EMERGENCIES IN GENERAL PRACTICE**"FLOODINGS"**

BY

S. BENDER, M.D., F.R.C.S.Ed., M.R.C.O.G.*Obstetrician and Gynaecologist, Chester*

Contrary to some popular lay opinion, a "flooding" is not to be disregarded at any age, no matter whether the excessive vaginal bleeding is regular (*menorrhagia*) or irregular and acyclical (*metrorrhagia, metrostaxis*). The cause, more often local than general, must be sought, and, even though it will not always be found, the search for it will largely exclude serious disease. In addition, the effects of the loss of blood must be countered.

From the viewpoint of the general practitioner it is convenient to approach the symptom according to the age of the patient, and five age groups are discussed separately—the child, the teenager, the younger adult, the older adult, and the post-menopausal woman.

General Principles

Certain general principles, however, apply at all ages. The patient should be put to bed, reassured, and given a sedative. Subsequent treatment will depend on what underlying cause is found or presumed to be responsible, after history-taking and examination. Resultant anaemia requires treatment according to its degree, the method varying from blood transfusion in extreme cases through parenteral to oral iron therapy. Floodings may be due to a general disorder, such as a blood disease (notably thrombocytopenic purpura), but the cause is more often local, with a complication of pregnancy, particularly abortion, the commonest between the late teens and the early forties. The presence of hypertension should not be regarded as an adequate cause for excessive vaginal bleeding, and the view that, especially in older women with high blood pressure, such haemorrhage acts as a "safety-valve" is best discarded.

On the other hand, there is no doubt that floodings may, even after the menopause, be psychogenic in origin; for instance, to avoid unwanted coitus or as a protest against coitus interruptus, to elicit sympathy, or at times of emotional stress such as bereavement. The variously named syndromes of pelvic congestion are often wholly or largely psychosomatic disorders. At the same time the practitioner must be on his guard against the woman who claims to have prolonged and heavy floodings, but who, whenever examined, has always "just stopped"; her colour will be good despite her alleged losses. The cause for her pretence may be obscure, but she may be hoping that if her tale is convincingly told someone will curette away her unwanted early pregnancy.

Children

A heavy vaginal bleeding is uncommon in children. The child should be examined for evidence of the development of the secondary sex characters, such as enlargement of the breasts and growth of body hair. If these are present the condition is probably one of constitutional precocious puberty, and the bleeding should be treated as in the teenager similarly afflicted. If there is no response to such therapy, admission to hospital is advisable so that an oestrogen-producing tumour of the ovary (granulosa-cell tumour or thecoma) can be excluded. If the secondary sex characters are still absent the child must be referred for examination under anaesthesia, in particular to rule out the rare "grape-like" sarcoma botryoides. Lastly, flooding in a child may be due to severe trauma, such as by falling astride a spiked object or after forceful attempts at coitus.

Teenagers

At any time after the menarche and before the menopause abortion must be excluded as the cause of a flooding. This applies even to the adolescent, to whom the necessary relevant questions should be addressed with due tact. Otherwise a full history is taken. This is followed by systematic general examination in the presence of another female, with special note being taken of body-build, degree of development of secondary sex characters, signs of pregnancy, and stigmata of endocrine disorder. Abdominal and rectal examination are then undertaken; vaginal palpation is omitted in the virgin but is otherwise permissible. If there is any suspicion of a blood dyscrasia a full haematological examination, including a platelet count, is advisable.

From the history and findings these young patients are found to fall into three groups.

First, there are those with *complications of pregnancy*, with floodings usually indicative of an inevitable or incomplete abortion, or rarely a hydatidiform mole. The vaginal bleeding in ectopic pregnancy is typically mild in degree and dark in colour, but occasionally it is bright and heavy. In all these conditions there is usually, but not invariably, a history of preceding amenorrhoea; the patient may admit to symptoms and exhibit signs of pregnancy; and the bleeding is accompanied by pain. In uterine abortion the pain is like that of a miniature labour, but in tubal pregnancy it is colicky and unilateral. In abortion the uterus may be palpably enlarged and the cervix patulous. In ectopic gestation the tender enlarged appendage may be felt bimanually, and there may be tenderness in the posterior fornix from a doughy collection of blood in the pouch of Douglas (*pelvic haematocele*).

A case of suspected ectopic pregnancy requires immediate transfer to hospital, but many abortions are treated successfully at home. An intravenous injection of 0.5 mg. of ergometrine is given—unless the abortion is regarded despite the flooding to be still only threatening—to encourage the uterus to empty its contents. The same dose may be repeated if necessary once or twice by the intramuscular route four-hourly. The patient is warned to save for inspection any tissue passed; the small grapes or currants of a hydatidiform mole may thus be detected. If she appears unduly shocked it is likely that some of the products of conception are distending the cervical canal, and removal of these digitally or with a simple instrument will bring about a dramatic improvement in her condition. If bleeding continues despite ergometrine, the patient is best transferred to hospital, but in the extreme case it is wiser to summon the obstetric flying squad to attend her at home first. Finally, a rare but important cause of severe bleeding in pregnancy is the introduction of potassium permanganate tablets or crystals into the vagina in an attempt to procure abortion.

If flooding occurs after the 28th week of pregnancy (*ante partum haemorrhage*), morphine, $\frac{1}{4}$ gr. (16 mg.), is given, vaginal and rectal examinations are not made, and the patient is sent into hospital. In cases of severe post-partum bleeding or puerperal haemorrhage, ergometrine, 0.5 mg., is given intravenously, and either the flying squad is summoned or the patient is transferred to hospital.

The second cause of flooding in the teenager, and more common than abortion in the years immediately following the menarche, is *juvenile metropathia*. This condition is similar to that seen in the immediately pre-menopausal years

in that there are two types of bleeding, one from an over-oestrogenized endometrium (*metropathia haemorrhagica*) and the other from an inadequately oestrogenized endometrium (*threshold bleeding*). In neither of these types of functional bleeding has ovulation taken place and therefore no secretory effect is seen in the endometrium. In the former variety there is commonly an antecedent period of amenorrhoea of some weeks' duration, but this is less often a feature of threshold bleeding. Both can usually be differentiated from abortion because there is no pain, except when a large clot is being passed, and there are no signs or symptoms of pregnancy, other than a period of amenorrhoea in some cases.

In adolescent girls with flooding, presumed to be due to one of these functional (or dysfunctional) uterine haemorrhages, treatment is primarily with ovarian hormones. Curettage is reserved for cases which fail to respond to hormones or which recur. Initially, therefore, it will not be known whether the endometrium is under- or over-stimulated by oestrogen; but in both the episode of flooding can be controlled by oestrogens, whereas threshold bleeding may not respond to progesterone alone. Many different schemes of treatment have been propounded; but the simplest plan for the family doctor is to give stilboestrol, 5 mg. eight-hourly, until the bleeding stops; some claim more rapid haemostasis with a single dose of 25 mg. When the bleeding stops, usually within 36 hours, the oestrogen must not be discontinued or a withdrawal bleeding will occur a few days later. Therefore stilboestrol, 3 mg. daily, is continued for 21 days. A few days after the end of this course an oestrogen withdrawal bleeding will begin, and on the third or fourth day of this "period" a second course of stilboestrol, now 2 mg. daily, is given for 21 days. On the third or fourth day of the subsequent "period" a third course of stilboestrol, this time 1 mg. daily, is prescribed. Thereafter, the hormone is discontinued in the hope of the spontaneous resumption of normal menstruation, for there is a tendency to self-cure in all types of functional bleeding. If stilboestrol causes vomiting, ethinyloestradiol (0.05 mg. = 2 mg. of stilboestrol) may be substituted.

Some recommend that during the last 10 days of each of these three oestrogen-controlled cycles oral ethisterone, 45 mg. daily, should also be given, so as more closely to ape the normal ovulatory cycle. Others advocate the additional administration of thyroid, 1 gr. (65 mg.) daily, throughout the whole course of treatment. Androgens are probably best avoided in adolescents, and the anterior pituitary preparations give very uncertain results.

If the simple scheme outlined above fails, the patient is best referred to a gynaecologist. Curettage is then indicated. This permits a thorough bimanual examination under anaesthesia; for reasons which are not clear it will cure a proportion of cases; it allows study of the endometrial histology which may serve as a basis for rational therapy; and, lastly, curettage sometimes proves that the condition is not functional as presumed but organic—for instance, endometrial tuberculosis may be detected or a placental polyp recovered.

The third group of cases in the teenager comprises those in which some *organic cause* for the flooding is found or seems likely in the genital tract. Under this heading come pelvic infections, including tuberculosis, and, infrequently at this age, fibroids, endometriosis, or acute complications of ovarian neoplasms such as torsion of the pedicle or haemorrhage. All these are best referred at once to the gynaecologist.

Younger Adults

Between the ages of 20 and 37 functional disorders recede in importance and flooding is most often due to complications of pregnancy, especially abortion. Next in frequency come pelvic infections, fibroids, and endometriosis. Ovarian tumours do not cause flooding unless of the rare oestrogen-producing type (granulosa-cell tumour or thecoma); but, as noted above, a sharp vaginal loss may occur at the time of

haemorrhage into such a neoplasm or of torsion of its pedicle. In all these conditions the history, clinical picture, and pelvic findings will indicate the underlying lesion, which should be referred for specialist treatment.

The types of anovular functional haemorrhage already described may occur, although less frequently, at this time in life, but two other varieties merit attention here as being more common in this age group. In both the bleeding is from a progestational endometrium—that is, they are ovular types of functional haemorrhage. The first is marked by the occurrence of frequent and heavy but regular periods (*epimenorrhagia*), usually dating from the resumption of menstruation after a pregnancy, successful or otherwise. The menstrual pattern changes, for instance, from 4/28 to 7/22, and the loss is heavier than usual. The cause of this condition is said to be continuing overactivity of the anterior pituitary. Pelvic infection and endometriosis may produce the same menstrual disturbance, but they are excluded by the absence of dysmenorrhoea and by the normal and painless mobility of the uterus and appendages. In treatment, the ovarian hormones are not employed but thyroid, 1–2 gr. (65–130 mg.) daily, is often given. The patient is assured that her menstruation will return to normal within a few months, for spontaneous cure is the rule. In the meantime an iron preparation is prescribed and calcium lactate, 15 gr. (1 g.) three times a day, may be given. If despite this conservative regime the epimenorrhagia persists beyond three to four months, the patient should be referred to a specialist.

The second type of functional bleeding which may present at this age produces primarily a simple prolongation of the period without any increased frequency of menstruation (*simple menorrhagia*); but sometimes the bleeding is also profuse. The underlying pathology is an irregular or asynchronous shedding of the endometrium, thought to be due to prolongation of progesterone effect. Simple menorrhagia may also be due to fibroids or, as noted above, to a psychological cause. If these can be excluded by questioning and examination, the doctor may presume a functional disorder and treat the patient himself for a few months. Stilboestrol, 1–2 mg. daily, is begun during the bleeding episode, and is continued for 21 days in all. On the third day of the subsequent period a second similar course is prescribed and repeated for a third time. Normal menstruation may then be spontaneously resumed; if not, specialist advice should be sought. Curettage clears up about half of the persistent cases. If it does not, a hystrogram is indicated to exclude a submucous fibroid or polyp before recourse is had to more radical measures.

Older Adults

Between 37 and the menopause abortion is less often the cause of flooding, except in the very fertile, and other organic pelvic diseases such as fibroids or endometriosis are more likely to be responsible now than in the younger woman. But, in addition, the anovulatory types of functional bleeding—*metropathia haemorrhagica* and threshold bleeding—are most often encountered in this age group. Moreover, at this and later ages two further causes of floodings must be borne in mind, although they may occur at any age. The first of these is oestrogen medication, which is discussed below, and the other is malignant disease.

In genital cancer a blood-stained discharge or mild bleeding is the usual symptom, and flooding is generally a feature of a more advanced lesion. Nevertheless, the greater possibility of cancer after the age of, say, 35, necessitates a different course of action in the older woman than in the younger. The latter may be treated initially on a presumptive diagnosis of functional bleeding, with curettage reserved for persistent and recurrent cases. But in the older woman, full examination under anaesthesia with cervical biopsy or curettage or both must be undertaken before any definitive treatment is essayed. This means in effect that all cases of flooding in this age group are to be referred to the gynaecologist at the outset, in particular to exclude malignancy. This holds good even if the practitioner finds a possible

cause for the flooding; the bleeding thought to be due to a palpable fibroid may originate from a coexisting carcinoma. The gynaecologist for his part is loath to employ radical measures in the young, but he has no hesitation in advising hysterectomy or, less often, a radiotherapeutic menopause in an older woman with persistent floodings which continue after curettage and despite other treatment. At laparotomy an organic lesion is often found to account for a condition hitherto regarded as functional in origin.

The scope of active treatment by the general practitioner in this group is therefore limited. Apart from abortion, and with the exception of prescribing a haemostatic dose of oestrogen if the flooding is regarded as functional, he is restricted to general measures and to arranging for the patient to receive specialist attention. In particular, he is wise to reserve hormonal treatment at this age for cases of functional uterine haemorrhage *which have been confirmed as such by study of the curettings*. He may then employ the same scheme of stilboestrol therapy as detailed above for juvenile metropathia. Alternatively, androgens may be prescribed, but their use demands close observation of the patient, especially for signs of virilization.

After the Menopause

Every case of flooding after the menopause, excluding injuries, usually due to overenthusiastic attempts at coitus, could rightly be regarded as deserving immediate referral to the gynaecologist. The object is to rule out genital cancer, which is the most important, but not the most frequent, cause of such bleeding. To-day, flooding at this age is probably most often due to the injudicious administration of oestrogens. These may have been prescribed for menopausal symptoms or for such general conditions as arthritis or osteoporosis. Even the use of creams or ointments containing small amounts of oestrogen—for instance, in the treatment of pruritus—may cause vaginal bleeding after the menopause in women unduly sensitive to the hormone. Of course, the misuse of oestrogens at any age may be followed by floodings. If the doctor suspects that excessive bleeding is due to oestrogen medication, he is justified in doing nothing other than discontinuing the hormone and observing the patient. But if the bleeding persists for more than a week thereafter, or if it recurs, the patient must be referred at once to a gynaecologist for investigation.

Finally, the family doctor may be confronted by a flooding from an advanced cancer, most commonly from a cancer of the cervix and most rarely from a chorion epithelioma. Such a severe haemorrhage is often the terminal event in these cases. This is one of the rare occasions in which, in addition to giving morphine, the doctor may elect to pack the vagina. The patient may be transferred to hospital, but is often beyond even palliative treatment there.

Conclusion

It is appropriate to conclude by noting that, whereas in recent years much educational effort has been directed at girls and women regarding the phenomena of puberty, the physiology of pregnancy and labour, the investigation of sterility, and the control of high fertility, there is still a remarkable lack of knowledge among women regarding what is normal and what abnormal at the climacteric. In particular, floodings are commonly regarded as a normal feature of "the change." The family doctor can play a most useful part in removing such misapprehensions.

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CHARLES HASTINGS LECTURE

SIR HENRY COHEN ON "THE CONQUEST OF DISEASE"

For the first time since its inception in 1927 the British Medical Association's Sir Charles Hastings lecture was held outside London. On April 24 Sir HENRY COHEN lectured before a large audience in the Town Hall, Leeds, on "The Conquest of Disease." Below is a shortened account of what he said.

This lecture, designed for a lay audience, gave recognition, said Sir Henry, to the compelling present-day fact that medical science had assumed a position in our social polity which demanded that all educated men and women should learn something of its scope and responsibilities, its trends and accomplishments. It had not always been thus. Until less than a hundred years ago medicine was essentially an art or craft whose secrets were closely guarded by its practitioners. But the nineteenth century had seen the emergence of three factors which influenced the evolution of modern medicine as deeply as they affected the development of pure science. These were, first, the great industrial and social emancipations of the period and the universal provision of educational facilities which intensified man's desire for intellectual and moral as well as physical liberty. Secondly, the publication in the middle of last century of such works as Darwin's *Origin of Species*, which revealed the inter-relationships of the whole animal kingdom and removed man from his isolationist pedestal. And thirdly, as an inevitable consequence, the physician had investigated the body objectively as a machine, by the methods of physics, chemistry, and biology, and he had done so independent of theological dogmas or metaphysical speculation.

Here Sir Henry Cohen illustrated by reference to the changes in mortality rates and the therapeutic advances during the last few decades how greatly this new approach had contributed to human welfare. These triumphs, he continued, were an expression of the scientific approach to medicine which was comparatively recent. The early history of medicine had been bound up with magic and superstition, and in the minds of many of the public, and perhaps some doctors, the practice of medicine had still a magical flavour.

Evolution of Rational Therapy

The first glimmerings of scientific medicine dated back over 2,000 years, when the physicians of the Hippocratic era observed the manifestations of disease and observed them accurately. Hippocrates described his cases with such clinical acumen and insight that it was possible to venture diagnoses of them in retrospect. Here, then, in the fourth century B.C. rational medicine emerged; facts about the structure of the human body and about disease were being collected and recorded without bias and independent of any theory of disease.

Nearly 1,000 years later a second stage was reached. It began to be recognized that certain symptoms and signs of disease recurred in a constant pattern and sequence in different victims of disease. In this way the Persian physician Rhazes described and differentiated smallpox and measles as separate "diseases." It was this uniformity of pattern which had led Sydenham, the English Hippocrates, in the late seventeenth century to disregard all the knowledge of anatomy and physiology accumulated during the sixteenth and seventeenth centuries and to think of each disease as belonging to a certain definite species which could be described and classified as a botanist did his plants. The nineteenth century, however, saw the birth of a different concept of disease. An attempt was made to express the phenomena of disease, its symptoms and signs, in terms of anatomy and physiology, to relate disease to disordered mechanisms in the body, to correlate the clinical picture with the findings after death. At first this was necessarily limited in scope by the available techniques, but to-day we could examine many of the activities of the human body