below, not above the diaphragm — perihepatitis at the superior surface of the liver.

In cases of mistaken diagnosis it is profitable, at least to the attendant, to consider whether the mistake could have been avoided. In this case two questions are brought prominently forward.

(1) Should a more accurate diagnosis have been made?

As far as the presence of so much enlargement of the liver is concerned, I think this question must be answered in the affirmative. And yet, the enlargement being chiefly upward, there was a close simulation of the remains of a pleurisy. Flatness extended somewhat below the costal border, but one must be careful not to attribute this to the liver, unless the edge of the organ, or its surface, can be felt, provided that palpation is not rendered nugatory by tenderness. The enlargement of the gall-bladder at the autopsy was a surprise to me. I can only say that I sought for it, as one would naturally do in a case where, in the absence of icterus, symptoms suggestive of serious disturbance consecutive to gall-stones were present. In order that an enlarged gall-bladder may be palpable, the abdominal wall should be more or less lax — certainly not rigid — and notable tenderness should be absent.

While I am inclined to think that thus far I should, perhaps, have come to more accurate conclusions, I think there are satisfactory reasons why the underlying cause of the hepatic and cystic enlargement was not determined. Echinococcosis disease is rare in this country, and this is the first case which I have seen in life here or elsewhere. The liver, and the right lobe of that organ, is its most frequent seat; the characteristic signs are chronic hepatic enlargement, often local, for which no other obvious cause can be assigned, combined with fluctuation or elasticity and the hydatid thrill; the clinching evidence is furnished by the non-albuminous fluid — if the cyst has not suppurated — containing hooklets, withdrawn by puncture.

In this case the cyst was hidden beneath the ribs and costal cartilages, precluding the detection of fluctuation or thrill. I seriously entertained the question of puncture, but decided to wait until the patient was more suitably lodged, or the local indications seemed more clear. The case was only under observation four days and a half. In the "Index Medicus" I find only thirteen cases of liver hydatid reported in this country and Canada, 1880–1890; of these, nine were diagnosed during life, the other four being found post-mortem. In the nine the enlargement was either local or very great. The only other clinical observation of liver hydatid in Boston, of which I have cognizance, was a City Hospital patient with a very large suppurating cyst of the upper surface of the liver, extending far up into the thoracic cavity. Aspiration gave pus, and empyema was diagnosed. Dr. Bradford made a free incision, through which the daughter cysts escaped in large numbers. The patient survived only a few days.

(2) In this case, if a correct diagnosis had been made, could life have been saved?

This question can be unhesitatingly answered in the negative. The right lobe of the liver was nearly destroyed by the cyst, the left lobe was riddled with small abscesses; drainage of the former would not have affected the latter.

For some reason, which is not clear to me, hydatid

disease seems to be quite common in Australia, and the Australian *Medical Journal* for 1888 and 1889 contains a very interesting and complete discussion of the operative treatment by Dr. Thomas. It is impossible here to do justice to his paper. Suffice it to say that he advocates incision by Lindemann's method; believes many of the reported cures after simple aspiration to be illusory; considers suppurating cysts especially unsuited to aspiration; and states that unruptured cysts of the convexity of the liver present great difficulties in their successful treatment, inasmuch as thoracic incisions show a high rate of mortality.

FURTHER OBSERVATIONS ON PERMANENT TUBAGE OF THE OESOPHAGUS¹.

BY S. J. MIXTER, M.D.

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SOME months ago I had the honor of reading before this Society a paper on Oesophageal Tubage.² Since that time I have had the opportunity of observing and treating some of the cases then reported, as well as others. I have noticed several interesting points in connection with their treatment, and I have devised some new instruments for the introduction of the tubes, which is my reason for presenting the following paper.

First, I wish to speak of the subsequent history of two of the patients (Cases III and IV) mentioned in the previous article. The first of these wore a tube almost constantly, never being more than two days without one, until his death early in October. There was no trouble from the presence of the tube, and the patient gradually became weaker, suffering some pain in the chest and having the usual troublesome cough during the last few weeks. One very interesting point in connection with this case as well as with some others, is, that on leaving the tube out for even a day the stricture closed and no food could be swallowed. On trying to introduce another tube the greatest difficulty was met with in passing even the guide into the stomach, and a smaller tube had to be used for some days. This patient came to my office about three weeks before his death, a distance of about thirty miles — unfortunately no autopsy could be obtained.

The other (Case IV) is still under treatment, and is now in very fair condition, as may be seen. (Patient shown and tube changed, the instruments further on described, being used.) This man, I have lately learned, was in one of our hospitals just before I saw him first, and as no instrument could be passed through the stricture, he was fed by the rectum, and a gastrostomy was proposed. As he objected to the performance of an operation, he eloped, and soon after appeared at my clinic as previously stated. That was in April, and recovering his strength after wearing the tube a short time, he has been able to work ever since, earning enough to support himself, something he surely could not have done after a gastrostomy.³

I have reported these cases at length as they show perfectly the slight inconvenience caused the patient

¹ Read before the Boston Society for Medical Improvement, November 10, 1890.

² See vol. cxliii, No. 17, of this Journal.

³ This patient has worked regularly up to a week ago when he gave up on account of weakness and entered the hospital, where proper and sufficient food seem to have given him a new lease of life, much to his and our surprise.

by the tube, and the prolongation of life with comparative comfort. The contrast between the results obtained by tubage and by gastrostomy is so great that I am convinced that the latter operation should never be performed until repeated attempts to pass suitable instruments have failed. If any instrument, however small, can be introduced, the patient can probably be made comfortable for the rest of his life without a serious operation.

Manufactured by Codman and Shurtleff, Boston.

This brings up the question, What are suitable instruments to use in difficult strictures? I was unable to find anything in the shops in this country, nor could they be found in England, at once safe and effectual, and therefore I devised the guide mentioned in the previous paper. This I have improved, and as now made for me by Codman and Shurtleff (who have made the instruments and imported the tubes that I have used), consists of a whalebone staff, on the end of which can be screwed flexible bougie tips of different sizes, from a filiform to about a number 6 or 7 F. These tips are one and three-quarters to two inches long, and at the upper end are slightly stiffened by means of a fine spiral spring inside. The instrument, therefore, closely resembles a urethral guide. This I have been able to pass where all other instruments failed. When larger instruments will pass, olive-pointed bougies considerably larger than the urethral form, make almost perfect guides for the passage of the larger tubes open at the end.

During the past month I have received from England tubes and instruments of various patterns. Among the tubes were some considerably shorter than those first used, being four inches long instead of five and three-quarters, and in most cases the short ones seem to work best. Some of them were open at the end and were very slightly, if at all, constricted. These I have found in every way the best form, and on a guide of suitable size, namely, one nearly filling the

tube, can be passed easily and safely. I have even cut off the ends of some of the longer tubes and found them perfectly satisfactory.

It is often difficult to tell whether the tube is through the stricture, and therefore I had stamped on the metal staff of my bulb bougies a centimetre scale, and a similar scale is stamped on the staff of the introducing instrument.

When the tube is forced into its place by means of a probang, the latter often is so firmly held by the funnel-shaped top of the tube that on withdrawing it, the tube is brought with it. The use of the probang for this purpose renders it difficult to use a suitable guide; to overcome these difficulties I made from a piece of brass tubing and a wire, an instrument similar to the one shown in the cut. The method of using will be readily seen. The guide being passed into the stomach, the tube and introducer are passed over it, the string attached to the funnel being passed through the introducer, which is firmly pressed into the tube carrying the strings in the notches on its end. The tube is then passed to the correct distance as measured by the scale and after withdrawing the guide the staff is held firmly with one hand while the string is pulled with the other. This always frees the introducer from the tube, which remains in place after withdrawing the former, however lightly held by the stricture.

With the above improvements in the tubes and methods of introduction, permanent tubage of the œsophagus is a most satisfactory and simple method of treatment.

THE ETIOLOGY OF LATERAL CURVATURE OF THE SPINE.¹

BY ROBERT W. LOVETT, M.D.

THE etiology of scoliosis, the subject assigned to me by the President, is not one which can be made original or interesting, and brevity is the only merit attainable. In no department of orthopedic surgery has the modern change of opinion been more noticeable than in regard to lateral curvature of the spine and its time of appearance. Formerly regarded as an affection beginning at, or about, the time of puberty,² it has been shown by investigation to be a deformity of much earlier life than had been supposed. I need only call your attention to the well-known figures of Ketch and Eulenburg.

Ketch,³ in 229 cases from the New York Orthopedic Hospital and Dispensary, found that 52% began between the first and twelfth years, 41% between the twelfth and eighteenth years and only three or four per cent. after the eighteenth year.

Eulenburg⁴ analyzed 1,000 cases of scoliosis and found them distributed as follows:

Before the second year	5
Between the second and third year	21
" third and fourth year	9
" fourth and fifth year	10
" fifth and sixth year	33
" sixth and seventh year	210
" seventh and tenth year	564
" tenth and fourteenth year	107
" fourteenth and twentieth year	28
" twentieth and thirtieth year	7

¹ Read at the American Orthopedic Association at Philadelphia, September 17, 1890.

² New York Medical Record, April 24, 1886.

³ Broadhurst: Lectures on Orthopedic Surgery, 1865. Noble Smith: The Surgery of Deformities, 1882. The Pathology and Treatment of Lateral Curvature of the Spine, 1868.

⁴ Die Seitlichen Rückgrats-Verkrümmungen, Berlin, 1876.