are some of this opinion still, I would wish to convince them by referring them to the practical results that have arisen from the imperfect measures adopted, under the impression that the disease is contagious. I shall chiefly direct your attention to the results in India, where my experience extends, leaving out the facts accumulated in Europe, and at Staten Island in America, as you have had better means of judging of them than I have.

The medical returns in the present report of 1872 amply confirm the returns of former years, since quarantine was introduced into India in 1862. I would repeat that the system is confessedly imperfect, and supposed to be frequently evaded, but it never claimed to give perfect protection, and its action may be improved. The accompanying table shows the effect of quarantine on the dissemination of the disease amongst three classes who were subject to its control, compared with its prevalence among the civil population, to whom its regulations could not be extended. This table only gives the returns of 1872, which may be called an epidemic year, and of 1871, which was a non-epidemic year. If I find time I shall add the five previous years. Each class is subdivided under four heads, showing, first, where no death occurred from cholera; second, where one death occurred; third, where two deaths occurred; fourth, where more than two deaths occurred in protected localities. It thus appears that in these, 78.49 per cent. escaped entirely; 6.89 per cent. had one death; 3.94 per cent. two deaths, and only 10.57 per cent. had more than two; whilst, in the unprotected class, there were only 7.55 per cent., with less than fifty deaths; 3.77 per cent. with from fifty to one hundred deaths; 5.66 per cent. with from one hundred to two hundred deaths, and 83.03 per cent. with over two hundred deaths.

When I was in India, I received reports in numerous instances from the Deputy Inspectors-General of Hospitals that the disease was raging severely in the district, whilst there were no cases in cantonments. In all the protected localities, the sanitary arrangements were as perfect as practicable—certainly much better than in the towns and villages of the district; and I consider that it was owing to these most valuable arrangements that the dissemination of the disease was limited in those instances where it found access, and was followed by only one or two cases. At the same time, it must be remarked that the relative mortality in these protected places was much higher, especially among the European troops and native prisoners, than in the unprotected places; and also that it varied materially between the native troops and native prisoners, with whom the sanitary arrangements were in full and equal force. This proves that sanitary laws alone will not regulate the mortality of cholera, and furnishes one of the facts on which my opinion is formed of the contagious nature of the disease. The relative number of the inhabitants in the unprotected and protected classes differs very materially; but this would not account for the difference in the ratio of attacks in the localities—*i. e.*, 78.49 per cent. exempted in the one case, and only 11.51 per cent. in the other. The importance of exclusion cannot be over-estimated, when it is considered that the presence of one case may originate a wide-spread attack.

There would be little difficulty in selecting a large number of cases from the present epidemic, where there was a very high mortality in the district, whilst there was total exemption in the jails. In twenty of the jails, in twenty of the districts most severely affected, there was not a single death from cholera, while the mortality in the districts amounted to 56,914. This is positive evidence, which is incompatible with the aerial theory, and forms but a fraction of similar instances to be found in Bryden's tables of the present and former years. The returns in this report clearly indicate that the present quarantine regulations are inefficient in protecting open towns in a commercial country, and that they ought to be abandoned there; but they also show that these regulations are valuable as far as they can be efficiently applied; the exemption being most complete in the jails, where, among the native prisoners, it amounts to 84.38 per cent., whilst that of the European troops is only 68.12 per cent., and that of the native troops is intermediate, *viz.*, 73.46 per cent.; clearly proving that quarantine, under certain circumstances, may be employed with advantage. An island is under favourable circumstances for an efficient quarantine, as the only entrance of the disease from a foreign country must be by ships at a port. When the disease is already raging in the interior, external quarantine can be of little value; but cases suffering from the disease should not be allowed to land in any healthy port, and, in all cases, floating accommodation should be provided for them.

I most fully concur with Dr. Milroy in the necessity of a revision of the present quarantine regulations, and agree that it would lead to more definite results if conducted by a small body of well-selected men, than by a numerous and foreign congress. But it must be instituted by Government to give its opinion weight, and also to give it the means to render that opinion valuable.

SOME REMARKS ON POST PARTUM HÆMORRHAGE.

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THE importance of this subject to everyone who practises midwifery, and the intense anxiety always connected with the management of these cases, render me anxious to give my quota of experience for the readers of the JOURNAL. Having for many years superintended one of the largest midwifery charities of London, I hope it will not be thought that my opinion has been intruded without some justification, especially as the patients attended by these charities are the most exposed to the dangers of *post partum* flooding.

Two questions have been brought forward in late numbers for discussion. One is, what are we to do for *post partum* hæmorrhage in general? the other, by what means can we guard against the recurrence of this calamity in those who have in former confinements suffered from it?

First, then, let me consider how can we arrest *post partum* hæmorrhage.

Before we do so, let us clearly understand what is the clinical condition with which we have to contend.

The most common, doubtless, is an uterus more or less uncontracted. The causes of this condition are many, but they may be resolved into two major classes: one, in which the uterus, from a long labour, or from a readily exhausted nerve-power on the part of the patient, is tired out and has used up its contractility, a state of things very frequently seen after craniotomy, etc.; the other, where the uterus has not been sufficiently excited, either the child has been withdrawn too quickly, or it has been expelled with too great ease. Any how, there has not been irritation or pressure sufficient to keep up the proper amount of reflex action after the placenta is delivered.

But, how much contraction is needed to prevent hæmorrhage? Certainly, the most secure condition is the little hard uterus likened to a cricket-ball. But it has not so very rarely happened to me, and from conversation I find the same has also to others, that an uterus may be anything but hard and firm, and yet no hæmorrhage may result. I presume that there is a degree of contraction sufficient to arrest blood-loss, short of the hard and most desirable state. I think also much depends on the size of the sinuses patent on the inside of the uterus, a variable condition, as variable, indeed, as varicose states are. Probably, something may be owing to the state of the vascular system, both on the left side and the right side of the heart; and, again, something may be found to explain in the power of the abdomen called by Dr. M. Duncan "retentive," which, although much neutralised by the flaccidity of the walls, yet in some might neutralise the outflowing from the uterus, and this action certainly might be increased if the abdomen were bulky and pendulous, hanging over to the side. However any one, or some of them combined, may be the cause, it is certain that in some cases the uterus is considerably relaxed without the occurrence of flooding.

But, if an uterus be contracted and in an active condition, this does not necessarily ensure immunity from flooding; for, if it be distended by a piece of placenta, or a clot, or anything, or if it be prevented from well closing, as by a distended bladder, as was pointed out by the late Dr. Lumley Earle, or from adhesions, as remarked by Dr. Graily Hewitt, in any case, hæmorrhage is pretty sure to arise, unless the uterus be in powerful action.

What a common case is this. A small clot, formed, perhaps, before the extrusion of the after-birth, is not expelled; the uterus, notwithstanding it is firm and hard, increases in bulk; a slight gush takes place on firm pressure, and some watery blood, or nearly clear serum, flows in small quantities from the vagina. Notwithstanding the firm and even painful contraction of the uterus, it slowly enlarges, and, upon a considerable quantity of blood escaping, the hand is introduced, and a hard firm clot is found. As soon as this is removed, the oozing ceases, and the case is safe; or should the practitioner, ignorant of the import of an increasing though hard uterus, leave the patient, he may be recalled to witness the worst terrors of flooding; for, the uterus having relaxed, all check over the oozing ceases, and the blood pours forth from every stretched out opening.

Another cause occurs at times, and gives much trouble; namely, a partial relaxation of the uterus, an irregular contraction; I mean an uterus contracting on one side only at first, then that part relaxing, and the opposite side contracting, and so on. This state permits a certain amount of bleeding, which, coagulating within the uterus and gradually added to, tends to the dangers common to the presence of clots above-mentioned.

These cases cannot, I suppose, be very common: I have seen about three well-marked instances.

Another condition one finds by no means rarely, namely, the alternate relaxation and contraction of the uterus. Of course, this is the natural state of the uterus after labour, but in these the intermissions of the contractions extend to more complete relaxation. A great deal of blood may be lost this way; indeed, I have seen some fatal cases, and very many women who have been in great jeopardy by it. It is, of course, a less anxious state than that of absolute relaxation; but it is, perhaps, more deceptive.

Again, where placenta has been prævia, or near to the uterine opening, we have sometimes a very troublesome loss. For the lower zone of the uterus after labour does not contract well, indeed it is generally more or less relaxed; if on this part the placenta have been inserted, it can readily be perceived how hæmorrhage can arise. But sometimes it arises after placenta prævia, though in a different way. If the bleeding from the vessels be slow, and clots become adherent to the lower uterine opening, the hæmorrhage from the upper part is retained, and danger from flooding thus arises; and I may remark, incidentally, that this blocking up of the uterus, although it may not produce hæmorrhage, yet retains decomposing secretions, and thus adds to the *post partum* dangers of placenta prævia.

Hæmorrhage after delivery occasionally occurs from lesions of the uterine walls. The more frequent of these rarer cases is the lateral laceration of the vaginal portion of the cervix. In these the blood is generally bright, particularly in the latter variety.

Lastly, hæmorrhage after delivery may occur from inversion of the uterus, partial or complete. If incomplete, the cause may be overlooked. I was a year or two since asked to see a case of flooding, and to bring my transfusion apparatus. The patient was dead before I arrived; I, however, passed my hand to ascertain the cause, and found the upper half of the uterus inverted, feeling like a polypus just within the os. I had no trouble in reducing it.

If these causes be duly borne in mind, the principle of treatment is clear enough. If the uterus be inert, we must induce it to contract by the various plans well known to all; if we cannot do this, we must do what we can to coagulate the blood and to cause a contraction of the inner surface of the uterus by styptics locally applied. If a clot of blood, or fragment of placenta, be the cause, then its removal, either by external pressure or introduction of the hand, or by these two plans together, is the clear indication. If irregular action be present, then our attempts must be directed to ensure a more perfect action.

If lesion be present in the body of the uterus, it is clear it would be highly dangerous to use any styptics if the laceration extended to the peritoneum; but, if the hæmorrhage came from the vaginal portion of the cervix, if cold and pressure failed to stop it, a sponge dipped in styptic and firmly pressed on the rent would be the most sure way of arresting it.

But the categorical account in many text-books of the various modes of checking *post partum* hæmorrhage fails to convey the clinical assistance required in the case; because, in most cases, either from the suddenness of the attack or from carelessness of observation, the practitioner is brought face to face with serious loss, and action must be prompt. But is everyone prepared to meet this possibility? How do many go to a case of midwifery. Of course, if, in one's rounds, one be called to a case, complete provision is not to be expected; but, when called straight from home, how few take anything with them. Thus, if the bladder be full, there is no catheter; if a languid uterus suggest the possibility of subsequent inertia, there is no secale; and if hæmorrhage actually occur, then the practitioner has to meet it only with cold water and his hands. But, if we thus undertake a case, are we much better than the simple woman-midwife, who is not allowed to use secale, and has nothing besides? No one should go to a case without a catheter, secale, opium, ammonia, a good syringe, and (as far as my present experience has shown me its value) the perchloride (or a kindred preparation) of iron.

When, then, the placenta is delivered, a careful practitioner, instead of leaving the bedside, will take charge of the uterus, either by his own hand or by closely watching his assistant; and also will either keep the vulva in view, which can be done without exposure to any extent, or will frequently examine the napkins; and, if he find the uterus relaxed in part or wholly so, if it be still enlarging, notwithstanding its firmness, or if he see hæmorrhage arise, he is instantly ready to act. He will, however, have already unobservedly prepared measures in anticipation—cold water in plenty, some already poured out in a basin; and broken ice, if obtainable; with the syringe charged ready for instant service. He will have some fluid preparation of secale at hand. If he possess only powder, then he will have already made a decoction. It may be that in ninety-nine per cent. of cases these arrangements will

not be wanted. So much the better for the ninety-nine, but so much the safer for the remaining one to have them ready.

But, besides these precautions in ordinary cases, there are some which should be adopted in cases where we suspect, as the case approaches termination, that hæmorrhage may arise. I mean after very long labour, much exhaustion, a languid action of uterus, where the interval between the pains is long, the pain short, but the progress during it rapid. In these cases, it is always better to give secale just before the head comes on the perinæum; and, where the child glides out rapidly with slight pains, it is better to carefully check the descent of the head, so as to rouse the uterus by an impediment. It is also better in these cases not to hurry away the placenta. Its presence acts as a stimulus to the contracting power of the uterus; and, if the uterus be not expanding, nor hæmorrhage occurring, no reason exists for its removal. But of course the medical attendant must not leave the uterus to any one; it must be under his grasp the whole time; and specially he must not drag on the funis, but be ready, as soon as hæmorrhage appears and external grasping fails to extrude the placenta, to pass the hand boldly in and remove it. I think that, among the causes of after-relaxation of the uterus, is the removal of the placenta from the hesitating uterus. Of course, if the hand in removal be passed rather roughly, and the internal surface excited by the free touching, it compensates somewhat for the removal; otherwise it, like a premature removal of the foetus, is apt to leave a flaccid uterus.

Supposing, then, that after the placenta has been delivered, and we have left the uterus in charge of the nurse's hands, or after the application of the binder (which latter has the great fault of concealing rather than revealing) we find the patient pale, and the uterus largely distended, we should instantly pass the hand on to the uterus firmly and quickly, and press it till the blood having escaped, it is sufficiently small enough to be grasped, which should be done firmly, accompanied by friction of its surface. I always pass the hand into the vagina, and remove the clots; and, if the flooding have ceased, I merely keep up the grasping and friction on the uterus; but, if any hesitation to contraction be present, I apply cold, externally, by the hand or napkin dipped in cold water; at the same time I inject cold water into the vagina. Should, however, these plans fail, or the hæmorrhage be profuse, I pass at once the hand within the uterus, and remove every clot, examining the whole inner surface to see if any portion of placenta or membrane have been left attached. It seldom occurs but that the uterus contracts and remains so, but, should it relax, I repeat the clearing out (for clots are almost sure to be there), and carry the syringe jet to the fundus and throw in cold water; or, if ice be at command, I carry in a lump and rub the inside of the uterus all over with it; this is generally a most efficient remedy. If the uterus fail to contract or to remain contracted, the condition of the case is very urgent. The hand should be carried in again, and the uterus well titillated; of course, during the whole of this action the exterior is to be firmly grasped. Unfortunately, the blood-loss has lessened the chance of contraction; but, fortunately in very many cases at this crisis, syncope steps in, time is given for coagulation in the uterine vessels, and the patient is saved. It is generally those patients who never faint that die, if we cannot stop the flooding. Only two measures in this desperate state of things, remain to us; the first of which is pressure upon the aorta and vena cava. A diaper can be folded hastily into a firm pad, and pressed on the centre of the abdomen, about the navel; the patient, if not already on her back, should be so placed. I would recommend that the legs be not elevated, because, when the return current of the vena cava to the heart is stopped, if the legs were lifted, the blood would regurgitate to the uterus, and still more be lost. I think this plan should be more frequently adopted than it is. Like fainting, it permits coagulation.

Hitherto, I have been considering the more severe kinds of flooding, where we have no time to temporise, no time for secale, galvanism, and emetics. But in all cases of flooding, where grasping and friction externally, coupled with cold injections into the vagina of cold water, and secale, fail to produce cessation of the flooding, the best and most secure plan is to pass the hand into the uterus, and remove anything that there may be found distending or tending so to do; cold can then be carried within the uterus by syringe or ice, when in most cases the bleeding ceases. If, however, we find a clot with an active uterus, we may spare the patient the passing the hand within the uterus, if we break up the clot as far as two fingers can reach, and employ pressure from without. If, however, the bleeding continue, it is shortest to pass the hand inside the uterus, and remove anything which may keep up the bleeding; and if we find no fragment of placenta or adherent clot, we should examine for a lesion. If there be none, and the bleeding still continue, after the application of cold, particularly if there be partial or intermittent relaxation, then we must try aortic pressure; and this failing, our only

resource is to apply a styptic to the interior of the uterus. But I see that a writer in the JOURNAL, in antagonising the use of perchloride of iron, says that, with one or the other plan, we can secure contraction, and therefore have no need of a styptic. I must say this remark fills me with astonishment; and I think it must also others, quite as alive as I am, and as he is, to the importance of establishing reflex action; and using all the remedies as sedulously as he recommends. Like Dr. Barnes, whose area of work embraced much of the same classes as my own, I hailed with a feeling of, I may say, extreme satisfaction, a plan which would give some hope of help, when every other attempt to establish uterine contraction had failed. To feel so powerless, when the patient was rapidly sinking before one's face; to feel at the mercy of reflex function, and yet the last plan had failed to establish it, was an incubus in practice which I, with Dr. Barnes, and doubtless many others, once felt to be very disheartening. Of course, I do not mean to say that a great number of cases of hæmorrhage could not be arrested by the means already indicated; but, I need scarcely argue for a moment, that some could not be checked, because I am sure everyone in large midwifery practice has seen such cases. And this is why I say that I hailed with great pleasure one more remedy in these desperate cases. Indeed, as soon as I had heard that Dr. Barnes was employing this remedy, which was shortly after he had begun to use it, I tried it; and I merely give my own experience, when I say I have never seen an unfortunate result from its use; but I have seen most marked effects in all cases in which it was employed in arresting hæmorrhage after other measures had failed. I may add to this, the confirmation of others with whom I have conversed, and I have not from them heard of a case fatal in consequence of it. It is true I have seen a woman already dying of hæmorrhage, not rally; but it would be absurd to attribute death to the remedy last used. But the writer referred to mentions all kinds of evils as having arisen from its use, and everything which occurs after is placed to its account. Puerperal fever, pyæmia, etc., are attributed to it. I can only say I know nothing of this in my practice. But surely it is not unusual for women after severe flooding (and this remedy is only used in the severest) to have septicæmia; is it not well known, on the contrary, that they are very liable to it? Why, then, is the treatment to be credited with evils to which the condition for which the remedy was used gives rise?

If, after all the controversy, one can only find record of some four or five deaths after, out of the great number of cases in which it has been used, one can only say that it is rather a proof that it prevented septicæmia than caused it.

It was a misfortune that the discussion on the subject at the Obstetrical Society last year was an indirect one. The paper which drew it forth was a description of a case of abortion in which solution of iron had been used, and in which it most probably was the cause of death. But, upon inquiry, the solution proved to be the strongest of the *British Pharmacopæia*. I think this was very much too strong; for the vagina cannot bear it without risk of damage, much less the uterus, more or less denuded as it is after abortion. It was at the least four times too strong, probably eight times, for any tissue like that of the uterus to bear, unless in a quantity so small that it could only cover it with a film. The discussion after this case was read turned, however, upon the iron treatment in *post partum* hæmorrhage; but, being aside the direct issue of the paper, it was not completely discussed, but nearly every one present spoke strongly in favour of the advantages of the iron treatment. At any rate, the case read was only a proof that the very strongest solution was fatal, which was the most probable result, and no proof of the danger of the weaker solutions, such as the tincture or weaker liquor of the *British Pharmacopæia*. In my own practice, I employ a rather weak solution at first—one of the weaker liquor ferri perchloridi to six or eight of water. If that fail, then I make it stronger; but, if the flooding be rapid, I use the full strength of the weaker solution or the tincture, because much of it is lost in the blood, or is prevented from coming easily into contact with the walls. The tube of the syringe should be carried to the fundus, and the fluid gently injected; or it may be conveyed with a sponge, which should be passed over all the internal surface. Perhaps this is the safest mode; but it must be removed promptly, or the uterus may retain it, as occurred in one case I know. I have tried it in all kinds of *post partum* hæmorrhage, after removal of clots, which is important, or they become coagulated and firm, and cannot be removed afterwards without trouble. I have found it particularly satisfactory in cases of irregular and intermittent relaxation, causing the uterus to assume its proper form at once.

I do not enter into the discussion as to how it acts. It stops blood in hæmorrhage from a wound on the outside; I presume it acts similarly on the inner side of the uterus—of course not requiring general uterine contraction. I have no doubt, in the less inert conditions, it

rouses the remnants of contraction, and acts as cold and the presence of the hand. In conclusion, I will add that, till any one can show a better remedy, or till I find it of greater disadvantage than extreme loss or death, I shall continue to use it in the fullest confidence, or till it has been clearly pointed out that it is dangerous to use. For the proof of this, I have failed to find sufficient at present. In the only case given by the writer in the JOURNAL, where death seemed to be due to the injection, there was no *post mortem* examination, and therefore only presumptive evidence. The others have not been published. It would have been much more satisfactory to me, and I think to the profession generally, had Dr. Snow Beck given the other cases he says he had seen, without occupying so much space in personal remarks, which hinder much our arriving at the solution of the question, Is the iron treatment in *post partum* hæmorrhage dangerous? and, if so, is it more so than the condition for which it is used? If this treatment be safe, thanks, not abuse, should be given to the promoter. If not, let us scientifically discuss whether the danger can be eliminated. If it cannot, then let us put it aside, with regret that flooding is still a fatal condition, but nevertheless thanking the promoter for the effort to save human life, even though unsuccessful. I can only reiterate that I have freely used it up to the strength of the tincture without an untoward result. I have known cases where it has been used without calamity; and I have made numerous enquiries among medical gentlemen, and have failed to find a fatal case following its use.

With regard to the second subject—namely, what can be done to prevent hæmorrhage in “flooders”—of course the answer is, be always as prepared as one should be in an ordinary case; but I think it would be well to give secale very early in labour, in small doses, such as ten grains every two or three hours for four or six doses; or to rupture the membranes as early as possible in labour, or even before labour sets in.

I may add one more remark; that, although I do not despise the assistance, when single-handed, of spring-pads, etc., yet I consider that nothing equals the hand, which should never leave the uterus from the actual expulsion of the foetus till the uterus has continued firm for an hour after labour, or after cessation of hæmorrhage, or even longer after very dangerous flooding.

THE ANTICIPATION OF *POST PARTUM* HÆMORRHAGE.

By G. T. GREAM, M.D., F.R.C.P., etc.

In alluding to the remarks on the “Anticipation and Treatment of *post partum* Hæmorrhage,” contained in the very interesting communications on the subject which have appeared in the JOURNAL, and which are deserving of great consideration, as showing much practical experience and a full appreciation of the difficulties which have to be overcome, it is not my intention, in any one particular, to differ from the views of others as to the extreme danger attending uterine hæmorrhage; for is there any responsibility so great in any department of the medical profession as attending cases of the kind? and yet how lightly do some people estimate the responsibilities of the practice of midwifery. There are those who say that midwifery can be attended by any one; and the Obstetrical Society itself goes so far as to solicit Government aid in enforcing the education of midwives, and proposes to undertake an examination of such women, and to grant them diplomas.

I know that arguments are used to explain away some of the objectionable parts of these proceedings, but the very contemplation of them is derogatory alike to the profession, to science, and to the Obstetrical Society. Without, therefore, calling in question the views of the writers in the JOURNAL, as to the great importance of the subject, I yet cannot help thinking that the treatment proposed by some of them is a little more extended than is wanted; and, without pointing to any one correspondent in particular, a feeling arises that most of them urge local measures too much, instead of more general remedies, and they run somewhat in the groove too apparent in the writings of recent authors on uterine diseases, who ignore very nearly all medicinal remedies, and resort to local, and, in my idea, inefficient and often hurtful agents. No fewer than three, if not more, uterine “stems” as they are called, were exhibited at the last meeting of the Obstetrical Society by their respective inventors. Are such things ever necessary? and are they not productive of immediate or of deferred disease? Two fatal cases of local interference purporting to remove sterility in healthy women came before me in the same week, and the extent of the injury inflicted on women by locally treating them, can only be known to those who have the opportunity of personally witnessing it.