The connection between the drugs will be clearly appreciated from a study of their graphic formulæ:

In each case the carbon atoms of the benzene ring have been omitted for the sake of clearness.

The condition of the blood in these cases reminded me of a similar condition produced in animals by Dr. Lauder Brunton and myself by the administration of nitrites, hydroxylamine, and some other nitrogenous bodies. In these the blood was found to contain much methæmoglobin, and in many cases to coagulate with a well-marked buffy coat. The heart, too, was much weakened, and it would seem that in all these cases the enfeeblement was due to the blood acting as but a poor nutrient medium to the heart substance. It is strange that there should not have been (in the second case) any marked affection of the mental condition.

As regards the condition of the patients which led to the change in the blood, it is very difficult to obtain any clue. In the first case, the antecedent constipation may have led to an accumulation of exalgine in the body sufficient to produce toxic effects. As, however, the drug is excreted for the most part by the urinary organs, and as these were unaffected, it is difficult to admit of this as being the true explanation. It is not possible that any such cause could have been at work in the second case, as the symptoms seem to have commenced soon after the first dose, which was a very small one. If the whole result is to be attributed to the bromine atom, in the case of the monobrom-acetanilide, there remains still to be explained the fact that no cyanosis followed its use by myself. The most attractive theory is that the toxic symptoms in each case were due to an unusual decomposition of the drug in the body; and, in the second case, it is very possible that menstruation may have been the means whereby some new substance accumulated in the blood, which reacted on the drug; or, to put the matter in another way, the accumulation of a substance (possibly of the nature of an albumose) in the body may have caused: (1) the menstruation; (2) the headache; (3) the unusual action of the drug. Mr. Jones has been unable to obtain exact evidence as to the time at which the menstrual nixus should have appeared in his patient. It is, of course, possible, though highly theoretical, that in her, too, the conditions which produce menstruation were present, but were prevented from acting in the ordinary way by her physical condition. It will not do, however, to press this point further than to bear it in mind as a possible cause of some cases of poisoning. Unfortunately, the condition of patients is not mentioned in other recorded cases. Popular beliefs, which are well known, as to the condition of a woman at the catamenial period, such as the inadvisability of her entering a dairy or touching fresh meat, etc., may have, after all, some foundation in fact.

Acetanilide had once an unexpected, though not alarming, effect on myself. During an attack of typhoid fever last year I was given large doses of acetanilide with the usual fall of temperature; one day, however, the drug failed to lower temperature, and the urine passed during that day was noticed, after standing for some hours, to have become dark chocolate coloured. This never occurred on any other occasion, and I certainly did not suffer from cyanosis. Here, too, it seems that the drug was decomposed in an unusual way.

In conclusion, it may be useful to state briefly the results obtained by experiments on animals. As regards acetanilide, Lépine produced in dogs trembling, "apathy," weakness, and fall of temperature, with loss of excitability of peripheral nerves. The arterial blood became, in some cases, of a dirty brown colour, loaded with methæmoglobin; the corpuscles were said, however, to be unaltered either in number or shape, and the serum was not tinged. Analysis of the gases of the blood showed great deficiency in oxygen. Large doses depressed the heart's action.²

As regards "exalgine," Binet³, working with methylacetanilide,

has observed in cats and rabbits similar changes in the blood, with much salivation.

Cyanosis is also a marked feature of poisoning by aniline: the base

from which all these bodies are derived.

CASE OF HEPATIC ABSCESS, SECONDARY TO SEVERE PELVIC PERITONITIS FOLLOWING UPON SALPINGITIS, WITHOUT DEFINITE SYMPTOMS DURING LIFE.¹

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THIS case is one of great interest from many points of view; and although I cannot enter into detail with regard to the clinical aspects, yet, from the purely pathological standpoint, many most interesting considerations arise. Not the least interesting of these is the fact that a patient should be the subject of such exceedingly severe inflammatory changes in vital parts without their giving rise to symptoms which would at once direct attention to the organs mainly involved. Yet so it was in the present case; the patient from first to last made no complaint referable to the pelvic organs. The cause of the pelvic peritonitis is also another interesting problem which arises out of a consideration of the facts met with in the case, and the relationship of the hepatic supuration to the pelvic inflammation is well demonstrated.

I shall first of all give an account of the *post-mortem* examination, and then make one or two remarks with regard to the bearing of the different facts in the case. The patient was a domestic servant, aged 18, unmarried. The case during life was regarded as one mainly of phthisis pulmonalis, the patient having been admitted complaining of pain in the back and belly, and with a history of pleurisy of the left side on two occasions. There was no spit, but little cough, and a very distinct hectic temperature. No signs of disease could be detected in the apices, but there was marked dulness at the left back. The menstruation was regular, but latterly scanty and at times delayed. There was slight albuminuria, probably due to menstrual blood. There was no diarrhoea. There was no family history of tubercle.

Post-mortem Summary.—Pelvic peritonitis, with uterine catarrh and salpingitis; secondary pyæmic abscesses of liver and spleen; old pleurisy of left side, with fibrous condensation of left pulmonary base; double vagina—one rudimentary.

External Appearances.—A fairly well-nourished body. On opening the peritoneal cavity, it is found that the left lobe of the liver is adherent to the anterior abdominal wall, and that thick yellow pus issues from beneath the ensiform cartilage. The intestines are considerably distended; the pericardium contains several ounces of clear serous fluid; and the lungs, except at the extreme base on the left side, are quite non-adherent.

Chest.—The heart weighs 9 ounces, and, with the exception of some paleness and flabbiness of its muscular tissue, presents nothing abnormal. The right lung presents quite healthy characters. The left lung is very firmly adherent at the base, and its tissue in the lower lobe has undergone a fibrous transformation; elsewhere its tissue is healthy.

Abdomen.—The diaphragm is generally adherent to the liver and to the enlarged spleen, so that it is necessary to remove liver, spleen, and stomach *en masse*. The adhesions between liver and diaphragm are not very firm. On section of the liver it is found to be the seat of very numerous, large, ragged, abscess cavities containing a mixture of bile and pus. It weighs 70 ounces. One or two small abscesses are also seen in the spleen, which is more firmly adherent to the diaphragm than the liver is, and weighs 11½ ounces. The mucous membrane of the stomach is quite healthy, and the hepatic papilla is normal and pervious. The

² Hemoglobinuria has been recorded, however, as a symptom of acetanilide poisoning in human beings.

³ *Rev. méd. de la Suisse Romande*, April—May, 1889.

¹ Read at the Glasgow Medico-Chirurgical Society.

kidneys are somewhat enlarged and soft, and weigh respectively $6\frac{1}{2}$ and $6\frac{3}{4}$ ounces. The lower margin of the great omentum, which is spread out over the distended bowels, is bound down to the brim of the pelvis, and, on separating the adhesions to the pelvic brim, pus escapes. The whole cavity of the pelvis, namely, Douglas's pouch and that between the uterus and bladder, is the site of an intense purulent peritonitis, the pus being confined in loculi formed by adhesions. The aspect is not at all that of a tubercular peritonitis. The pelvic organs are removed *en masse*. The rectum and urinary bladder are found to be quite healthy. The os uteri shows a catarrh of the mucous membrane, and a similar catarrh is observed at the fundus uteri. Both Fallopian tubes are slightly distended, containing a small quantity of puriform fluid, and their fimbriated extremities are bound down in the peritoneal adhesions. The greatest formation of pus has taken place immediately around the uterus, and all the facts of the case point to a pelvic purulent peritonitis set up by extension from below, the hepatic and splenic conditions being secondary to the pelvic.

In the mesentery there was found a gland, the size of a hazelnut, filled with pultaceous semi-calcareous material. The following additional note as to the condition of the generative organs is supplied by my colleague, Dr. James K. Kelly. "At the right side of the orifice of the vagina, close to the edge of the hymen, is an opening bounded by a thin edge of mucous membrane, about half an inch in length from before backwards, which can be followed up in the side wall of the vagina for about an inch and a half, where it seems to end in a *cul-de-sac*. The fimbriated end of the left Fallopian tube is greatly dilated and cystlike, and the abdominal orifice is wide, while the fimbriae themselves seem normal."

REMARKS.—As I have already observed, perhaps the most striking feature in this case is that the exceedingly coarse organic lesions, which I have just described, should have been more or less latent throughout, that is, that they should have gone on to a fatal issue without calling forth symptoms sufficiently definite to direct attention to the chief seat of disease, for I understand that from first to last the state of matters in the abdomen was not suspected. The pleurisy was detected at once, and treated throughout, but nothing occurred to throw suspicion upon the abdomen or pelvis. In the month of September last, while in temporary charge of wards in the Royal Infirmary, the patient was under my care for two or three days, and at that time, with the exception of pleurisy, nothing else was made out. Although she was under observation from this time until the time of her death some weeks afterwards, nothing occurred to direct attention to the abdomen.

The next circumstance which demands a little attention is the causation of the exceedingly severe suppurative pelvic peritonitis in an unmarried female. In this connection the condition of the Fallopian tubes is, of course, most important, and I think there can be very little doubt that the peritonitis originated in connection with them. It is more difficult, however, to be sure of the cause of the salpingitis, and there is no clinical history to point the way. One very common cause of severe pelvic inflammation of this kind is undoubtedly gonorrhoea, and it is possible, though we cannot tell, that this may have been the starting point of the patient's troubles.

There can be little doubt that the abscesses of the liver had been directly set up by absorption of septic matter from the pelvis, and that we had to deal with a pyæmia limited to the portal circulation. It is, perhaps, a little difficult to account for the splenic abscesses in this way, but there was so much matting of the parts all around the liver and spleen, that I am not surprised that one or two small suppurations occurred in the latter organ. General pyæmia is, I think, excluded, because no suppurations were found in any other part of the body, and the pleuritic condition at the base of the left lung was not pyæmic.

The only other circumstance calling for remark is the anatomical peculiarity present in the generative organs in the shape of a rudimentary vagina. I examined Dr. Kelly's careful dissection of the parts, and I had no difficulty in agreeing with him that we had to deal with a case of double vagina, one being in a rudimentary condition. This, of course, was of morphological rather than pathological interest.

It is proposed to hold a French Colonial Medical Congress in the spring of the present year. The meeting will probably take place at Marseilles.

HISTORY AND USES OF THE PROTECTED SURGICAL ELECTRIC LAMP.

By N. STEVENSON, M.R.C.S., L.D.S.

IN 1883 I designed an electric light for dental work. The lamp was made expressly for me by the Swan Electric Light Company. It was fitted into an ivory socket firmly screwed to a metal tube like a No. 8 catheter, and covered with a glass shade, so as to allow sufficient air space, to prevent contact at any point between the two. The tube passed through a suitable wooden handle, and being open at each end, allowed the air to circulate freely. It was described at the time in the medical journals, and exhibited at the Pathological and Odontological Societies of London and Edinburgh, but the difficulty in getting the lamps and unsatisfactory working of the batteries made me abandon the use of it; now, however, that better lamps can be easily obtained and that the batteries are immensely superior to the old ones, I have taken to use them again and adapted them to other surgical purposes besides my own.

Fig. 1.—Diagram, half size, of lamp for ordinary purposes, showing the lamp full size.

Fig. 1. I find this lamp useful for any kind of examination where light is required without undue heat. It may be used in contact with any part of the body, if it is not kept lighted too long; for this reason I prefer to let the patient control it if possible, for then it can be lit at pleasure, and confidence is established. It is valuable in most operations of dental surgery, but especially so in preparing difficult cavities for fillings, or for working out nerve canals and in detecting exposure of the pulp. In cases of closure of the jaws from spasm or other cause, it gives enough light through a gap in the teeth to enable one to see perfectly the whole cavity of the mouth. It may be put into one nostril to examine the other by lighting it up through the septum.