

divided powders and in combination with pulv. ipecac. and sacch. lactis, like:

R. Diali ... gr. jss or R. Phenobarb. sod. ... gr. jss
Pulv. ipecac. ... gr. iij Pulv. ipecac. ... gr. ij
Sacch. lact. ... gr. v Pulv. glycyrrhiz. ... gr. iv
f. pv., nocte s., si op. sit. f. pv., nocte s.

This combination will have very salutary effects on anyone taking, say, five of these powders, before the soporific has been absorbed in large quantities. Perhaps one of these powders could be included in the *B.P.* as pulv. phenobarb. co., in which case it could be easily prescribed in suitable cases. Has the time not yet arrived when these compounds should be included in Part I of the Poisons Act, or some of them even in the Dangerous Drugs Act?—I am, etc.

ERIC A. FREYWIRTH, M.D.
L.M.S.S.A.

London, W., Feb. 5th.

Sudden Circulatory Failure and Diabetic Coma

SIR,—Although insulin therapy has made possible the recovery of cases of diabetic coma, a number of such patients still continue to die. Death can often be attributed to the effects of a concomitant infection, but there still remains a group in which at necropsy no lesions are found, and one has perforce to admit that such cases must be regarded as deaths from uncomplicated diabetic coma. Patients in this latter group usually appear to die suddenly. The clinical picture suggests sudden circulatory failure, and the striking fact about it is that the majority of the deaths occur after apparent recovery from the coma. We have recently met with three cases of sudden circulatory failure after recovery from diabetic coma: one patient died in the condition, one recovered and died from pneumonia forty-eight hours later, and one recovered completely. All had these points in common: the collapse occurred shortly after the patient was raised from the recumbent to the sitting posture; all had previously received a solution of glucose in normal saline intravenously. In view of the recovery under treatment in two cases and the suggestive similarity of the events preceding development of the condition, it appeared worth while to draw the attention of your readers to these points, in the hope that sufficient cases may eventually be recorded to permit the formulation of efficient preventive or curative measures.

First Case.—Woman, aged 38. Suggestive history of untreated diabetes for several years. Admitted at 6 p.m., unconscious; sugar, "acetone," diacetic acid, present in large quantities in the urine; cellulitis in the left axilla. Treated with subcutaneous and intravenous glucose-saline and insulin. Ten and a half hours later was sufficiently conscious to drink glucose solution by mouth, but the pulse was reported as weak. At this time the urine contained much less diacetic acid. At 9 a.m. diacetic acid had disappeared from the urine, and by the Rothera reaction only a trace of acetone was detected. At this time there was a slight improvement in the general condition, but the pulse was weak. A few minutes past 9 a.m. she was lifted on to a bed pan, and died ten minutes later. After coming off the bed pan she had been propped up on three pillows and actually died whilst sipping fluid. Unfortunately, consent to a post-mortem examination could not be obtained.

Second Case.—Man, aged 50, a known diabetic taking 5 units of insulin twice a day. Admitted at 6 p.m. on the verge of coma. Urine showed a strongly positive ferric chloride and acetone reaction. On examination had signs at both bases suggesting pneumonia. Pulse good. Treated with intravenous glucose solution and insulin. Became fully conscious in four hours and acetone-free in six hours. Three hours after admission it was possible to give glucose by mouth and all further doses were given in this way. At 10 a.m. next day he suddenly struggled into the sitting position and fell back collapsed. When seen he was pale, with cyanosed lips, the respirations were almost imperceptible, the extremities were cold, he was pulseless at the wrist, but faint heart

sounds could be heard. Death appeared imminent. The patient was laid flat in bed, the foot of the bed was raised on blocks, blankets and hot-water bottles put round him, oxygen administered, and 1/16 grain strychnine given. The man's condition rapidly improved, and one hour later was no worse than might have been expected from the pneumonia. He died from the disease two days later.

Third Case.—Woman, aged 36 years (eight months pregnant). Admitted in coma. The urine gave a strongly positive Benedict, ferric chloride, and Rothera reaction. She was given intravenous glucose solution and insulin, and recovered consciousness in four hours. Five hours after admission only a trace of acetone was found in the urine. An hour later she wished to sit up, and was raised by two nurses into a sitting position. Whilst the pillows were being arranged behind her she suddenly collapsed. Her condition at this time was exactly like that recorded in the previous case, and an experienced physician who saw the patient expected her to die any minute. She was laid flat in bed, oxygen and warmth were given, and she recovered in about three hours.

The first question is, To what extent did the intravenous administration of fluid contribute to the production of collapse? We have seen many cases treated in this way which had no such dramatic sequel, and we would point out that in each of the above cases collapse did not occur during the injection of fluid, but some hours later. It would therefore appear improbable that the collapse can be directly attributed to the previous intravenous injection.

The second question is, Can the collapse be due to the sudden raising of the patient from the recumbent position? The time relation of the movement to the collapse suggests that we are here dealing with a causal factor. One of us was present in the ward when the third case collapsed, and he could not avoid thinking of the similarity between the condition and the sudden circulatory failure which may occur in the course of diphtheria. It is well known that in the latter condition such collapse tends to occur if the patient sits up.

We therefore suggest that in our three cases the change to the sitting posture produced the collapse, and this suggestion is strongly supported by the beneficial effect in the last two cases of a return to the recumbent position. If we are correct in our conclusion, the treatment of the condition is obvious. Prevent its occurrence by keeping all cases of diabetic coma flat in bed until forty-eight hours after recovery of consciousness. If by an accident collapse is produced, treat the patient by putting him flat in bed, raising the bed on blocks, applying warmth, and administering oxygen and strychnine.—We are, etc.,

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February 8th.

Factors which Regulate the Uterus

SIR,—I was pleased to read Dr. J. M. Robson's letter in the *Journal* of February 10th (p. 262). I should, nevertheless, like to comment on one or two points.

I repudiate the suggestion that in my letter (January 20th) I "ignored" certain facts, although it is quite true that I deliberately avoided discussion, or even mention, of those facts. They were omitted for two reasons: (1) Doubt had been expressed as to whether oestrin has any effect, direct or indirect, on uterine contractions during pregnancy and parturition. The method by which it acts was not in question, and any reference thereto, besides being irrelevant, would have made the communication unnecessarily lengthy. (2) My views as to the manner in which oestrin affects uterine musculature have

been expressed elsewhere. Now, however, that Dr. Robson has introduced the question, may I take this opportunity of saying that for some time past I have held opinions similar in most respects to those expressed in his letter. Moreover, I am glad to learn that his experimental findings lead him to believe that one of the most important actions of the oestrus-producing hormone is to sensitize the uterus as gestation approaches term: this confirms the view expressed by Professor Blair-Bell, Dr. Datnow, and myself in the paper which gave rise to this correspondence. Although this is perhaps the most important mechanism by which this principle exerts its ultimate effect, it must also enhance uterine contractions by reason of its power to cause an increase in size of the muscle fibres. Again, the very reasonable theory that oestrin stimulates the secretory function of the posterior lobe of the pituitary has not yet been disproved. It is true that the original experiments of Dixon and Marshall on this matter have not been confirmed by *all* investigators, yet others, using different experimental methods, have arrived at similar conclusions. Therefore, until more evidence is forthcoming, there seems no justification in excluding the probability that infundibulin—the most powerful oxytocic substance formed in the body—is concerned in the mechanism of labour.

Finally, may I state that I am extremely interested in Dr. Robson's suggestion that the uterine contents play a decisive part in determining the behaviour of the uterus during pregnancy and parturition. I am entirely in agreement with this view, and personal experiments, together with reports of others, lead me to believe that the placenta secretes not only the oestrus-producing principle, but also the gonadotropic hormones found in the blood and urine of pregnant women, and that, by way of these substances, it is the most important organ controlling spontaneous contractions, and the response to stimulation, of uterine muscle during the progress and termination of gestation. If this conception is true, the gonadotropic hormones are inhibitory, whereas "oestrin" is motor in action. The latter substance probably exerts its effect in at least the three different ways described above.—I am, etc.,

Liverpool, Feb. 10th.

T. N. A. JEFFCOATE.

"Cheap Anaesthesia"

SIR,—Dr. Stanley Sykes, in your issue of February 3rd (p. 215), voices, I feel sure, the opinion of most anaesthetists in the country, and especially of those general practitioners who, apart from their ordinary work, specialize in the administration of anaesthetics.

The anaesthetist, until quite recently, has been regarded by the surgeon as a necessary evil in the operating theatre. Surgeons, as a whole, do not appreciate the skill and concentration that is necessary to make a good anaesthetist. The anaesthetist must be a good physician; he must be able to appreciate the risks attendant upon the proposed operation; and he must choose what is, in his opinion, the best anaesthetic for such an operation before the patient is wheeled into the anaesthetic room. Few surgeons are willing to discuss with the anaesthetist, the day before operation, the suitability of such-and-such an anaesthetic for the patient, or to share with the anaesthetist the difficulties which may be presented to him.

For instance, the use of gas and oxygen may be ideal for a certain abdominal case, and the surgeon may agree; but he must not afterwards be annoyed if he finds that he does not get the abdominal relaxation that is present under ether or chloroform-ether mixtures. Gas-oxygen anaesthesia is by no means easy to administer properly, and the difficulties experienced by the anaesthetist are in no way minimized if the surgeon is continually fussing

and complaining. After a stormy operation the anaesthetist's attitude may well be "anything for peace," and the next time the old-fashioned method is used the surgeon is pleased and the patient has grave post-operative complications and dies. This may well be an exaggeration, but it serves as an example of what may happen if there is lacking a spirit of co-operation between surgeon and anaesthetist.

Dr. Sykes, quite correctly, mentions the cheapness of anaesthesia. A general practitioner, specializing in anaesthetics, may look upon £3 3s., in ordinary circumstances, as the maximum fee obtainable. The public will pay that amount, either to good or to bad anaesthetists, for it does not seem, as yet, to appreciate the services of a skilled anaesthetist, meticulous though it be as regards a surgeon. The cost of gas and oxygen to an anaesthetist for an operation lasting one hour is about 17s. 6d., a third, nearly, of the fee, which remains the same whatever anaesthetic may be used. It seems only reasonable, therefore, that the public should be denied the benefits of modern anaesthesia until it appreciates the cost of apparatus and running expenses, and until it pays the anaesthetist the fee to which he is entitled. Far be it from me to suggest that surgeons are overpaid, but I do definitely think that anaesthetists in general practice are underpaid.

In conclusion, has not the time come for a diploma in anaesthetics to be given to those who, desirous of being specialists in the subject, can satisfy a board of examiners that they possess a knowledge above the average?—I am, etc.,

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Jersey, Feb. 4th.

Gas and Oxygen Anaesthesia

SIR,—The article on the history and development of nitrous oxide by Mr. H. Edmund G. Boyle is most interesting and timely as a reminder to the medical profession of the opposition that there has always been from the profession itself to anaesthesia and advances in the same. We are all, especially the women of England, indebted to Mr. Boyle for his persistent advocacy of nitrous oxide and oxygen for confinement cases and all gynaecological things, even though he does very often give a little ether with it.

I am pleased to see that he mentions E. I. McKesson of Toledo very favourably, but he says that McKesson's method of giving gas is rather alarming. I saw him do it and did not find it so, and, moreover, the condition of McKesson's patients was always better than those to whom ether had been given in however small an amount. The secondary saturation of McKesson is the reply to those doctors who say that relaxation cannot be got with nitrous oxide and oxygen. McKesson gets it. I have seen him do it for gall-bladder cases, stomach operations, and every abdominal operation that can be mentioned also. The question of relaxation is only a matter of how far you are prepared to go. For most cases it is not necessary to go to the length that McKesson does, and, although it is safe, so far as I have seen, with McKesson, I am in agreement with Mr. Boyle that it is not a method to teach students; but I would add this proviso—that it is a method that should be taught to any man who is taking up anaesthesia as a specialty.

The real reason why gas and oxygen is not more used is (as I have heard it expressed many times) that it is not a business proposition for the practitioner. The apparatus is expensive, and it requires a fair amount of skill and attention to use it. Therefore patients have to put up with open ether and even chloroform for such small things as teeth extraction.—I am, etc.,

Doncaster, Jan. 31st.

E. J. CHAMBERS.