at least 2,700 c.cm. of fluid a day if semi-solids are allowed, and 3,000 c.cm. if fluids alone are given. Water should be regarded as second only to oxygen in importance, and an adequate intake as more important than medicine or food.

Having had personal experience of fifty cases of hæmorrhage from simple peptic ulceration treated with liberal fluids and semi-solids (Witts's (1937) modification of the Meulengracht regime), and having seen many patients treated on the traditional starvation lines, I am convinced that with an adequate fluid intake they are more comfortable, and are free from thirst and hunger. They have not become delirious or developed parotitis or pneumonia. With the Witts diet, patients receive as much in one day as they would previously have received in three to six days, when no added saline was given. There appears to be no harm in giving liberal fluids by mouth from the time of hæmorrhage, but the incidence of recurrent hæmorrhage (thirteen out of fifty cases) has probably not diminished. The mortality, however, has much decreased. In a series of fifty cases recently reported, treated by liberal fluids and semi-solids, with drip transfusion in severe cases, there was only one death (Avery Jones, 1939).

The observation that many patients were grossly dehydrated must cast doubt on any conclusions which have been made concerning small blood transfusions in the past. The patients probably died with a low blood volume as a result of hæmorrhage and dehydration, but it might have been restored by giving liberal fluids. Although blood transfusions could only have been beneficial, the patients were more in need of 4,500 to 9,000 c.cm. of fluid than of small transfusions of blood. Transfused blood does not provide fluid to be lost from the kidneys, skin, and lungs, for which at least 2,600 c.cm. of water a day are normally required, a figure which must be increased if there is sweating, fever, vomiting, or diarrhoea.

Salt Requirements after Gastro-duodenal Hæmorrhage

Not only must there be an adequate fluid intake, but the amount of salt required is of importance. Sodium is the main base of the extracellular fluids, and it maintains their osmotic pressure. If such fluids are lost from the body—for example, by hæmatemesis—the total volume of the extracellular fluids cannot be regained unless sodium as well as water be given. Blood contains 5 grammes of sodium chloride per litre, so that, if no blood transfusion be given, additional salt is required to make good this loss and to enable the volume of the extracellular fluids to be restored. Analysis of the urine in twenty cases has indeed shown that there is some retention of sodium chloride during the first few days after hæmorrhage. In the past, patients received very little salt, unless a rectal saline was given. It is recommended that the diet should contain about 10 grammes of sodium chloride during the first few days. By giving 1,500 c.cm. of half-strength normal saline daily, and added salt with the feeds, this intake is assured.

Summary

Examination of the post-mortem records showed that many cases of hæmatemesis and melæna have ended fatally when it appeared that hæmorrhage had ceased.

An analysis indicates that severe dehydration was the common factor in such patients, and that symptoms were masked by the liberal administration of opiates. The dehydration was due partly to insufficient fluid intake and

partly to a forced diuresis. The latter was probably the result of a much increased excretion of urea, presumably derived from the digestion of blood in the intestine.

It should be axiomatic that patients should receive enough fluid to meet the normal requirements of the kidneys, skin, and lungs, and to cover any abnormal fluid loss. In addition, it is recommended that they should be given 10 grammes of sodium chloride daily during the first few days after the hæmorrhage.

I wish to thank Professors R. V. Christie, F. R. Fraser, and L. J. Witts, and Drs. G. Graham, Geoffrey Evans, and Bodley Scott for their kind criticism and advice.

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A SERIES OF 200 CASES OF OESOPHAGOSCOPY FOR FOREIGN BODIES

BY

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At the Manchester Royal Infirmary all cases of foreign bodies in the oesophagus are treated as urgencies, and an oesophageal examination is undertaken as soon as their presence has been verified by x-ray examination. An oesophagoscopy is made in all cases in which the radiographer is unable to give an absolutely negative report, and it is obvious that this is sometimes a matter of great difficulty in the case of non-opaque foreign bodies. In a proportion of cases where there was a history of swallowing some bone or other non-opaque body the radiographer reported the presence of "a residual barium flake, suggesting the presence of a foreign body." Many cases of this type are of course negative, but a foreign body is found in a number large enough to justify a routine examination when such a report is the most definite one can obtain. In several cases a scratch was found in the oesophagus in the position indicated by the radiograph, and no doubt was responsible for the "residual flake."

In thirteen cases of this series (Table I) the examination was undertaken for complete oesophageal obstruction caused by an impacted bolus of food: in three of these a bone was found in the bolus, and in two others it had been arrested by a carcinoma of the oesophagus. In one case a bone was found impacted in a fibrous structure. In all these cases the methods and instruments introduced by Professor Chevalier Jackson were used, with the exception that a general anaesthetic was given.

In 180 of the 200 consecutive cases here summarized a foreign body was found and removed; in six the foreign body was seen and identified but owing to misadventure was missed and passed into the stomach; in thirteen cases the examination was negative; and in one case the foreign body was seen but was immovable. In all instances where a foreign body was lost, or when the oesophagoscopy

proved negative, further radiographs were taken for verification. In two cases a second oesophagoscopy was necessary to remove a foreign body which was not seen at the first examination. One of these bodies was a halfpenny in a child of 6 years; in this case the radiograph showed the coin at the sixth cervical vertebra, but the second showed it at the eighth dorsal. The body in the other case was a large fish-bone at the fourth dorsal vertebra; here so much bleeding occurred that the examination was postponed for forty-eight hours, when the bone was removed, recovery being uninterrupted. The age incidence and the position of the foreign body are given in Table II.

TABLE I.—Results in the Series (200 Cases)

Foreign Bodies	No. Removed	Foreign Bodies Seen but Lost	No Foreign Body Seen
Bones	81	2 (second radiograph negative)	8 (second radiograph negative)
Coins	65	2 (second radiograph, shown in stomach)	3 (second radiograph, shown in alimentary canal)
Food bolus (simple 8, with bone 3, with carcinoma 2)	13		
Dentures	10	1 (seen but immovable)	
Safety-pins	2		1 (pin in left iliac fossa—passed naturally)
Straight pins	1		
Drawing-pins	1		
Needles	2		
Wrist watch	1		
Razor blade	1		
Identity disk	1		
Metal badge	1		
Key	1		
Aeroplane model		1 (second radiograph, shown in bowel)	
Bone button			1 (second radiograph negative)
Circular whistle		1 (second radiograph, shown in stomach)	
Total	180	7	13

TABLE II.—Situation and Age Incidence (Males, 95; Females, 105)

Situation	No.	Age Group	No.
C6-C7	63	1-5 years	31
D1-D2	81	6-10 "	34
D3-D4	29	10-20 "	29
D5-D6	15	20-30 "	18
D7-D10	12	30-40 "	22
		40-50 "	26
		50-60 "	19
		Over 60 years	21
	200		200

The following is a report of the two deaths in the series.

1. In this case an impacted denture could not be removed at all owing to a sharp hook which had perforated the oesophagus. Mr. Graham Bryce was consulted and suggested an attempt to remove it by oesophagotomy. He performed the first stage, but owing to the patient's condition was unable to complete the operation. Death was due to mediastinitis.

2. This case has already been reported in the *Journal of Laryngology*. A woman gave a history of having swallowed a beef bone three days before admission. X-ray examination showed the presence of a foreign body at the level of D3-D4. On examination no bone was seen, but there was some

bleeding at the level indicated. Two further radiographs were taken in the next few days, each followed by a negative oesophagoscopy. Mr. Lindley Sewell was then asked to examine the patient, which he did, with the same negative result. Shortly after the last radiograph, which was negative, the patient produced a bone about one and a half inches long and a quarter of an inch in width, which she said she had coughed up. Her condition gradually became worse, and she died with cerebral symptoms. At necropsy a perforation was found in the oesophagus at the level of the third dorsal vertebra; there was necrosis of the vertebra, spinal meningitis in that region, and extensive basal meningitis. No foreign body was seen.

Summary

At the Manchester Royal Infirmary all cases of foreign bodies in the oesophagus are treated as urgencies, and oesophagoscopy is employed in all cases in which the radiographer is unable to give an absolutely negative report.

Of 200 consecutive cases here summarized a foreign body was found and removed in 180. In two cases a second oesophagoscopy was necessary.

Two deaths occurred in the series: each of these cases is reported in brief.

Details are given of the foreign bodies removed, their situation, and the age groups of the patients.

Clinical Memoranda

Laryngeal Vertigo occurring in a Case of Aneurysm of the Aorta

Adams reviews the literature of laryngeal vertigo in the *British Medical Journal* (1936, 1, 685), and concludes that this condition is not a definite clinical entity. It is found in association with many different conditions, and one is forced to the conclusion that coughing of any origin may be the causal factor. The following case scarcely meets the requirements of Charcot's original description of "laryngeal vertigo," which suggested that this term should be restricted to cases in which the loss of consciousness appears independently of the passive congestion brought about by the cough, but most modern writers are willing to accept a somewhat looser definition and are prepared to accept as examples of "laryngeal vertigo" any case in which coughing is followed by a temporary loss of consciousness.

CASE RECORD

A man aged 56, unemployed for many years, was admitted to the Southern General Hospital on January 21, 1938, complaining of several attacks of brief unconsciousness occurring during the previous six months. The history elicited was that about six months before admission, while sitting at table one morning, he felt a tickling in the throat, followed by coughing and slight giddiness, and fell backwards, losing consciousness. Five or six similar attacks occurred after this at intervals of weeks. Each attack took place in the morning while he was sitting at table, and each time he fell backwards and lost consciousness. On every occasion tickling in the throat was first experienced, then severe coughing and a feeling of choking took place; next he felt slightly giddy, and finally fell unconscious. Giddiness was felt only with the bouts of severe coughing which preceded loss of consciousness. The periods of unconsciousness (as reported by onlookers) were brief, lasting one to two minutes, there were no involuntary movements of any part of the body before or during them, and after each he felt vaguely unwell for the remainder of the day.