it is possible that all subsequent development of tuberculosis will be prevented. The superiority of this long-term chemotherapy has become very widely recognized in other forms of tuberculosis (Hoyle *et al.*, 1955; Borthwick, 1956; Ross and Kay, 1956).

It is disappointing that residual pleural thickening was as common among those treated with chemotherapy as among those treated without. Possibly early aspiration (Mackay-Dick and Rothnie, 1954) or the administration of corticosteroids (Sors and Trocmé, 1954; Bruel *et al.*, 1955) might lessen this complication, which nevertheless did not cause any disability to patients so affected in this series.

Conclusions and Summary

Anti-tuberculosis chemotherapy should be given to all patients with primary tuberculous pleural effusions. Its chief effect is to prevent the development of subsequent forms of tuberculosis: for complete suppression it is probable that treatment should last for at least one year. It is less effective in the early manifestations of the effusion, and does not reduce the incidence of residual pleural thickening.

The frequency of post-primary tuberculosis following the use of chemotherapy in primary tuberculous effusions has been assessed in only two published series.

In the present investigation 56 patients with such effusions and without obvious parenchymatous foci at the time have been followed, most of them for over five years. Thirty-two were treated with bed-rest alone and in nine (28%) subsequent forms of tuberculosis developed. Twenty-four had received chemotherapy for periods of from two and a half to six months in addition; in most, daily streptomycin and para-aminosalicylic acid were given. Only two patients (8%) developed forms of tuberculosis later. Residual pleural thickening was equally common in both groups.

Chemotherapy had little effect upon the early manifestations, but there was bias in the original selection of cases.

I am grateful to the physicians of the London Chest Hospital, under whose care these patients were, and particularly to Dr. E. H. Hudson, Dr. N. L. Rusby, and Dr. J. Smart for their interest. I am indebted to many physicians and hospitals for their help in the follow-up. The above investigations were carried out while acting as senior medical registrar at the London Chest Hospital.

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OESOPHAGEAL OBSTRUCTION AND COMA DUE TO NODULAR GOITRE

BY

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Although pressure effects on adjacent organs are common when the thyroid becomes enlarged, it is unusual to find severe dysphagia or disturbances of consciousness associated with a benign nodular goitre. The case to be reported here is that of a woman with goitre who presented as a case of coma with complete oesophageal obstruction.

Case Report

An unmarried woman aged 45 was admitted to the Royal Free Hospital on December 3, 1954, having been unconscious for several hours. The patient, whose history was obtained from her sister, had been mentally retarded from infancy, and at the age of 22 years started to have epileptic attacks. She had major fits at about three-monthly intervals, always at night, and also two or three attacks of petit mal each month.

In 1951 she had a respiratory infection with cough, sputum, and fever lasting a fortnight. During this illness, after a bout of coughing, she had her first breathless attack which lasted an hour and during which she went blue in the face. Subsequently she became breathless on climbing stairs. About once in two months she had an attack of breathlessness associated with cyanosis and stridor, usually brought on by excitement or coughing.

Three weeks before admission she had her first major attack during the day and fell into the fire, suffering second-degree burns on the back, for which she was admitted to another hospital. After this fit she had stridor, was breathless, and became navy-blue in the face. On discharge, eighteen days later, she had a "cold" and a non-productive cough.

On the morning of December 3 she had a bout of coughing and became cyanosed, but stridor was not noticed. She improved after $\frac{1}{2}$ gr. of "omnopon," given by her doctor. In the evening the symptoms recurred, she vomited and lapsed into coma.

Clinical State.—On admission to the Royal Free Hospital the same evening she was still comatose. There was navy-blue cyanosis, maximal in the head and neck, with marked inspiratory and expiratory stridor. The jugular veins were distended but not pulsating. The thyroid was moderately enlarged and nodular, with retrosternal dullness. The trachea was displaced to the left. The accessory muscles of respiration were in use and coarse rales were heard at both lung bases. Apart from the raised jugular venous pressure and a tachycardia of 108 there were no abnormal cardiovascular signs. No response was obtained to painful stimuli; there was no papilloedema; the limbs were flaccid, with diminished tendon jerks; the plantar responses could not be obtained.

Progress and Treatment

Soon after admission an endotracheal tube was passed, through which about 20 ml. of mucous fluid was aspirated. The cyanosis disappeared after the administration of oxygen through the tube, but there was no other improvement. She had three fits in the first hour, and during the second hour had a grand-mal attack lasting ten to fifteen minutes. After an injection of 10 ml. of paraldehyde intramuscularly no further attacks occurred.

As there was clearly a large amount of foreign material still in the bronchial tree, an emergency bronchoscopy was performed at 3 a.m. on December 4. The airway was cleared of a large quantity of milky, frothy mucous fluid. Although the trachea was markedly deviated to the left there was no obstruction to the passage of the bronchoscope. Following this, her condition improved slightly, although she never regained full consciousness. An endotracheal tube was left *in situ*. Her mouth filled up repeatedly with purulent fluid, which was aspirated at regular intervals. Many attempts to abandon the use of the endotracheal tube were followed after a minute or so by coughing, cyanosis, and a deepening of the level of coma. Relief was obtained immediately by reinsertion of the tube and aspiration of fluid from the trachea. A stomach tube could not be passed, and after repeated attempts it was concluded that virtually complete oesophageal obstruction was present. Throughout the pre-operative period glucose fluids were given intravenously.

Later on December 4 a lumbar puncture was performed; the cerebrospinal fluid was under normal pressure and had normal constituents. Blood biochemistry and counts were also within normal limits.

On December 6 she was still comatose, with no localizing signs in the central nervous system. It was therefore decided to carry out an oesophagoscopy to try to determine the nature of the obstruction. This showed that the upper end of the oesophagus was displaced backwards and to the left. An extrinsic obstruction was encountered just below the level of the cricoid cartilage. Immediate exploration of the neck was carried out.

Operation

The thyroid was exposed by one of us (A. G. E.) through the routine incision. The trachea had been pushed to the left by a large thyroid adenoma occupying most of the right lobe of the gland and extending retrosternally. This was delivered with moderate ease and removed, a small posterior fragment of normal gland being left *in situ*. The trachea, however, remained to the left side, and exploration of the left lobe of the gland showed it to be elongated and flattened, with two nodules about 1½ in. (3.8 cm.) in diameter occupying the lower pole. The inferior nodule had become retro-oesophageal, and appeared to be compressing the oesophagus against the trachea and holding both structures over to the left. After delivery of this lobe the trachea returned immediately to the midline. The lower pole was then removed and the remainder of the lobe sutured to the highest point of the trachea. This was followed by routine closure of the wound with drainage.

Post-operative Course

The patient recovered consciousness while still in the theatre and a few hours later had no difficulty in swallowing. Apart from a mild tracheitis and a small wound haematoma, her convalescence was completely uneventful. She had no further attacks of epilepsy or breathlessness. One month after discharge she had a grand-mal attack which was not associated with breathlessness, stridor, or cyanosis.

Examination of the excised thyroid tissue showed it to consist of degenerating adenomata in a nodular colloid goitre. There was no evidence of malignancy.

Comment

Dysphagia is a decidedly rare feature of simple goitre, occurring in about 0.2% of such cases, although it is more common in association with intrathoracic goitres (Keynes, 1950; Rundle, 1951). Hoffman (1955) has recently found this symptom in 8 out of 32 cases of intrathoracic goitre. Complete obstruction, demonstrated in our case by the collections of fluid in the nasopharynx, with the failure to pass a stomach tube or oesophagoscope, is very uncommon.

Our patient came into hospital unconscious, and remained so until after the thyroidectomy. The coma deepened when anoxia was produced by removal of the endotracheal tube. Apart from this, the cause of the unconsciousness was not clearly understood. There were many possible factors:

cerebral anoxia, cerebral oedema, and epilepsy may all have played some part. It is possible that there was some reduction in the cerebral blood flow through the carotid and vertebral arteries, but no obvious abnormality in these vessels was detected at operation. There was obstruction to the return of blood through the external jugular vein, and it is possible that there was a similar obstruction of the deep veins. The most severe degree of anoxia followed inhalation of nasopharyngeal secretions accumulating in the short segment of the oesophagus above the obstruction and spilling over into the bronchial tree.

We wish to express our thanks to Dr. Una Ledingham and Miss G. M. Barry for permission to report this case.

ADDENDUM.—In the last year the patient has developed a tremor of the red nuclear type affecting the head and upper limbs.

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A NEW EVACUANT SUPPOSITORY

RESULTS IN TREATMENT OF RECTAL DYSCHESIA OF CHRONIC SICK AND GERIATRIC PATIENTS

BY

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Recently a new laxative agent has been described (4,4'-diacetoxy-diphenyl)-(pyridyl-2)-methane, "dulcolax," and this has been followed by a number of enthusiastic reports in the German literature. Förtsch (1953) has reported it to be orally effective in gynaecological patients, and when administered as a suppository it has been shown to be a very useful measure in evacuating the colon prior to radiography (Kolshorn, 1954). Although the precise mode of action of the drug is not clear, this is stated to be by means of a surface-contact effect promoting colonic peristalsis. It is reported to be non-toxic by the oral route (Scott, 1956) and not absorbed systemically.

Patients who are confined to bed in hospital for long periods often develop rectal dyschesia. This is particularly seen in geriatric cases and the special younger group of chronic sick. In view of the claims that have been made for this drug it was decided to record its effects on a group of these patients when administered rectally as a suppository containing 10 mg. of the active constituent.

The trial was carried out in two parts. Initially the suppositories were administered in a routine fashion in order to assess their effectiveness, and later they were used in a second series of patients who were considered to require an enema.

Method

The patients were from wards of the Geriatric Unit and a long-stay annexe. The nursing staff kept a careful record of the results. For the first part of the trial patients were chosen who were having regular enemata or who had had no bowel action for three or more days. Most of the patients were receiving a variety of aperients, and these were stopped for the period of the trial. The nursing staff were given instructions to insert one suppository as high as possible into the rectum with the gloved finger, and at the same time a note was made of the rectal contents. Later the patient was placed, whenever possible, on a commode or, more rarely, on a bedpan. The time from insertion of the suppository to bowel action was recorded. The result was assessed as one of four grades. Grade 1, Excellent: the result being as good as a successful enema or normal bowel