constant leucopenia. The fourth, fifth, and sixth cases were apparently splenomegalies of Gaucher's type in adult females. The leucocytes in these did not vary, but tended to be increased in number amounting to about 15,000 per cubic millimetre.

CONCLUSIONS.

I would like to urge the advisability of further research in this manner. It would be very gratifying to have careful and accurate leucocyte charts made from several daily observations over considerable periods of time, of say ten or more cases of every known disease. If this were done our knowledge regarding the pathology of the blood would be greatly increased. Some splendid work has been done with regard to the leucocyte reactions induced in the blood by organisms (Andrewes, 1910¹), but the important facts brought to light in his researches were obtained only after very frequent and laborious observations. In carrying out a detailed research of this kind it would be advisable to choose cases of disease uncomplicated by sepsis and other concomitant conditions, and the diagnosis should be as certain as possible. I do not feel that I am

entitled to draw any conclusions from the few cases which I have recorded. Further cases must be studied in a similar manner before any definite opinions can be formed. It seems to me, however, that periodic variations, in which the mononuclear leucocytes play an important part, suggest the possibility of some protozoal infection. These variations are entirely different from the leucocyte picture in sepsis, where the leucocytes remain more or less constantly high, accompanied by a high percentage of the polymorphonuclear type. In such cases there is also, as a rule, a septic temperature.

I wish to thank Dr. Macalister, Dr. Lloyd Roberts, Mr. Jones, and Mr. Newbolt, in whose clinics at the Royal Southern Hospital, Liverpool, the above cases were obtained.

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The Semon Lecture

ON

SUSPENSION LARYNGOSCOPY AND ITS PRACTICAL USE.

DELIVERED BEFORE THE UNIVERSITY OF LONDON.

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(Translation of abstract furnished by the author.)

SUSPENSION laryngoscopy is a modified direct laryngoscopy. It serves to facilitate laryngeal operations. It was discovered by experiments with direct laryngoscopy on the dead body, and is made use of now in the living.

Description of Method.

Patients who are to be examined by suspension laryngoscopy must be suitably prepared for the examination. Local anaesthesia with cocaine is usually insufficient. It is better to inject 0.01 to 0.02 gram morphine half an hour before. If the examination is likely to last a long time, it is better to produce partial anaesthesia by scopolamine-morphine. The scopolamine solution must be freshly prepared. Two hours before the examination the patient receives 3 decimilligrams of scopolamine and 1 centigram of morphine. One hour before, the same amount of both substances is injected. In addition, it is necessary, before the commencement of the examination, to paint the larynx with cocaine.

The tongue spatula used in suspension laryngoscopy has the form of a groove of V-shaped cross section, and is provided at the sides with two movable wings. Spatulas of other forms may also be used, if they are flat and heart-shaped in front. The spatula is introduced either over the epiglottis or up to the base of the tongue. In the last case, the epiglottis must be raised with a second spatula.

It is best to advance the grooved spatula over the epiglottis as far as the vocal cords. The patient lies in a horizontal position, the head projecting free over the edge of the operation table; the spatula is introduced, and held by the long arched handle, which is hook-shaped at the end, and by means of the latter is hung, in a special direction, on a gallows. *The head of the patient, therefore, hangs from the tongue spatula.* In order that the tongue spatula shall not slip out, the point of suspension must be vertically over the apex of the tongue spatula. For this reason the spatula handle has a movable joint. The hook end can be inclined towards the tongue spatula by means of a screw. In order that the spatula shall not slide out, and that the mouth shall be held open sufficiently widely, a mouth gag is necessary, which by means of a screw can be made narrower or wider.

For illumination a reflector or a head electric lamp is used. In demonstrations a Mignon lamp is used, which is fixed to the instrument itself.

An operator who is used to the direct method, will learn suspension laryngoscopy very easily. The essential points are to introduce the tongue spatula under good illumination, with the mouth widely opened, up to the epiglottis, and then over this, deep into the inner part of the larynx, to insert the mouth gag correctly, to suspend the hook on the gallows, and then, by turning the wing screw of the hook, to bring into view the finer parts of the interior of the larynx.

When the front portions of the larynx, especially the anterior commissure of the vocal cords, are not sufficiently in view, the cricoid arch should be pressed upon from outside. This pressure may also be produced by means of a special mechanism with the so-called counter-presser, which is fastened to the hook, and by means of a plate presses on the cricoid. This counter-presser has the form of an arch, and

can be shortened or lengthened.

When suspension laryngoscopy is successful, one sees the whole mouth and throat, and at the end of this the

interior of the larynx. Both hands of the operator are free. He can therefore undertake very easily complicated manipulations in the throat and larynx.

For these methods of examination, as well as for the other direct methods, I have constructed a special operation table, which can be so conveniently arranged that the operator can see into the throat of the patient whether he is sitting or standing.

Application of Suspension Laryngoscopy.

The new procedure is of special service in demonstrations. It is very easy for students to make themselves well acquainted with the details of the interior of the throat and larynx, and to note any pathological changes. Polypi of the vocal cords, papillomata, carcinomata, tuberculosis, paralysis of the recurrent laryngeal nerve, and similar conditions can very easily be demonstrated. Preparation for operation can also be performed more easily.

In children suspension laryngoscopy succeeds well. It is, however, necessary to give the child ether or chloroform. Scopolamine should not be given to children under 15 years old. We use suspension laryngoscopy in children for diagnostic and operative purposes, to discover the cause of disturbances of the voice and of dyspnoea and to remove these. Of acute processes, the examination reveals the presence of catarrh, subglottic swelling, false membrane formation in the subglottic space. Chronic laryngitis, nodule formation on the vocal cords, papillomata, tuberculosis, and syphilis can be observed. A special chapter concerns foreign bodies in the larynx.

Suspension laryngoscopy has rendered specially good service in recurring multiple papillomata of the larynx. The growths can be, after repeated sittings, radically removed in a natural way. For the prevention of recurrence it is recommended nowadays, that a capsule of mesothorium should be introduced into the

larynx after the operation, and left there at least half an hour.

Foreign bodies in the child's larynx can easily be seen and removed with suitable forceps.

Suspension laryngoscopy has also proved very suitable for guidance in direct tracheoscopy and bronchoscopy in children. When the interior of the larynx is well seen, one can also very easily and cautiously introduce tubes into the air passages and into the bronchi. Should it be necessary to introduce such a tube repeatedly, there is no difficulty in so doing. By means of suspension laryngoscopy I have been successful in extracting a metal case and a nail out of the bronchi.

In adults we use suspension laryngoscopy for the scraping out of the larynx in tuberculosis. With the sharp spoon all tuberculous granulations can be removed at one sitting. With the double curette, the infiltration can be taken away. Also, it is possible, when necessary, to employ the galvano-cautery deeply. The treatment of even advanced cases of laryngeal tuberculosis is by the new methods materially shortened. The patients can very soon, after removal of the grossest changes, be sent to the sanatorium for further treatment. Should oedema occur after the interference, this is easily cured by Albrecht's hot-air bath.

Laryngeal polypi, papillomata, and small carcinomata in favourable situations can be removed

easily with this new method. The mesothorium treatment is especially adapted for the treatment of laryngeal carcinomata in patients who refuse operation. The mesothorium capsule is grasped with forceps and introduced into the larynx. The instrument is fixed on to the suspension hook. In scopolamine partial anaesthesia the patient bears this procedure comfortably for from one hour to one hour and a half.

The examination of the hypopharynx and of the entrance of the oesophagus is facilitated by suspension laryngoscopy. This method indicates a significant step forward in intralaryngeal technique.

Memoranda :

MEDICAL, SURGICAL, OBSTETRICAL.

PTOMAIN POISONING IN THE PUERPERIUM.

A YOUNG woman, aged 21, was confined on February 24th, 1914. The baby, which was her first and healthy in every way, was delivered by natural efforts, and the placenta and membranes came away complete.

She remained quite well, with normal pulse and temperature, until the morning of March 3rd, exactly one week after the confinement, when she complained of feeling unwell, the lochia, which had been normal, suddenly ceased; the temperature rose to 103° and pulse to 100. Her face was flushed and seemed slightly swollen, and the tongue was furred. The bowels did not act after an aperient, although previous to this they had moved regularly. There was no history of her having eaten anything out of the ordinary. She had had fish for dinner the previous day, and this, I was assured, was quite sound.

Thinking that the condition was of uterine origin, I examined her, but could find nothing abnormal in the vagina or uterus. However, I gave her a thorough uterine antiseptic douching.

She did not seem any better after this, and the temperature rose to 104.8° and the pulse to 110; the face assumed a curious puffy appearance, which steadily increased until

her eyes were almost completely closed by the oedema of the lids; the rest of her face became enormously swollen, so much so that she was quite unrecognizable. The urine was free from albumin or any other abnormality. She had no cough, and there was nothing abnormal in the chest.

There was no vomiting, and the bowels remained obstinately constipated, even after large and repeated doses of aperients. Finally, following a high soap and water enema, a copious and most offensive motion, consisting chiefly of undigested fish, came away. She felt much better after this, and the temperature and pulse commenced to fall. After further injections the facial oedema began to subside, the lochia became normal again, and she completely recovered.

There is no doubt that the origin of the trouble lay in the fish which she had eaten for dinner on the day previous to the commencement of symptoms, and I subsequently heard that several other persons in the neighbourhood had been similarly affected after eating fish from the same shop, and on the same day.

The case is of interest from the fact that, occurring at such a time, the symptoms were liable to be mistaken for those of uterine trouble. Although resembling the latter to some extent, they were not typical of ptomain poisoning in that there were at no time signs of gastro-intestinal irritation, such as vomiting, diarrhoea, etc. Also, the symptoms did not appear until eighteen hours after the tainted food was eaten. On the other hand, I have never