the inner ends of their clavicles, in the form of general enlargement, exostoses, or roughening. The 1,200 controls represented examples of all degrees of mental defect. Thirty-nine of the 600 males and twenty-six of the 600 females examined have marked clavicular enlargement similar to that observed in the cases of congenital syphilis. No obvious relation between the hand used and the enlarged clavicle was found to exist in either the patients with congenital syphilis or the control group—in fact, in the small majority of cases the larger clavicle was on the left side, though most used their right hands by preference. We were unable to find a single case of congenital syphilis with a gross enlargement on the one side that was not accompanied by some degree of deformity on the other.

Results

Possible explanations for the difference in our results from those recorded by Higouménakis and others are:

1. The sign may be produced in its fully developed form only when the patient has performed a considerable amount of manual labour. If this is so, one would not expect to find clavicular enlargement in other than a very small percentage of our cases, the majority of whom are incapable of sustained work.

2. All the controls with enlargements might be unrecognized cases of congenital syphilis without other stigmata or positive serological reactions. This does not seem to be remotely possible; even if it were, the bilateral distribution of the lesions would still demand explanation.

3. The enlargements we have found may be of a different type from those described by Higouménakis, in which case the sign would obviously have little value as a stigma of congenital syphilis. On the other hand, if the lesion we have seen in nineteen of our cases of congenital syphilis is identical with that described by Higouménakis, its distribution is certainly not unilateral, and since it can occur in normal controls it cannot be accepted as reliable evidence of congenital syphilis.

Lesné and Boutelier (1931), in discussing the relation of syphilis to the bony changes of rickets, quote Cannuta's figures: of 1,285 cases of rickets 37 per cent. showed definite evidence of congenital syphilis. From this it would appear that the two diseases are often associated, and we think it not improbable that the tubercles observed at the points of origin of the clavicular heads of the sterno-mastoids may be rachitic in origin. By far the largest tubercles we have seen were in a rickety dwarf. The tubercles were found about as often as the clavicular enlargement both in the cases of congenital syphilis and in the controls. These two abnormalities were associated frequently enough to suggest a common factor in their production, which seemed more likely to be rachitic than syphilitic.

The remaining two types of deformity noted in our series were found to be so uncommon as hardly to merit description, but a brief reference to two examples may be of some interest. A juvenile general paretic aged 26 shows a regular spindle-shaped enlargement of the middle of each clavicle with normal sternal and acromial extremities. A congenital syphilitic female aged 35, with cranial bossing, tibial thickening, and large exostoses of the sternal ends, exhibits a marked thickening of the posterior borders of the outer thirds of both clavicles; this thickening was also observed to a lesser degree in two other cases of congenital syphilis.

Summary

Higouménakis has claimed that "the sign of the clavicle" is one of the most certain and common stigmata

of congenital syphilis. We have examined sixty-four patients with the disease and found enlargement of the sternal ends of the clavicles in nineteen (29.7 per cent.). Among 1,200 non-syphilitic controls similar lesions were found in sixty-five (5.4 per cent.).

We have not been able to show a relation between the degree of clavicular enlargement and the right- or left-handedness of the patient. In our cases the lesions were never strictly unilateral.

For the x-ray examination of the patients we are indebted to Dr. H. Glynn Hall.

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BRONCHOGRAPHY WITHOUT COCAINE

BY

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The introduction of lipiodol, neo-hyōriol, or other radio-opaque oil into the bronchial tree as an aid to radiological investigation of certain diseases of the chest is becoming a more and more frequent procedure. Varying methods employed are capable of giving satisfactory results in practised hands. None the less, the degree of discomfort the patient may experience varies with each method, and it is for this reason that certain modifications of technique are to be preferred.

Usual Methods

When a gum-elastic catheter is inserted by the nasal route it is necessary first to spray the nose and throat with cocaine solution. This procedure, though simple enough, often causes considerable discomfort. It may even cause collapse if the patient is sensitive to cocaine. After an interval to allow the nose and throat to become anaesthetized the catheter is passed through the nose and down the larynx. The ease with which this is performed will depend upon the patient in question and upon the skill of the manipulator. There may be difficulty in passing the catheter through the glottis; the patient may choke violently and try to pull out the tube, which may even pass into the oesophagus. Though the method is satisfactory in skilled hands, it is not always easy and not always without distress to the patient.

Instead of passing a catheter by the nasal route it has been considered simpler to spray the back of the throat with cocaine and inject the oil over the base of the tongue. This is certainly more comfortable for the patient, but the preliminary cocaineization is often complained of as being more unpleasant than the injection of the oil itself; the patient usually has to hold out his own tongue throughout, and although the lower lobes can be filled well it is not easy to fill middle or upper lobe bronchi by this method. Not infrequently some oil passes down the oesophagus instead of the larynx.

The third chief method is by injection of oil direct into the trachea through the crico-thyroid membrane, and this is the most reliable method because there is neither the difficulty of the first method in getting past the glottis nor the risk of the second method of injecting it into the oesophagus. It is possible to fill all main bronchial divisions by alterations of posture. For the insertion of the trocar and cannula (preferably the Chandler pattern) the patient lies on his back and a few minims of novocain are injected subcutaneously in the midline between the upper margin of the cricoid and the lower margin of the thyroid cartilage. The trocar and cannula are then pressed firmly through the membrane, the trocar withdrawn, the patient sat upright, and the oil injected, making sure by preliminary withdrawal of bubbles of air that the cannula is within the trachea. This method is simple, reliable, and without discomfort to the patient.

Previously it has been considered necessary to inject 5 or 10 per cent. cocaine solution through the crico-thyroid membrane before inserting the trocar and cannula, and, as in the previous methods, this may produce unpleasant symptoms, with faintness and very rapid pulse. Alternatively, preliminary tests for sensitivity to cocaine are necessary, a record of the patient's reactions and pulse rate for half an hour after the subcutaneous injection of 0.1 c.cm. being required. After cocaine has been used in the throat the patient must be instructed not to attempt to swallow food or drink for two hours, for fear of this passing into the insensitive larynx. Moreover, the sudden injection of the cocaine solution itself frequently initiates a temporary fit of coughing. Maxwell (1938) remarks that "the needle must be withdrawn immediately, as there is always a reflex cough and it is possible that the needle might be broken."

Anaesthetization of the Trachea

Is anaesthetization of the trachea necessary? Ever since Sir James Mackenzie's (1909) statement that the respiratory tract below the larynx seemed to be incapable of originating the stimulus for cough production varying views have been expressed. Larsell and Burgett (1924) have shown that in the course of bronchoscopy mechanical stimulation of the lower respiratory passages, including the carina and bronchi as far as those of the second order at least, elicits a marked cough, but Chevalier Jackson (1922) has noticed that in a large number of broncho-pulmonary diseases the cough reflex from contact with the bronchoscope seems rather diminished than increased. It is notorious that the inhalation of a foreign body is likely to set up a violent paroxysm of coughing as the foreign body enters the larynx and passes through the glottis, but once it is beyond this "laryngeal sentinel" it soon ceases to cause any coughing unless it is very movable.

Such considerations throw doubt on the necessity or desirability of injecting cocaine into the trachea when introducing oil by the crico-thyroid route. In the last fifteen instances where I have introduced oil by that route I have therefore deliberately used no cocaine. The only local anaesthetic employed was the small amount of subcutaneous novocain, and this did not penetrate the crico-thyroid membrane. In none of these cases did the patient complain of pain or discomfort and in none of them did the introduction of the oil (neo-hydriol) set up either irritation or coughing. One patient who had an irritative cough at the start took oil without effect on her coughing and was subsequently given cocaine, which quieted her.

Conclusions

It would thus appear that in many respects the crico-thyroid route without cocaine is the simplest, the most certain, and the speediest. It is undoubtedly much the most comfortable for the patient. Only a small needle-puncture wound is produced; this is covered for a day or so with a wisp of wool and a narrow piece of elastoplast not more than one inch long.

The advantages of using no cocaine are: (1) there is no necessity for previously testing the susceptibility of the patient to cocaine; (2) there is no risk of faintness and rapidity of pulse such as not infrequently occur in those who show no marked reaction to the subcutaneous test dose; (3) the patient can eat and drink immediately afterwards; (4) there is no coughing or risk of a broken needle; (5) it is a quick and simple method for out-patients.

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INSULIN AS A DRESSING FOR CHRONIC INDOLENT ULCERS

BY

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The use of insulin as an external dressing is by no means to be regarded as an innovation; Lawrence has mentioned its employment in 1926 by certain French workers. Fresh interest in the subject has, however, recently been aroused by the writings of Leyton (1938), who states that epithelialization of chronic skin wounds proceeds very rapidly when insulin is used as a dressing. With a view to the confirmation or otherwise of this statement it was considered desirable in the present investigation to secure a more accurately controlled series of cases.

The Present Investigation

With the help of Messrs. Burroughs Wellcome's technical and scientific department two solutions were prepared, the first being a solution of insulin of strength 40 units per c.cm., and the second a control solution containing the same percentage of tricesol, of the same pH and osmotic value. Wherever possible two similar wounds in the same patient were dressed in the same way. If that was not feasible the control solution was applied first. Thereafter an application of the insulin proper was made. In every case the solutions were used in the form of a "wet" dressing; for it is unlikely that the concentration could be maintained in the ulcer area if the insulin were allowed to soak into the covering layers of gauze and bandage. Details of the cases studied are as follows.

Case 1.—A typical callous varicose ulcer in a neglectful patient. Fourteen days' dressing with the control solution produced satisfactory granulation and healing. Soon, however, this dressing ceased to be an effective stimulant of epithelial growth. Fourteen days' further treatment with insulin did not alter the now slowed rate of healing, but at a later date a change to Hey's wash (lotio rubra) produced satisfactory and complete closure.

Case 2.—A varicose ulcer, about three inches in diameter, over the anterior aspect of the tibia, with a yellowish sloughy