

OBSTETRICS.

THE INJECTION OF PERCHLORIDE OF IRON IN PUERPERAL HEMORRHAGE.

By Mr. A. B. STEELE, Liverpool.

When the injection of a powerful styptic into the uterus as a means of controlling post-partum hemorrhage was first suggested in the pages of the *British Medical Journal* in 1869, I ventured to express my fear that the somewhat unqualified advocacy of this novel treatment was calculated "to mislead the inexperienced practitioner, and to divert his attention from those measures which are founded upon physiological data, and upon the accumulated experience of obstetricians since the time of William Hunter;" and further "that the only efficient means of controlling uterine hemorrhage is to secure uterine contraction; and that local styptics, so useful in some forms of non-uterine hemorrhage, are as a general rule inapplicable to uterine hemorrhage."

Dr. Barnes at that time stated his belief that the intra-uterine injection of perchloride of iron to arrest post-partum hemorrhage was "one of the most valuable improvements ever introduced into the practice of midwifery." An expression of opinion so strong and from so high an authority impressed me strongly, in spite of my theoretical objections, and I finally resolved to put the plan to the test of practical experience on the first opportunity.

As I am now in a position to speak from bedside observation, and finding from recent discussions that the treatment in question is still *sub judice*, I feel bound to contribute my quota to the settlement of so important a question in obstetric practice.

A circumstance which more immediately determined my adoption of this mode of treatment was the accident of my listening to a graphic description of a case by Dr. Williams, of Wrexham, given at a meeting of the North Wales Branch of the British Medical Association, held last summer at Bala, at which I had the good fortune to be present. A lady who had been attended by Dr. Williams in several labours invariably suffered from post-partum hemorrhage to a degree which caused much anxiety for her immediate safety, and rendered each approaching confinement a source of dread to herself and her friends. On the occasion of her last confinement, Dr. Williams determined to try the effect of the iron injection as recommended by Dr. Barnes, and accordingly this was done immediately after the expulsion of the placenta and before hemorrhage had commenced. No sooner was the operation completed than the patient, notwithstanding her usual dread of impending hemorrhage, at once exclaimed, "I am better now, and I know I shall have no bleeding this time;" and such proved to be the case, and her recovery was excellent. This case impressed me so strongly that I resolved to adopt the plan on the first suitable occasion, which shortly after presented itself in the following case:—

A patient of my own, nearly forty years of age, of tender, delicate frame, deficient muscular tone and energy, large dilated veins, and the subject of hemorrhoids, which in the latter months

of pregnancy became so aggravated as to necessitate their removal by the clamp and cautery, was taken in labour for the second time. Her first confinement, a year previous, was protracted and difficult from uterine and general inertia, rendering forceps delivery necessary, extraction not being effected without long and forcible traction; hemorrhage ensued, which was controlled by the ordinary measures, but a subsequent draining of blood continued, which, although not excessive in quantity, was nevertheless a source of much anxiety in her already exhausted condition. She, however, ultimately recovered after a tedious and troublesome puerperal period. The child was born alive, but died in a few weeks from diarrhoea and atrophy consequent upon loss of breast milk and general debility.

The second labour was almost as difficult and protracted as the first; she was delivered after long traction with the forceps of a fine living female child. Hemorrhage again set in immediately after the completion of labour. I at once injected a solution of iron, one part of liq. ferri perchloridi fortior. to four of water, which in a few minutes completely controlled all bleeding, and caused firm general contraction of the uterus, contrasting favourably with the imperfect and unreliable contraction so common under these circumstances; and which on the former occasion rendered her condition critical for a considerable time. Her recovery, although complicated by constitutional delicacy and feebleness, was nevertheless much more favourable than in her first confinement, and the child lived and thrived well.

The following case, which occurred shortly after that just related, is even more specially illustrative of the value of the iron injection, not only in puerperal hemorrhage, but also in the hemorrhages of abortion.

A patient about twenty-five years of age, a fair, delicate-looking woman, the mother of one child, first consulted me for a constant, and at times profuse loss of blood, which had lasted for many weeks, after an abortion at the fourth month. I opened up the cervix with tents and swabbed the uterine cavity freely with the undiluted liq. ferri perch. fortior.; after two applications all bleeding ceased, and in a short time she was quite well. About a year later I was called to see her in consultation with her medical attendant, in consequence of post-partum hemorrhage of a formidable character, which had come on about an hour after the completion of labour, and had already caused great depression, approaching to collapse. The bleeding was promptly checked by compression, cold cloths, and the other ordinary means, but reaction was slow in taking place; the patient remained for some hours in a feeble, excited state, with delirium and other symptoms of constitutional disturbance, which required close watching for two or three days. She recovered slowly but completely. In about twelve months after this she was again taken in labour, and I saw her again as soon as the pains set in. Her labour was easy and somewhat rapid. Every precaution in anticipation of flooding was adopted: a full dose of ergot just

before the expulsion of the head, careful compression of uterus with the hand throughout and subsequent to the expulsive stage, compress and binder, and so on. For a short time after delivery all went on well, and I left the room, but was soon recalled by the nurse, as the patient told her "there was a good deal coming away." I at once recognized the effects of hemorrhage in her pallid lips and faint condition, and found a large quantity of coagula in the bed and in the vagina, from which fluid blood was still flowing. The uterus, although not entirely flaccid, was doughy, and did not readily respond to compression. I hastily prepared a strong solution of the solid perchloride (which fortunately I had brought with me), and having cleared the uterus and vagina from clots, during which process I could feel the warm stream still flowing, I threw up about a quart of the fluid, which at once checked the bleeding, and in a few minutes the uterus, and especially the os, was firmly contracted. No further bleeding nor any untoward symptoms followed, and the patient made a better and quicker recovery than she had ever done on former occasions. In each of these cases the patients themselves appeared to appreciate the beneficial effects of the iron injection, and to acquire a feeling of confidence in its power to control the bleeding in a few minutes after its application; a sense of security which, while encouraging to the accoucheur, is not without its beneficial emotional effect upon the patient. I have used the iron in a few other instances not so typical nor so interesting as to deserve record here; but in all the result has been satisfactory, and unattended by any unappreciable after consequences of a disagreeable nature.

I therefore assume from my own experience as well as from that of others that this mode of treating puerperal hemorrhage is both safe and reliable, and under certain circumstances not only justifiable but strongly indicated as one of the most effectual means of rescuing a patient from imminent death.

I am disposed to believe that the action of the iron injection depends not so much upon its direct styptic or hemostatic effect, as upon its influence as a reflex excitator of the incident nerves of the walls of the uterus, and also by directly arousing the peristaltic action of that organ upon which the more powerful muscular actions are as it were based.

One class of cases to which the use of this powerful astringent appears specially adapted are those not uncommon and most troublesome forms of flooding which might be called recurring hemorrhage, where the uterus alternately contracts and relaxes, and where it is difficult to determine when the patient can be pronounced free from risk of further bleeding. Instead of being obliged to grasp the uterus for an hour or two, and feeling afraid to leave the patient perhaps for many hours, the use of the iron at once removes all doubt and difficulty, by inducing firm and permanent contraction.

With regard to the objections which have been raised to the use of the iron injection in flooding, I am not yet convinced that these are to be con-