exhibited only a moderately displaced oesophagus as compared with the other cases suggests to me that the oesophagus had been partially returned to its normal position by the operation.

Summary

A case of pulmonary fibrosis giving rise to dysphagia by displacement and stricture of the oesophagus is described.

The oesophagus is shown to be as mobile a structure as the other mediastinal contents when influenced by mechanical stresses and strains arising in the lungs and pleura.

The operation of thoracoplasty is suggested as being at least theoretically sound in the treatment of severe cases of dysphagia due to unilateral pulmonary fibrosis.

Attention is drawn to the danger of passing oesophageal sounds in cases of long-standing pulmonary disease without first ascertaining, by means of barium, the amount of oesophageal displacement.

Clinical Memoranda

Forced Extension as a Cause of Fracture-dislocation of the Spine*

(With Special Plate)

Non-fatal fracture or dislocation of the upper two cervical vertebrae is not common. Forced extension not associated with direct violence appears to be so rare a cause of injury at any level in the spine that it is scarcely mentioned in the textbooks. Consequently no apology is called for in placing this case on record.

CASE REPORT

The patient, a colliery ostler aged 68, has a well-marked osteo-arthritis kyphosis with a more extreme compensatory lordosis in the upper cervical region. He had worked regularly till March 17th, 1932, when, while carrying a bucket of horse feed in each hand, he slipped and fell forward, striking his forehead against a post. He suffered acute pain in the back of the neck just below the occiput, but completed the shift, working another three and a half hours. He went again the next day, in spite of pain, but had to cease work. He was seen the following day by Dr. Davies of Resolven, to whom I am indebted for the description of his symptoms. He found him sitting in a chair, in the position of least discomfort, with his head and neck perfectly rigid. The slightest attempt at movement caused acute pain. There was extreme tenderness on either side of the neck; swallowing was painful and difficult, and the speech thick; the walls of the pharynx were red and swollen.

During the next four days the symptoms became more marked, and did not abate sufficiently for him to go to hospital for x-ray examination for three weeks. At the end of this time he was x-rayed, and the report merely stated "osteoarthritis of the cervical vertebrae." Six months later when I first saw him his complaint was stiffness of the neck and suboccipital pain. The deformity, in the opinion of Dr. Davies, who knew him before the accident, was afterwards increased. An x-ray examination was made in Swansea, limited to a lateral view only, an antero-posterior being impossible owing to the position of the occiput. The film (Fig. 1, Special Plate) shows: (1) an ununited gaping fracture of the body of the axis, though whether involving the arch or not it is impossible to say; (2) angular displacement backwards of the upper fragment with atlas and head; (3) extreme lordosis, limited to the upper cervical region, and demonstrating the mechanical disadvantage to which this region was exposed from a blow on the head; (4) crowding together of the second, third, and fourth arches and spinous processes suggesting possible injury and partial synostosis; and (5) tipping of the three lower cervical vertebrae at the upper limit of the otherwise general osteo-arthritis of the spine. I

saw this patient again in June, 1934, when he complained of suboccipital neuralgia and considerable limitation of movement. The x-ray film (Fig. 2, Special Plate) taken then shows union in the fracture, no change in the general deformity, and no advance in the osteo-arthritis.

COMMENTARY

Among the many points of interest in the case is the giving way of the body of the bone instead of the odontoid process, a fact difficult to explain. The absence of any injury to cord or nerve roots may be explained by the assumption that these structures had had time to accommodate themselves to the gradually increasing lordosis, with the result that the stretching effects of the fracture were lessened, and the fact that the displacement was limited by the previous close contact between the arches and spinous processes.

I can find in the English surgical literature only one recorded case of non-fatal fracture of a cervical vertebra, which it was thought might have been caused by forcible hyperextension—namely, that published by Rushton¹ in *Guy's Hospital Gazette*. In this instance the lesion was a medium sagittal fracture of the body of the sixth cervical vertebra, and it is admitted that the force might have been transmitted from the vertex through a straight rather than an extended spine.

A man of 20 had dived into two feet of water from a step six inches below the surface. His feet slipped back as he did so, and he struck his head on a sandy bottom. In this case there was definite evidence of cord injury.

One obvious reason why the occurrence of flexion lesions in the cervical region, from blows on the head, is the general rule is the fact that the occipito-atloid joint is situated well behind the centre of the long antero-posterior diameter of the skull.

It is probable that but for the cervical lordosis in the case of the ostler the blow would have resulted in forcible flexion rather than extension. Erwin Mackh,² however, asserts that luxations resulting from pure hyperextension are not so uncommon, also that they are more frequently associated with cord injury from overstretching than is the case in fractures caused by forced flexion. He further states that the only x-ray evidence of the nature of the violence in these may be that of fracture of spinous processes, which practically always occurs. This latter contention seems to be supported by the following case, quoted and figured by Cotton.³

A boy fell off a horizontal bar, striking his forehead on the ground. There was immediate "lameness" of the neck, followed later by rigidity. The radiograph showed a fracture detaching the arch from the body of the axis, with angular displacement backwards of the axis, atlas, and head, and also some forward displacement of the lower end of the axis

* The case was shown at a clinical meeting of the South Wales and Monmouthshire Branch of the British Medical Association.

H. CARTER AND H. A. OSBORN: NEO-NATAL DERMATITIS

FIG. 1.—An untreated blister of twenty-four hours' duration. The original subepithelial blister is usually single, and if scientifically treated the disease is aborted.

FIG. 2.—Section through toxic blister from neo-natal infant with pneumonia. Blister in superficial layer of epidermis in a similar position to the lesion of impetigo contagiosa bullosa, and in contradistinction to that of subepithelial dermatitis ("pemphigus neonatorum"), which is below the epidermis. Note primitive character of epidermis.

FIG. 3.—Section of subepithelial dermatitis. Section through broken blister, showing that the whole of the epidermis has been cast off.

FIG. 4.—Advanced stage of subepithelial dermatitis (epidermatitis exfoliativa). Result of late diagnosis and unsuitable treatment.

ALEX. T. DOIG: DYSPHAGIA DUE TO UNILATERAL PULMONARY FIBROSIS

FIG. 1.—Case I. Barium in oesophagus. Displacement and narrowing of the upper end of oesophagus.

FIG. 2.—Case II. Barium in oesophagus. Displacement and slight dilatation of the oesophagus and delayed entry of barium into stomach.