

cases. It is too early to say whether in sulphanilamide we have an adequate therapeutic agent or not.

Repeated aspiration is the preferred preliminary method in the treatment of streptococcal cases.

Closed intercostal stab-drainage is an efficient

method in the later stage of streptococcal cases or in others where the amount of pus is very great. The fact that some will require a rib resection later does not detract from its value.

A rib resection, with an opening large enough to remove the masses of fibrin, is the preferred method in most pneumococcal cases.

LIPIODO-BRONCHOGRAPHY*

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DURING the past few years several descriptions of different bronchographic methods have been given. After trying all these methods we would like to demonstrate the advantages of a method that we now use and that we have found to give the best results. We need not discuss here the principles underlying this question. The properties of lipiodol, the technique of its use, and the importance of bronchographic diagnosis are already well known.

At our hospital, a sanatorium of several hundred beds for tuberculosis, we have to make such examinations. With the fullest cooperation of our entire medical staff the cases are carefully selected, and we are assured of convincing results in every case. Much of the success we have obtained is due to the expert assistance given by our technicians who have been trained in the use of this method.

First of all, we shall mention briefly various bronchographic methods we have used and then describe our results with the new method. It is not really a "new" method, as it has been in use for the last three years. Such examinations are essential in our special type of hospital work, for they are the only methods of visualizing the cavities of the lungs.

Several years ago we used the first method, known as bronchography through the glottis: that is, after the soft palate and pharynx had been anaesthetized the lipiodol was introduced into the glottis by means of a curved tube attached to a syringe. This operation was full of difficulties because of the need of using a laryngeal mirror, the necessity of having a trained

laryngologist, and dependance on the good behaviour of the patient. We must admit that this method gave some good results, but the difficulties of its technique often discouraged the roentgenologist.

Next, we tried transglottic or in intra-tracheal bronchography. In this method we used the same apparatus, with the exception that the injection tube was much longer than in the first method, thus permitting the introduction of lipiodol as far as the trachea. The results were more successful, but we encountered more difficulties than before.

A third method was tried, namely, the subglottic or trans-cutaneous method. In this, the injection of lipiodol was made by puncturing the crico-thyroid membrane by means of a curved needle attached to a syringe. In addition to the training of a laryngologist, considerable surgical experience was also required to get good results. We must admit that when we could succeed in doing this special injection we obtained perfect results. However, there was always the difficulty of having the patient agree to an examination which is more surgical in appearance than radiological. This method has been abandoned because too many anatomical lesions were possible in its technique, and in a few cases there were infection and œdema.

Later, we called in the laryngologist to introduce the lipiodol by means of the bronchoscope. One of the advantages of this method was that the secretions could be withdrawn by suction through the bronchoscope before the introduction of lipiodol. This method produced the best results, but entailed even more difficulties than had been encountered in the previously attempted methods.

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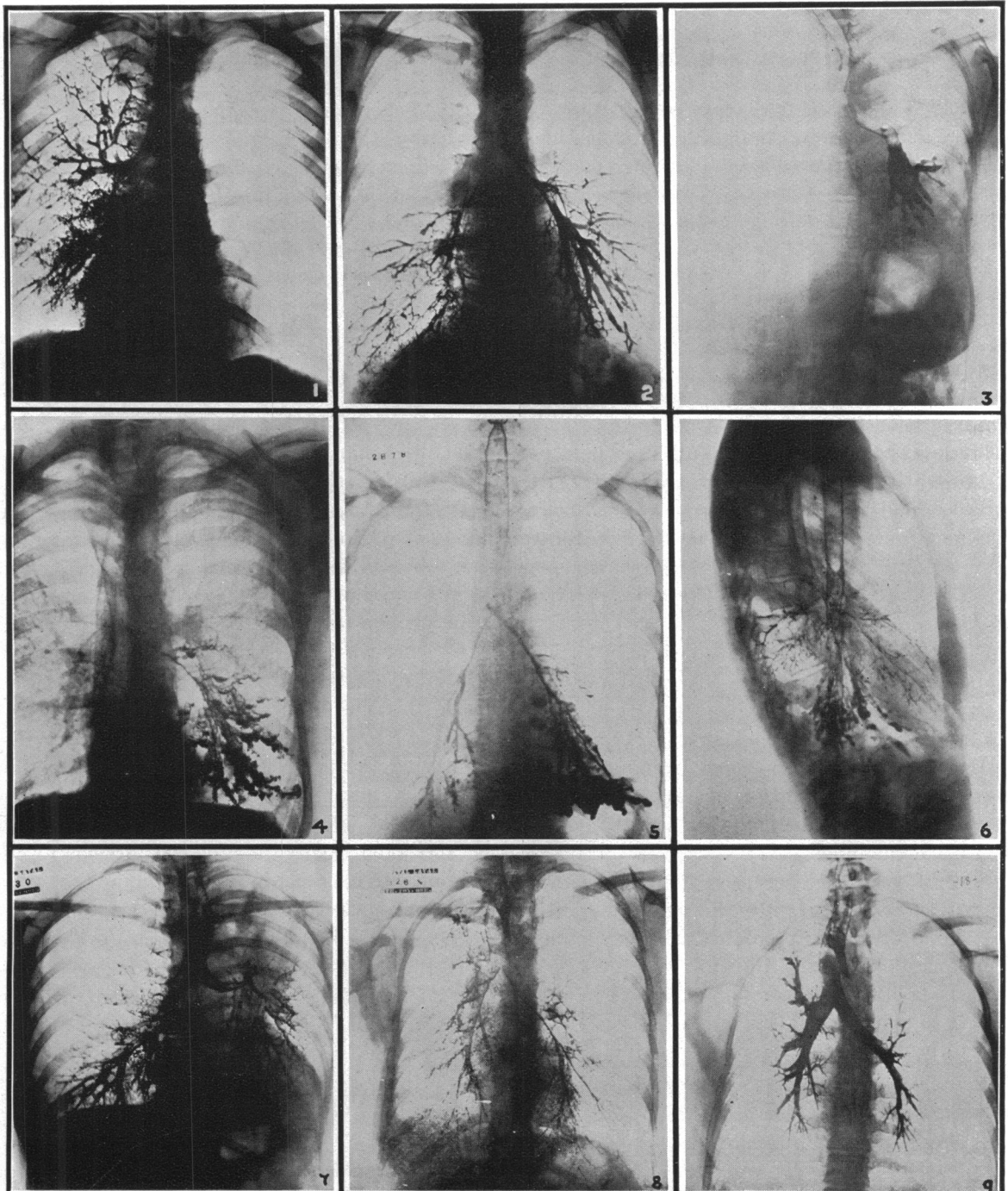
Finally, a method has been found that every roentgenologist can apply with a very simple technique. It has already been described in medical reviews. In the following descriptions and illustrations of the results obtained by us, you will readily perceive that the method is at the same time efficient and simple in operation.

The lipiodol is introduced through a small auricular speculum in the most suitable nostril. We attach to this speculum a small rubber tube, to avoid irritation of the mucous membrane.

For this examination the patient can be seated or lying down, leaning to right or left, according to the side we desire to demonstrate; through this speculum we introduce three times at 5-minute intervals, 5 c.c. of the following solution.

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Cocaine Hydrochloride	1.00	gram
Potassium Sulphite	0.30	“
Carbolic Acid	0.10	“
Adrenaline 1/1,000	5.00	“
Cherry-laurel water	20.00	“
Distilled water	95.00	“



By pulling out the tongue of the patient strongly at each introduction of anæsthetic or lipiodol we avoid the reflex of swallowing, and the solutions can go easily through the larynx. Five minutes after the last injection of the anæsthetic the lipiodol is introduced in the same manner. With a little cooperation from the patient we are sure of success, but we have to take the picture in a hurry; there are only 4 or 5 minutes available before the beginning of expectoration.

The different positions in which the patient is exposed ensure the demonstration of the region suspected. There is no need to give narcotics beforehand, and no need to consider the age, as we have obtained success even with children only 5 year old.

The simplicity of the instrumentation in this method offers an easy success to every roentgenologist. The radiographic technique is the same as used, except that we add a little more intensity, to obtain a better contrast. This examination lasts at the most 15 minutes, and several of them can be under way at the same time.

The general contraindications are the same as for all other methods; acute or ulcerative tuberculosis with fever; lack of resistance of patient; recent hæmoptysis; and idiosyncrasy to iodine. We must confess, in spite of the opinion of several radiologists, that we never had any accident from iodism, although in this last method the lipiodol is in direct contact with the nasal mucous membrane.

Some operators prefer using a syringe instead of a speculum. We also tried a syringe, but we prefer the speculum because of a better control

of the free flowing of liquids, and pressure on the liquids by the syringe is eliminated. The lipiodol must be heated to the human temperature, and the operator must observe this, to avoid disagreeable reactions in the patient.

Sometimes we had a lack of results when the bronchi were obstructed with secretion; after a clinical examination at the usual time of expectoration we succeeded in introducing the lipiodol after the vomicas.

During the last three years we have had the opportunity of making more than a hundred examinations by this last method. In this number we were obliged five or six times to repeat the operation because of lack of results, but with more confidence and a knowledge on the part of the patient that he would not suffer ill effects the second examination has always been successful. It is impossible to show you all these radiographic results, but we are glad to demonstrate some of them.

Fig. 1 demonstrates normal right bronchi.

We have some small cylindrical dilatations. Large dilatations are shown in Figs. 2, 3, 4 and 5.

We can see in Fig. 6 sacciform dilatations and the lateral view shows the usual posterior situation of these dilatations.

In Fig. 7, we can realize the attraction of left bronchi towards a superior shadow of the left lung.

Figs. 8 and 9, with full opacification of right and left bronchi, show in vertical and horizontal positions a small enlargement of right superior bronchi and the opacification of a diverticulum of the trachea.

STRYCHNINE POISONING.—“B.L.T.” writes: A girl of 20 was brought to me at 2.50 a.m. one night with the story that she had just swallowed a chocolate she had herself filled with strychnine. Gastric lavage was begun soon after 3 a.m. immediately after the first emptying of the stomach, which seemed to contain very little; great difficulty was experienced owing to biting of the tube by the patient. This prevented any further lavage, and was thought to be due to the girl's obstinacy until, with dramatic suddenness, she became quite rigid in a strychnine convulsion. She was hurried off to hospital, where at 3.40 a.m. I gave her 10 c.c. of sodium evipan intravenously. At once she relaxed into a quiet narcosis. By 4 a.m. she was again having single convulsions, which by 4.15 were again becoming tonic, so that at 4.20 another 10 c.c. of evipan were given. At 5.25 a third

dose of 10 c.c. was necessary; a smaller dose would have sufficed, because the injection was followed at once by exceedingly shallow respiration for about five minutes. However, when the effect of this last injection of evipan wore off there were only occasional violent twitches. The next day there was a little pyrexia but no muscle stiffness such as might have been expected after such violent contractions. The patient brought me later a little talc powder corresponding to the amount she thought she had taken from a bottle of strychnine nitrate in a laboratory to which she had access. A comparable quantity of strychnine nitrate was found to weigh 35 centigrams, and this the girl had put in the interior of a chocolate cream and had swallowed on an empty stomach, so that, allowing for a considerable margin of error, one can presume that she had taken a fatal dose.—From *Brit. M. J.*