acquired instability of the normal relationships which govern secretory activities.

However this may be, there is a strong family resemblance between Raynaud's disease, rheumatoid arthritis, and exophthalmic goitre. Whether there is any etiological or pathogenic factor common to those diseases remains to be seen. At the present time the pathology of all three is equally secure, and the nature of any relationship between them is entirely conjectural.

Whatever its relationship to other diseases, rheumatoid arthritis presents in itself many points of interest and many features of obscurity. I have attempted to indicate briefly certain problems in connexion with it which require to be elucidated before we can claim to have a sound knowledge of its pathology. On the clinical side a wide field of investigation is afforded in the systematic and careful consideration of family history and individual peculiarities in so far as they indicate a personal factor predisposing to the disease, together with precise investigations as to the nature and significance of the so-called accessory symptoms as they affect the nervous and vascular systems respectively. On the pathological side we require to know what relationship, if any, exists between the various foci of infection which frequently precede the disease and the subsequent phenomena, and more especially the importance of gastric and intestinal toxæmia as an etiological factor. It is possible that expert bacteriological examination of the flora of the gastro-intestinal tract in a series of cases might throw considerable light on this aspect of the question, and such investigations are urgently required.

Systematic chemical and bacteriological examination of the urine, to determine not only the presence or absence of disease of the urinary tract, but more particularly the standard of renal efficiency and the presence of any peculiar features of excretory activity, are also required to throw further light on any metabolic peculiarities incidental to the disease.

THE OCCURRENCE OF ACUTE PNEUMONIA DURING TREATMENT WITH ARSENIC.*

BY

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In a few cases I have observed the sudden occurrence of pneumonia in children whilst they were undergoing arsenical therapy on account of lymphadenoma or some other disease, and it has appeared to me that the association was no chance one, but that the pneumonia was in some way dependent on the taking of arsenic, as is arsenical herpes zoster. Two of the patients likewise had attacks of arsenical herpes zoster. The rapid recovery from the lung disease was another striking feature.

CASE I.

Sophie T., aged 15, under my care at the German Hospital in 1902 for lymphadenoma, was a thin anaemic girl. The lymphatic glands on the right side of the neck and the spleen were greatly enlarged. Enlarged cervical glands had been present as early as 1898. In June, 1902, whilst under arsenical treatment, she had a short acute attack of pneumonia at the base of the left lung, accompanied by very little fever. It may be noted that about a year previously (1901) whilst taking arsenic she had had a mild attack of herpes zoster (doubtless arsenical herpes zoster) on the left side of the chest, though in regard to her general condition the arsenic seemed to have done her good. The herpes zoster apparently caused her no pain or inconvenience.

She died in December, 1902, and the necropsy showed the presence of considerable (partly miliary) tuberculosis in addition to old lymphadenoma. The spleen was enlarged to about five times the normal size and contained whitish masses. Microscopically the spleen, and the liver also, were found to contain minute tubercles. A hard, fibrous mass situated at the back of the upper part of the abdomen and displacing the stomach and liver forwards, had microscopically the appearance of chronic hard lymphadenoma.

CASE II.

A boy, Roger S., aged 8 years, suffered from typical Hodgkin's disease (lymphadenoma), which involved the cervical lymphatic glands and the spleen. In 1902 he was under the care of my colleague Dr. Karl Fürth, who has kindly allowed me to refer to the case. The disease, which was supposed to have com-

menced about three years earlier, was apparently diminishing under arsenical treatment, when in December, 1902, he developed signs of pneumonia (dullness and bronchial breathing at the base of the left lung) accompanied by only slight fever. The arsenic was discontinued. The boy had likewise typical herpes zoster on the right side of the chest and a generalized eruption of minute vesicles on the trunk, possibly due to arsenic. This was followed by a good deal of desquamation, especially on the palms of the hands (? arsenical).

The boy seemed fairly well when he left the hospital in January, 1903. But he did not live long.

CASE III.

A boy, Freddy J., aged 7½ years, was admitted under my care in June, 1905, for chorea minor. The case had a special interest of its own, inasmuch as the patient was left-handed and the right half of his head was distinctly bigger than the left half. The choreic trouble, which was specially marked in the left upper extremity, was temporarily associated with loss of speech ("choreic aphasia"). Auscultation of the heart showed a slight mitral systolic murmur, when he left the hospital in September, 1905.

In the following year he was readmitted for slight chorea, and whilst under arsenical treatment, on March 6th, 1906, he developed pneumonia of the lower part of the left lung (impairment of resonance and crepitation) with considerable fever. There was no fever after March 13th, but crepitation could be heard over the affected lung for some days more. The pneumonia seemed to be of a mild type. There was very little cough and no pain.

CASE IV.

A little girl, Anna G., aged 4 years, when being treated, during 1910, with liquor arsenicalis for a lichen-like affection, developed acute pneumonia (with dullness and bronchial breathing) at the base of both lungs. There was considerable fever, but the pneumonic signs cleared up very well. There was for a time in this case a diffuse cutaneous erythema, which may have been of arsenical origin, and was followed by slight general desquamation and brownish pigmentation.

CASE V.

A girl, Theresa E., aged 14 years, who was undergoing radium treatment and was taking arsenic and iron for an acute and malignant type of Hodgkin's disease (lymphadenoma). A lymphatic glandular swelling had been first noticed on the left side of the neck in January, 1912, and, after operative removal of this in May, 1912, a fresh glandular tumour had rapidly formed on the same side of the neck. Radium treatment was tried in August, and was followed by great diminution of the swelling in the neck, but soon afterwards a striking enlargement of the spleen, and probably of intra-abdominal lymphatic glands also, occurred. She was losing ground in spite of treatment by arsenic and iron and the radium therapy, when, on December 5th, 1912, I saw her with Dr. Smulian for acute lobar pneumonia of the lower part of the left lung (dullness, bronchial breathing, and some crepitation) with moderate fever. The respirations were 46 a minute, and the pulse 120. The pneumonia had apparently commenced with general convulsions three days previously, and it seemed (considering the patient's bad general condition) to have come as a "terminal" infection. However, on the next day the patient was already recovering from the pneumonia, and in a few days she was able to leave her room and go out for drives. The lymphadenomatous disease nevertheless rapidly progressed, and she soon died.

In the foregoing cases the patients were all young, and the recovery from the pneumonia was excellent, even when the general condition, as in the last case, was extremely bad. There was little in the way of distressing cough or pain. It seems to me that arsenic may possibly predispose some persons to an attack of (? pneumococcal) pneumonia, just as it is acknowledged to predispose some individuals to an attack of herpes zoster, which is perhaps, like pneumonia, a disease of infectious (microbic) origin. On the other hand, my cases are too few in number to draw any certain conclusions from, and I do not know that any similar cases have been described in the literature on the effects of arsenic, or in that on pneumonia. It must not, however, be forgotten that it is only comparatively recently that herpes zoster has been acknowledged to be in some cases a consequence of the ingestion of arsenic, as a medicine or otherwise—as, for instance, as a contamination of beer in the English epidemic of arsenical poisoning in 1900.

I think it highly probable that cases of pneumonia similar to those which I have recorded will soon be observed by others amongst children and young persons undergoing arsenical treatment. If other cases should be found to confirm my suggestions, I would be tempted to think that the arsenic, whilst predisposing towards pneumonia, must also exert a favourable effect on the reaction of the body towards the disease—that is to say, that when pneumococcal pneumonia occurs in patients who are being treated with arsenic the pneumococcal infection is quickly

* A paper read at the Medical Section of the Royal Society of Medicine on January 28th.

and successfully resisted. Perhaps later on some arsenical drug like salvarsan or neo-salvarsan will be found to have a beneficial effect in pneumococcal pneumonia or other pneumococcal infections, and it might be worth while to undertake experiments with mice or rabbits in this connexion—that is to say, one might try the effect of arsenical preparations, in regard to experimental pneumococcal pneumonia, in those animals.

THREE CASES IN MIDWIFERY PRACTICE.

BY

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THE following unusual midwifery experiences occurred in my practice within four weeks, from the middle of March to the middle of April, 1912, and I think that as the material results are so good, and as one child born with asphyxia pallida recovered, it is worth while to publish the cases.

CASE I.—*Rupture of Uterus with Extrusion of Intestines.*

This case I saw with my colleague Dr. Meade, of Ballymartle. The patient, who had had two difficult instrumental labours and two miscarriages, had been in bed for a couple of days, and for the last twenty-four hours was passing matter from the vagina. She had also some abdominal pain. As she was but six months pregnant she did not suspect labour. Getting out of bed one morning at 10 o'clock to pass urine, the baby was expelled into the vessel. She got back into bed. On Dr. Meade's arrival he found three coils of intestines hanging out of the vagina, as well as the cord. Having disinfected his hands and arm and the intestine, he returned the gut and at the same time turned out the placenta, which had been retained in the uterus. At this time the patient was collapsed and was given hypodermic injections of strychnine. I saw her next afternoon, when she was vomiting severely and had well marked peritonitis. The pulse and temperature were high, and the tenderness over the abdomen extreme. The prognosis was most grave. On the third day a small piece of placenta was expelled. On the fifth day, when I saw her again, her condition was easier. After five days she began to improve, and in three weeks was well on the road to recovery.

Her magnificent recovery was due to her own splendid constitution and the care taken of her by Dr. Meade, who had so carefully put back the intestines, and had adopted a semi-Fowler position, as well as gentle douching twice daily. She had hypodermic injections of strychnine twice a day, quinine and digitalis in pills thrice daily, and magnesium sulphate every third day. With the exception of the most gentle douching, no examination or manipulation of the genital passage was attempted, as we considered perfect rest of the parts gave her the best chance. What the condition was which allowed the intestines to protrude is difficult to tell. Probably she had an abscess in the posterior wall of the womb, low down, or else some collection of pus in Douglas's pouch, and the labour pains driving down the head of the child broke the walls of the sac, and so the intestines protruded. Of course, the child (which was under six months) died shortly after birth.

CASE II.—*Myelocoele and Meningo-encephalocoele.*

This was a case of breech presentation, seen with Dr. Hennessy of Bandon. Chloroform was administered and the breech was extracted in the usual manner with extreme difficulty, owing to contracted pelvis. The arms were next extracted, but it was wellnigh impossible to remove the head. We noticed on the centre of the back a myelocoele, and it was our intention to cut across the neck with a scalpel and introduce a catheter into the cranium, as we considered it might be a case of hydrocephalus. Whilst considering the advisability of doing this, and yet wishing, if possible, to extract a living child (as the only other one was stillborn), the head came away with a strong pull, and to our surprise showed an enormous ruptured meningo-encephalocoele. Here was an example of both a myelocoele and a meningo-encephalocoele. The uterus was thoroughly douched out with hot creolin solution, and the woman recovered in the usual time without any abnormality of temperature or pulse. I have arranged with her if she becomes pregnant again to have Caesarean section performed.

CASE III.—*Asphyxia Pallida.*

A primipara was seen by me after she had been in labour for thirty-six hours. I found membranes ruptured, head presentation and prolapse of cord. I found afterwards a marginal insertion of an ordinary length of cord, and also that there was a history of curettage and wearing of a pessary for retroflexion, and a condition of sterility that had lasted for some years, so

that there was probably some laxity of uterine muscle. The cord was pulsating and the fetal heart fairly strong. As the membranes were ruptured I considered the best chance for the child was rapid delivery, having warned the father that the child would undoubtedly be dead. With considerable difficulty I extracted by the aid of axis traction forceps, a male child, of normal size, in a condition of absolute asphyxia pallida. It was white and flaccid, and showed no attempt at respiration. I cleared the mouth of mucus, rubbed it with brandy, and tried artificial respiration by Schultze's method, and plunged it into hot and cold water. Finding these methods useless, I sterilized a plated oval female catheter, slightly curved, having five holes on either side, and hooking my left forefinger round the epiglottis, I gently passed the catheter into the child's trachea, and inflated the lungs, ten or twelve times a minute as near as I could judge. After fifteen minutes I could see the child's heart beating, and there was an occasional gasp; then the gasps became more frequent, and after three-quarters of an hour it was breathing well and quietly, but exceedingly weak in its cry. He is now a fine healthy boy, to the great joy of his father and mother.

In Holt's *Diseases of Infancy* (p. 71) it is stated that inflation of the lungs is not usually of much general value, but is sometimes successful, and he recommends a soft catheter or the laryngeal tube of Ribemont. I venture to think, however, that a sterilized metal catheter such as I have described, if inserted gently, will meet the conditions.

Some months previous to this case I used similar treatment in another case of asphyxia pallida, but without success. I could see the heart beating vigorously, and the child would give some gasps, then the heart got weaker, and finally, after keeping the heart going with the help of my assistant for an hour and a half, it gradually weakened, the gasps ceased, and death ensued.

As the cases of these two children seemed to me to be interesting from a physiological point of view, I wrote to Professor Halliburton (to whom my sincerest thanks are due) as to why one child died and the other recovered. Since increasing venosity stimulates the respiratory centre we had here an excess of CO₂; why, then, did my expired air, containing a large amount of CO₂, produce a stimulation of the respiratory centre? Professor Halliburton's reply is as follows:

Your cases of asphyxia pallida are very interesting. I imagine that in your second case the child was practically dead from deprivation of oxygen before you began the blowing in of air. The respiratory centre is very sensitive, and I would imagine that the few gasps you got were due to the oxygen supplied by your own expired air, and not to the CO₂ in your expired air. The child would already, owing to lack of oxygen, be loaded with CO₂, and beyond a certain stage this gas is a poison. The pallor would be due to stoppage of the circulation and constricted blood vessels; hence no blue-ness. But I suspect the blood was very venous nevertheless, and I cannot therefore think that any acapnia was present. In the first case the recovery due to oxygen supply was accomplished because the child to start with was only say 75 per cent. and not 99 per cent. dead.

The explanation given by Professor Halliburton is a great help, and it is a great incentive to know the reason why one is doing a certain action, and shows that by keeping up the treatment for a considerable time valuable infant lives might be saved. No stillborn child should ever be condemned to its grave without this method being effectually carried out, for assuredly success will many times follow.

THE report presented to the annual meeting of the Royal Bath Hospital and Rawson Convalescent Home, Harrogate, on January 30th, announced the resignation of Dr. Charles Gibson, who for twenty-one years had been an honorary medical officer to the hospital, and during that period had rendered it incalculable services. In moving the adoption of the report Major Dent, the chairman, observed among other things that it would be seen that very few subscriptions had been withdrawn owing to the National Insurance Act, and he hoped in connexion with institutions like that there would be no falling off. Whatever happened in other institutions the Insurance Act did not affect an institution like theirs, and it was essential that charitably disposed people and workpeople should continue liberally to support it. Certain alterations were made in the rules, and Dr. Hobson and Dr. Gibson were appointed honorary consulting physicians, Dr. Hinsley Walker and Dr. Johns were appointed honorary medical officers, and Dr. G. L. Kerr Pringle and Dr. David Brown were added to the honorary medical staff.