respiratory movements may result either from pain due to inadequate sedation or from depression of the respiratory centre by excessive sedation. Post-operative sedation should therefore be such that adequate relief of pain is obtained with the minimum of respiratory depression.

Prophylaxis.—The management of the patient in the post-anaesthetic period can have an important influence on the avoidance of post-operative pulmonary complications. Respiratory obstruction must be avoided either by the use of an artificial airway or by the maintenance of a suitable position until the reflexes have returned sufficiently to safeguard the patient from asphyxia or from the inhalation of foreign material. A depressed patient must not be allowed to lie in one position for any length of time. Frequent change of posture is necessary for adequate ventilation of all parts of the lungs. In an unconscious patient this "stirring up" may be aided by adding carbon dioxide (not with oxygen) to the inspired air to stimulate deep breathing. The virtue of air is that the nitrogen is not readily absorbed, and so pulmonary collapse is prevented. It is inadvisable to hyperventilate with carbon dioxide-oxygen mixtures or to leave rapidly absorbable gases (nitrous oxide, oxygen, cyclopropane, etc.) in the alveolar spaces at the finish of an inhalation anaesthetic, especially in depressed patients. Neglect of this precaution may lead to pulmonary collapse.

Tracheo-bronchial Toilet

Certain cases of pulmonary complications are due to the collection of viscid secretion or foreign material in the tracheo-bronchial tree. Cough and ciliary action are the normal means of removing such collections. If the cough is depressed by drugs it must first be stimulated in every possible manner. It can often be made effective by active encouragement, change of position, and simultaneous manual support of the abdominal wall.

Finally the tracheo-bronchial tree can be cleared, if necessary, by suction applied directly by means of a small catheter passed through an intratracheal tube. The latter can be inserted either blindly through the nostril, or through the mouth by direct vision with a laryngoscope. In the conscious patient the base of the tongue and larynx must first be anaesthetized with a fine spray of cocaine solution. As this procedure causes paralysis of the protective laryngeal reflex the patient should not be allowed anything by mouth for two to three hours afterwards. Even an unsuccessful attempt at the toilet manoeuvre is sometimes beneficial since it stimulates the cough reflex to action.

Summary and Comment

We have tried to show the various factors which contribute towards the production of pulmonary complications. It is the duty of every anaesthetist to use his judgment to prevent these complications. Proper choice of premedication, careful selection of agents and technique in accordance with the type of patient and the nature of the operation, skilful management of the patient during the anaesthetic period, and adequate after-care will contribute greatly towards the prevention of these complications.

A. M. Wolf and S. O. Levinson (*Proc. Inst. Med. Chicago*, 1940, 13, 99) compared 1,279 cases of scarlet fever treated with scarlet fever convalescent serum with 205 treated with sulphanilamide in addition to convalescent serum. The drug was given on the second or third day of disease for an average of five to nine days—that is, through the febrile stage—and for several days afterwards in a daily dose of 0.55 grain per pound of body weight. Like other observers the authors found that the drug had no ameliorative effect on the acute symptoms, and the complication rates in the two series were almost identical.

CONGENITAL ATRESIA OF THE OESOPHAGUS

BY

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Cases of congenital atresia of the oesophagus appear to have received greater attention in American literature than in the British journals. Some of the more recent reports have indicated that the number of cases recorded during the past few years proves that the condition is not so rare as was formerly assumed. It is quite possible that some cases may have been diagnosed as bronchopneumonia, the primary lesion having been overlooked because its symptoms were masked by those of the sequelae.

Case Report

The third child of a healthy mother was born after a normal labour on October 11, 1939. There was excess of liquor amnii, which was at first regarded as the cause of the child's cyanosed and choked condition. Much mucus was removed from the pharynx by means of a catheter. The heart sounds were normal, but rales could be heard over the lungs shortly after birth.

During the day the nose and throat were repeatedly cleared of fluid and the foot of the cot was kept raised. Next day mucus still oozed from the nose, and the chest signs persisted, there being indrawing of the lower costal margin. On putting the child to the breast it was found that after sucking for a few minutes it became distressed as a result of regurgitation of the milk. Later in the day occurred attacks of cyanosis associated with the regurgitation of bile and blood-stained fluid. Attempts to feed with a pipette or spoon were unsuccessful, and a provisional diagnosis of atresia of the oesophagus was made.

During the second and third days meconium was passed. The abdomen became increasingly distended, suggesting the presence of communication between trachea and oesophagus. All attempts at feeding by mouth were stopped. The child was given rectal glucose salines, and atropine and coramine were administered. Regurgitation continued, the fluid becoming purulent and the signs of pneumonia more marked. Death occurred on October 14.

Necropsy

The body was that of a rather wasted male child with a distended abdomen. The upper two-thirds of the oesophagus ended in a blind pouch, while a fistulous communication existed between the lower portion and the trachea. The gut and stomach were distended with gas, the stomach containing only a little mucus. Liver and spleen were congested. Both lungs were the site of extensive bronchopneumonia, the lower lobes showing almost complete consolidation. The pericardium contained a little fluid. No other congenital abnormality was found.

Discussion

Rosenthal in 1937 reported on three cases occurring in two years in Long Island College Hospital, and raises the question whether this frequency is unique or whether the diagnosis is overlooked. The case recorded above is the second that I have seen in two years. The other case, that of a female child, was seen by me two days after birth, when attacks of cyanosis and regurgitation of food were causing the medical attendant anxiety. The baby was admitted to a children's hospital, where the diagnosis was confirmed. Death took place on the fifth day.

In all the reports the presence of excessive mucus at birth has been noted. This condition, rapidly followed by the development of pneumonia, may easily result in the diagnosis of aspiration pneumonia being made without the true cause of the aspiration being established, the distress on feeding being attributed to the severe lung infection.

In one of the cases reported by Rosenthal and the case reported by Bull (1938) excessive liquor was present. This has been noted as a frequent accompaniment of congenital abnormalities. Two of Rosenthal's cases, and also Bull's case and one reported by McClellan and Elterich (1934), showed additional congenital abnormalities. In no instance is mention made of a familial history of congenital abnormalities. It may be worth noting that the mother of the baby whose case is here described stated that her sister's child died a few days after birth, having exhibited symptoms similar to those of her own baby.

Tucker and Pendergrass (1933) point out that in most cases death is due not to starvation but to aspiration of secretions and the return of fluids and foods through the lower segment of the oesophagus when gastrostomy has been done. They stress the danger of increased aspiration during x-ray examination after the administration of bismuth or barium sulphate for diagnostic purposes, and advocate oesophagoscopy and bronchoscopy with exploration of the fistula in the posterior tracheal wall by a small opaque urethral catheter.

Few of these children live longer than seven days. The record for prolonging life appears to rest with Leven (1936), who reported a new method of surgical management of congenital atresia of the oesophagus. This consists of a two-stage operation of gastrostomy of the exteriorized stomach, followed later by cervical oesophagotomy and ante-thoracic oesophagoplasty. One of his patients lived ninety-eight days, succumbing to otitis media and bronchopneumonia; the other child, aged 42 days, was alive when its case was reported.

Conclusion

The clinical picture of congenital atresia of the oesophagus is uniform, resulting as it does from mechanical obstruction. In all probability the condition is under-diagnosed, particularly in cases occurring outside hospital practice. Diagnosis can easily be confirmed by radiographs, thus avoiding a wrong prognosis. Operative treatment does not appear likely to meet with great success, owing to the rapidity and ease with which pulmonary infection becomes established.

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The report of the British Red Cross Society for 1939 is a chronicle of a momentous year—a year which has seen the mobilization of the voluntary aid services, the revival of the joint organization with St. John, and the launching of the great national appeal. It was a year of intensive effort and expansion to full compass. To such a state of organization was the society brought that mobilization when war began was possible within forty-eight hours. The council expresses its warm appreciation of the loyalty and discipline with which members of the society have accepted changes that appear to affect their status and have responded to the call to co-operate with local authorities for the benefit of the civil population. The organization now approximates to the older formation which included all voluntary aid detachments in a single category, while maintaining a quota of "mobiles" and specialists in accordance with requirements. The "immobile" obligation having ceased to operate, members have been liberated for such service under the Ministry of Health as their county may require, and large numbers have enrolled in the civil nursing reserve. Sections of the society's work which receive special notice are the rheumatism clinic (which was closed on the outbreak of war but has since been reopened), the blood transfusion service, which answered 5,645 calls in London, and the trained nurses department.

Clinical Memoranda

Cardiazol in "Loss of Memory"

"Loss of memory" is undoubtedly often a euphemism to cover insanity, which diagnosis the relatives of the afflicted individual might not care to have broadcast to the same extent by the police, Press, or wireless. At the present time, when such cases may be more frequent, the following is of interest in showing the value of cardiazol in establishing identity and suggesting a wider application of the method.

CASE REPORT

A young man was found wandering at night in a small market town clad only in his shirt and socks and was taken by the police to the local hospital. He could not or would not give any account of himself. The pattern of his shirt suggested that he was a soldier, but although he agreed to this it was soon obvious that his answers to questions about his regiment, etc., were prompted by suggestion and had no relation to the facts. When he threatened another patient with a knife he was certified under the Lunacy Act and sent to a mental hospital. On admission there he was seen to be a man in his twenties and of good physique, quite in keeping with the supposition that he was a soldier. He was normal in appearance but far from normal in conversation. He skilfully parried every question as to his identity with an evasiveness and irrelevance that at once suggested schizophrenia. At times he seemed to take an impish delight in leading one off on a wild goose chase. For instance, when a list of names was mentioned to him in the hope that he might show a glimmer of recognition of one of them as his own, at the name "Johnson" a light dawned on his face and he said: "That's right, Spencer. I've got it now. Spencer Tracy." Following that he called himself by the names of various other film stars.

Next morning he seemed worse. He was then stuporous and kept answering "seven" or "seventy-seven" to every question. He was given 0.5 gramme cardiazol intravenously, and this was followed by a severe convulsion. He recovered consciousness immediately afterwards, but disappointingly kept up his monotonous reply of "seventy-seven." Soon he fell off to sleep in a darkened room. When he awakened two hours later his mind was clear and he then gave particulars of his identity, which were later verified. He confessed that he had left his unit in a town about forty miles away and was bound for another town a further forty miles on. He had set out on foot but had obtained lifts on lorries as far as the town where he was found. There he got very drunk and remembered no more. He had no recollection of how he came to be in the street without his uniform, which was found in a field two miles from the spot, without badges and without any paper in the pockets indicating its owner.

COMMENT

To those with experience of cardiazol this type of recovery is commonplace in patients whose identity is known. How common is its use in establishing the identity of individuals picked up by the police suffering from "loss of memory" I do not know, but that it seems worth trying is shown by the case described. The question of diagnosis in individual cases naturally arises, but at the same time it should be pointed out that mental recovery following cardiazol convulsions is by no means confined to schizophrenia. In this instance I was sure in my own mind of the diagnosis of schizophrenia, but there were alternatives. Malingering to escape war service, hysteria, mania, and, in the light of the history obtained subsequent to recovery, alcoholic insanity were all possibilities. With the exception of the first, perhaps, I do not consider there would have been any special reason under the circumstances for withholding cardiazol, in the absence of physical contraindications, in any of these conditions. The risk of such complications as fractures and dislocations in cardiazol convulsions may be argued against its use in conditions which might respond to less drastic forms of treatment. The answer is that with skilled technique these complications should rarely occur, and there is a great advantage in the possibility of a rapid recovery of a "lost memory."

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