to produce sleep within an hour, lasting, with perhaps one or two brief interruptions, seven or eight hours. The sleep is indistinguishable from natural sleep, and the patient awakes feeling refreshed, frequently speaking with enthusiasm.²

The patients never complained of any unpleasant after-effects when given in this dose. In some cases even smaller doses—0.25 or 0.3 gram (4 or 5 gr.)—were found to suffice to give the patient eight hours' sleep. This was the case in weak women suffering from heart disease with failing compensation, advanced phthisis, and diabetes mellitus respectively.³ Again, in many cases where a patient had previously received 0.5 gram veronal, it was found possible to reduce the dose to one-half after a few days.⁴

Larger doses—1 gram (15 gr.)—were required in some cases where there was actual physical discomfort or difficulty. In these cases veronal proved equally reliable, and equally free from objection. The patients woke refreshed, and frequently with improved appetite. There were never complaints of headache or nausea, although one or two patients felt slight giddiness, lasting not more than ten minutes.

Still larger doses up to 3.5 grams (the latter in strong men only)⁵ were used with good effect in certain cases of severe mental excitement—delirium tremens, general paralysis, and epilepsy. These large doses were usually followed by continued sleepiness on the following day; but this was, on the whole, an effect to be desired. In the case of epilepsy veronal induces sleep, but has no power of controlling the fits. The only cases in which veronal failed were cases of severe pain, such as occurred in acute rheumatism and in severe sciatica. In such cases morphine is to be preferred.

Occasionally, when the dose used is not a large one, and when there is pain or excitement, the patient may not fall asleep for three or four hours after taking veronal. The following two cases, under my own observation, illustrate this, and illustrate also the way in which a single dose of veronal frequently gives a patient two or more successive nights of good sleep.

N. G., 37, an engineer, subject to "migraine," took 1 gram of veronal at 8 p.m. one night while suffering from a very severe headache. He fell asleep at 12, and slept soundly till 8.30, when he was called. He woke free from headache, was able to attend to his usual duties during the day and did not feel sleepy. The following night he slept very well, far better than he is accustomed to sleep. About a fortnight later he took 0.5 gram of veronal (one tablet) at 8 p.m. while suffering from a severe headache. He again slept from 12 till he was called at 8.30, and woke refreshed and free from headache. He again slept well the following night.

Mrs. C., 60, a hotel manageress, was suffering from gastro-enteritis the result of "tippling." Vomiting and diarrhoea were very frequent; the heart was dilated, beating irregularly, the impulse weak and flapping, the apex beat in the fifth space $\frac{1}{2}$ in. external to the nipple line. She had not slept at all for three days, and not well for weeks. After a few doses of bismuth with carminatives, the vomiting and diarrhoea were diminished. At 8 p.m. on the first day of treatment she took 0.5 gram of veronal. She fell asleep about 12.30 and slept four or five hours, with a few brief intervals of wakefulness, during which she used the commode. She woke feeling a little stronger, considerably refreshed, and with some returning desire for food. The heart's impulse was less flapping. The vomiting had ceased. The following night she slept six hours and was then convalescent. The heart's apex was $\frac{1}{2}$ in. internal to the nipple line, the beats regular and fairly strong.

A slight antipyrin-like rash has been observed for a short time in one or two cases.

No remote after-effects of any kind have been observed to follow the use of veronal. It has no action on the cardiac or respiratory centres, does not appreciably influence the blood pressure, and is without action on the liver and kidneys. The urine remains normal, free from albumen and blood pigment. Veronal is not a diuretic, as its chemical relationship to urea might suggest.

To this immunity from bad effects on the vital organs is due the great importance of veronal. For it can be given without hesitation and with excellent results in cases of severe heart disease with failing compensation, in cases of phthisis early or advanced, in other pulmonary diseases, and in kidney disease.

As regards the induction of a "veronal habit" Lilienfeld and others have never found it necessary to increase the dose; indeed in most cases it has been possible to reduce the dose after a few days, and frequently a single moderate dose of 0.5 gram ($\frac{7}{8}$ gr.) has sufficed to procure for the patient a succession of four or five nights of good sleep. Berent,⁶ however, found it necessary in some cases to increase the dose after a few days, or to substitute some other hypnotic, such as trional, for a few days. To conclude, it seems clear that veronal is proving to be a useful means of procuring sleep.

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ON THE USE OF OXYGEN GAS IN DISTENDING THE BLADDER FOR CYSTOSCOPY.

BEING A PART OF A LECTURE TO THE SURGERY CLASS IN ST. MUNGO'S COLLEGE, GLASGOW.

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IN diseases of the bladder and kidneys it is often expedient to get a view of the interior of the bladder with the object of ascertaining either its condition or contents, or seeing what flows from the mouths of the ureters. In my student days—not so many years ago—this was not practicable, at least we had no means of doing so, there being no cystoscope, but since then, with the development of science, and especially in the way of electric instruments, we have now at our call an instrument which, when carefully used under favourable circumstances, will give you a very good view of the vesical cavity.

To enable you to use the cystoscope you must distend the bladder in order to separate its walls; for this purpose it has been the custom to inject a transparent solution such as carbolic, boracic, or sterilized water, and their use had many advantages, but, like everything else, they have their disadvantages.

One of the advantages in using a solution is that it disseminates the heat that comes from the bright glare of the electric lamp when in the bladder, and thus saves the mucous membrane from being injured; but, unfortunately, the fluid medium allows of blood, pus, or urinary deposits which may come down the ureters to mix with it and render the medium opaque, and thus obscure the view.

Last June in Berlin I saw a cystoscope used which had what is known as a "cold lamp" fitted to it; these lamps are of peculiar construction, and give an astonishing light with little or no heat, and it struck me that if I had "cold lamps" on my cystoscopes I would discard the fluid medium and inflate the bladder with air. As soon, therefore, as I was able to procure these lamps I experimented with gases, passing them through sterile solution to purify them before introducing them into the bladder, and I am now pleased to say I can get a much better view by using oxygen gas than by any of the many media I have tried.

You saw me yesterday morning in the operating theatre in the Royal Infirmary employing, instead of boracic solution, oxygen gas to inflate a patient's bladder who had no anaesthetic either local or general, and who suffered no pain or inconvenience during the cystoscopy, and some of you had a view of the interior and saw plainly the wall with its mucous membrane and capillaries. I first drained the viscus through a soft worm catheter; from the character of the urine it was unnecessary to wash out the bladder. I had beside me a small rubber gas-bag, containing the amount of oxygen I wished to use, fitted with a vulcanite cock which fitted into the mouth of the catheter. The amount of oxygen in the gas-bag gave me an idea what the size of the bladder would be when it is distended, allowing, of course, a little for the expansion of the gas when in the warm viscus. I slowly and carefully pressed the oxygen from the gas-bag, and then withdrawing the catheter, I introduced the cystoscope.

The advantages in using oxygen gas as a means of inflating the bladder over solutions for cystoscopy are obvious. In cases where you want to be free from the invasion of pus or blood, to ascertain the conditions of the ureters, and where bleeding tumours are suspected I have found this method of advantage. I use oxygen in preference to any other gas because I have found it in cases of enlarged prostate with a quantity of foul residual urine containing muco-pus, to ameliorate the accompanying cystitis, and to have a clarifying effect on the urine. Its use must be practised with great caution. The patient must be warm and comfortable when the operation is proceeded with; the gas must be pure, and be caused to enter the bladder slowly and with great care, and if cystitis exists it will be necessary to use a local anaesthetic. The oxygen can be left in the bladder without any evil effects, and often to the patient's advantage.