would order him turpentine. The man recovered. You all know the analogy which exists between cases of puerperal fever and surgical fever; and I have, at various times, shown to you how beneficial the use of turpentine has been in many of the former cases; indeed, in this and in the adjoining counties, there is a rapidly growing belief in its efficacy; and I have been requested by several practitioners, conjointly as well as individually, to make my further experience known to them. This I intend to do shortly; and shall bring before this Society a sufficient number of cases, in addition to those I have already published, to corroborate the opinion I have so often expressed about it. Now, why should we not give it a trial in these cases of surgical fever? The patients die as it is. Why not make the experiment of turpentine? Speaking of fever, the late Dr. Graves (the greatest physician of his day) remarks as follows: "I have seen people's lives saved by a few doses of the oil of turpentine, and have watched its tranquillising effect on the nerves with pleasure and surprise." The mode in which he gave it was: oil of turpentine, 1 drachm; castor oil, 1½ drachm; water, 1 ounce; to be taken every sixth hour. I should very much like to find that our surgeons are disposed to give this valuable medicine a trial when their operated patients are *going*, not only when they have *gone*, into a typhoid state. Should it succeed, well; should it fail, no harm could have arisen from putting it to the test of experience in cases which almost always die without it.

SECONDARY UTERINE HÆMORRHAGE.*

By JOHN BASSETT, ESQ.,

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In a midwifery experience extending over a period of five-and-twenty years, I have met with thirteen cases in which there has been severe hæmorrhage from the womb during the period of childbed, but at a later date than eight-and-forty hours from the time of delivery. These cases have happened in about equal proportions amongst my own patients and those of other gentlemen. In all the instances the hæmorrhage was severe, and in two a fatal result followed from secondary conditions. The time of the coming on of the hæmorrhage varied from the third to the thirty-second day after delivery. Before relating briefly the particulars of these thirteen cases, I may premise that by the term secondary uterine hæmorrhage, is understood a loss of blood occurring after the discharge which accompanies delivery has moderated into the ordinary amount of the lochia.

The cases which have fallen under my observation may, for the convenience of description, be placed in three groups. The first group contains five cases, in which the cause of the hæmorrhage was irregular and inefficient contraction of the womb, with coagula in the interior. In four of these cases, hæmorrhage more or less severe followed the birth of the child; the patients were feeble women, of relaxed fibre and defective uterine power. In the fifth case, nothing particular was noticed at the time of the delivery. In two of them, which were first confinements, some laceration of the perinæum took place; but it was ascertained that the hæmorrhage did not come from this source. Two had been subject to hæmorrhage in their previous confinements. The remedies employed were pressure, ergot, local and constitutional astringents. All the patients recovered except one, which presented signs of local and constitutional inflammation, from which she died in the third week of her illness from the so-called phlebitis.

The second group contains four cases, in which the cause of the hæmorrhage was a portion of retained placenta. In one of these the hæmorrhage, which was profuse at the time of delivery, continued at intervals until the twelfth day, when the interior of the uterus was examined, and a piece of placenta about the size of a walnut was detached from the posterior wall; after this the symptoms subsided, and the patient made a favourable recovery. In the second case, the child was expelled suddenly after two severe pains some twenty minutes before my arrival at the house; no uterine action followed, and none could be produced by friction or stimulants. The placenta was lying in the vagina; the insertion of the cord being readily felt, the absence of the usual after-pains was explained on the ground of debility. The placenta was extracted without unusual force, but without the concurrent action of the uterus. Nothing particular was noticed in this case until the tenth day, when, on rising from her bed, a severe hæmorrhage set in. This quickly subsided on resuming the recumbent position, but returned on the fourth day. An examination was made, and a substance was detected within the anterior lip of the os uteri. This

I tried to detach with my finger; but, as it was hard and would not yield, I consulted Mr. Berry, who agreed with me as to the nature of the case, and also that it must be broken off. This was done by the exercise of some force, after which the patient had no unfavourable symptoms. In the third instance, nothing particular occurred at the time of the confinement; subsequently some unusual weight and bearing down was thought to be present. On the fourteenth day, severe hæmorrhage set in, and continued until the seventeenth, when I saw her; she was then blanched, and her life appeared in imminent danger. The interior of the uterus was examined, and a portion of placenta was detached from the anterior wall, near the bottom of the middle zone: the hæmorrhage ceased at once, but for months she remained pallid and weak. In the fourth instance, the delivery took place on the 11th February, 1869; the labour was premature; the child was stillborn and somewhat decomposed; the placenta was said to have come away naturally. This person had been liable to hæmorrhages at her previous confinements, and had been greatly reduced in health by frequent child-bearing. Nothing unusual happened until the 15th March, or thirty-two days after delivery, when profuse hæmorrhage set in; this was arrested by local treatment, but returned on the fourth day, at which time I saw her; she was then blanched and pulseless. I made a careful examination of the uterus, and, passing my finger through the os and up the cervix, I detached a portion of fleshy substance, which had a placental appearance, and was about the size of a marble. The mucous membrane was rough and elevated for some distance around its attachment. I was informed that no further hæmorrhage took place, but that she died in about a fortnight after my visit, from exhaustion, and that no *post mortem* examination was allowed.

The third group contains four cases, in which the cause of the hæmorrhage was different in each case. In the first instance, that of a widow, who had recently buried her husband under painful circumstances, the labour was tedious from irregular pains. Hæmorrhage and prolonged syncope followed the birth of the child. On the fifth day, febrile symptoms with pain in the uterus came on. On the seventh day, hæmorrhage supervened; and on the eighth, a piece of membrane the size of the palm of the hand, coated with lymph, was expelled. After this the hæmorrhage ceased, and the patient made a slow recovery. In the second case, a large fibrous tumour developed itself during pregnancy: it was associated with placenta prævia. The delivery took place about the eighth month. The labour came on spontaneously a few hours after the occurrence of pain and hæmorrhage, and was (the pains being rapid) unassisted, except by the detachment of the placenta and rupture of the membranes. After the termination of the labour, in consequence of the hæmorrhage continuing, when the uterus appeared to be contracted, the hand was passed into the vagina, and a large non-pedunculated growth was detected, attached to the posterior lip of the uterus. The hæmorrhage was controlled without much trouble, but returned in varying proportions during the month that she was kept in bed, preparatory to the *écraseur* being applied. An operation was undertaken as soon as it was thought desirable after her confinement. The tumour, about the size of a breakfast-cup, was removed by the chain *écraseur*; the part attached to the uterus being the broadest portion of it. The recovery was favourable, and no uterine symptoms have since appeared. In the third case, a partial inversion of the uterus attended labour, and this, from the insufficient efforts of the womb to rectify its position, became complete. To relieve the pain and hæmorrhage which harassed the patient, the *écraseur* was applied, and the dependent portion was removed. The recovery was complete and satisfactory. In the fourth case, the confinement in a woman forty years of age had been perfectly natural, and no untoward symptoms supervened until the twenty-seventh day, when hæmorrhage set in, and continued for four days with severity, notwithstanding plugging and constitutional styptics were resorted to. Nothing was learned from an examination as to the cause of the hæmorrhage; it was therefore ascribed to imperfect involution and enlargement of the uterine vessels from frequent impregnation. The recovery was favourable, and, I believe, that no subsequent unnatural discharge followed.

We are indebted to the celebrated Dublin School of Midwifery for nearly all the literature we possess on the subject of secondary uterine hæmorrhage. It may be briefly summarised as leading to a similar conclusion to that which the history of the cases I have related does—viz., that the causes of secondary uterine hæmorrhage are various; that the time of its setting in is uncertain; that it may consist of one or a succession of attacks; and that it is not, under ordinary circumstances, fatal. The three factors on which it seems to depend are—inefficient contractions of the womb, morbid states of the placenta, and incompetency or rashness on the part of the accoucheur. When we remember the very peculiar way in which the uterus sometimes behaves after it has emptied itself of its contents, in the size and shape it assumes we

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cannot be surprised that some of its vessels are left unplugged or imperfectly constricted by its muscular fibres: then, if we look at the frequency with which we can trace pathological processes in the placenta, we need not wonder that the muscular fibre which has been developed *pari passu* with the placenta should itself be imperfect and irregular, and incompetent to maintain that firm and regular contraction which is nature's safeguard against hæmorrhage. How far morbid states of the placenta contribute to bring about the result now under consideration, is a question not very easy to answer. No doubt in many instances where the placenta is diseased it separates more readily from the side than naturally; but is it ever so adherent that it breaks in separating, so that a portion may be left behind where the accoucheur has not intervened? Further, the history of the cases related favours the conclusion that, when the placenta is situated low down anteriorly, it does not so readily separate, and that the accoucheur has less power over it by external pressure; and that, from feeling the insertion of the cord and the bulk of the placenta, he may be deceived as to its entire detachment, and thus be led to use extractive force prematurely.

THE HOT SAND-BATH.

By DR. CONRADE.

SAND, like most minerals, is a bad conductor of heat—the more so from being composed of small incoherent particles. It possesses a high specific heat—that is to say, a large capacity of retaining heat, without allowing it to escape but slowly. Hence in hot climates the sand is apt to form the hot-bed for certain species of amphibious animals, which, not being able to produce sufficient heat within their own bodies for the development of the embryo, simply deposit their eggs in the sand and leave the sun to perform their parental duty. The use of hot sand for baths forms a part of popular medicine in southern countries in which the mineral is abundant. By embedding the whole body or some of its parts in hot sand, we expose them to the action of the heat stored up in that medium. If not exposed to contact with substances of a low temperature, the quantity of sand required for a bath may be expected to retain its heat nearly unchanged for more than an hour. In the hot sand-bath, the layers used for surrounding the body are generally covered by other sand of much higher degrees of temperature (120 to 130 deg. Fahr. or more). These not only steady the heat round the body, but increase it gradually, without inconvenience to the patient. Over all is laid a blanket, which prevents too rapid cooling by the influence of the outer temperature.

The known effects of high temperatures on the body consist chiefly of the relaxation of all tissues and the enlargement of the blood-vessels, which become more filled with blood without any increase in the pressure. The flow of the blood in the neighbouring structures is therefore directed to the heated parts, relieving the former ones of as much of their contents as the increased space in the enlarged vessels will allow. By-and-by the same relief is imparted to more distant regions, until a balance is obtained. At the same time the parts become more succulent, larger quantities of fluid than usual being secreted from the blood; hence perspirations break out more or less copiously, according to the amount of the heat applied, and to the individual disposition. On the other hand, the blood is forced to make up its loss of fluid which it has sustained on its way through the hot parts, and no sooner does it reach the adjacent regions than it deprives them of as much of their watery contents as it is allowed to do. It is obvious that the extent to which the described change in the distribution of the blood takes place, is entirely dependent upon, and proportionate to, the size of the surface upon which the application of heat has been made and the healthy condition of the blood-vessels. If the whole skin be subjected to the heat, the circulation is drawn to the surface and the inner organs get rid of certainly not a small quantity of blood during the bath, provided the elasticity of the interior blood-vessels be normal. This relief, however, can no longer take place when the heat gets easy access to the inner parts as well. The influence of the heat soon becomes universal, and disturbances in the respiration and in the action of the heart will unavoidably follow. The described effects may be properly divided into—A, those exercised on the heated parts; and B, those produced on the neighbouring parts.

A. The heated parts (1) become more filled with blood, and (2) have an increase in the secretion of liquid matter from the blood; consisting chiefly, but probably not entirely, of water.

B. In the adjacent parts (a), those nearer to the heart, the blood-ves-

sels are relieved; (b) in those remote from it, the fluidity of the blood is diminished.

To a certain extent it depends on the method of treatment adopted which of these results will be obtained in the first place. In case of high degrees of heat being resorted to, much perspiration will follow; while lower temperatures, applied for a longer time upon a large surface, are more apt to spread towards the inner parts, and thus the described effect upon the distribution of the blood and its consequences may be presumed to be the most prominent result. In taking sand as a vehicle for the application of heat, no other complications will arise; the respiration remains undisturbed, the heat not entering the lungs; the circulation, too, goes on as usual, the action of the heart not being interfered with. No congestion of any kind will intervene; no palpitations, no headache, etc., follow. The skin, not being excluded from contact with the air, perspires freely, does not become softened, and does not lose its former resistance to the influence of the weather, and is still protected from draught and cold. The patient, whilst undergoing his treatment, may enjoy in the meantime the comforts of rest and sleep.

The advantages of the use of hot sand consist simply in its allowing the application of heat entirely free from any of the complications which more or less accompany all other methods. Water excludes the air hermetically, prevents perspiration, and overcharges the kidneys during the stay in the bath. It cannot be supported as hot as sand can without feelings of uneasiness, and, besides, it has a weakening and softening influence upon the skin. Steam and hot air baths are not very fit for patients at all; they require already a certain strength to resist the influence which they exercise upon everybody at the beginning. They interfere too much with respiration and circulation to allow their continuance for the purpose of cure. Delicate persons and children are entirely unable to make use of them. They increase the general temperature of the body by two degrees and more, thus causing a sort of artificial fever. None of these inconveniences occur in the hot sand-bath, if applied with sufficient care and experience. Doubtless electric currents are developed, as is generally the case whenever a high temperature acts on solid substances; but, as to the part they take in the action, nothing whatever is known as yet: they may have some influence on the nerves or other organs, but it cannot be asserted that any remarkable result is to be ascribed to them.

From the foregoing, it will appear that the diseases in which the application of heat by the aid of sand can be tried with hope of success are of two classes: in the first class, to bring about a large perspiration is the chief object; in the second class, perspiration is better avoided, and the effect of the heat to be directed towards correcting the circulation and restoring the vital processes. Under the first head are comprised rheumatism and gout (in which Trousseau appears to have employed this treatment long since), exudations, and oedemata from previous disorders, which will probably all derive benefit from heat. Under the second head we will enumerate morbus Brightii (the acute stage of course excepted); cases of recent paresis, which may be improved if the lesion be not the result of some disorganisation on the part of the nerve, be it by removing some injurious swelling pressing upon the nerve, or by improving its vegetative condition. That of course the diagnosis must decide, and the case has to be treated according to it. The same remarks apply to recent cases of partial atrophy, of not too long duration. In cases of scanty catamenia, in irregularities in the flow, dysmenorrhœa, and similar complaints, if not due to coexisting anæmia, experience has shown in many instances that cases of that sort improve much better under the hot sand-bath than after any other treatment. Scrofula and rickets derive great benefit from carefully administered hot sand-baths. Torpid ulcers and badly healing wounds improve wonderfully sometimes after a few applications.

Perhaps in some kinds of chronic exanthemata the hot sand-bath might be of good service, although no experiments have been made on this topic as yet. It speaks very much in favour of the hot sand, that, whenever judiciously given, the patient likes it, and has recourse to it in many cases.

Further information on the subject will be found in the following: Dr. Schwabe, *Deutsche Klinik*, 1869, No. 33 (being a report of a medical man, himself a patient). Dr. Flemming, *ibid.*, 1868, Nos. 12, 14; 1870, Nos. 35-38. Dr. Sturm, *Zeitschrift für Medicin*, by Küchenmeister, 1867, p. 293 et seq.; and 1868, p. 241. Trousseau's *Clinique de l'Hôtel-Dieu*, ed. ii, vol. iii, pp. 380, 381. *Archives Générales de Médecine*, 1856, p. 307. Schmidt's *Jahrbücher der Medicin*, vol. 133, p. 62. Dr. Flemming of Dresden enters into a minute comparison of the different methods of utilising heat as a therapeutic agent.

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