HAEMORRHAGE IN ASSOCIATION WITH PREGNANCY, LABOUR, AND THE PUERPERIUM.*

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I HAVE divided the subject of obstetric haemorrhage into four categories:

1. Haemorrhage in early pregnancy.
2. Haemorrhage in late pregnancy and early in labour.
3. Haemorrhage during the third stage of labour.
4. Haemorrhage post partum.

I do not intend attempting to bring forward anything new in this well worn subject, but to give a general revision, necessarily brief, of the whole subject.

I. HAEMORRHAGE IN EARLY PREGNANCY.

By haemorrhage early in pregnancy I mean up to the twenty-eighth week, the usually accepted period of viability. Such haemorrhage may be due to menstruation during the first two months. After the ovum has settled *in utero* the mucosa of the uterus takes on decidual characteristics, and the decidua consists of three parts—the decidua vera, reflexa, and serotina. The decidua vera and reflexa do not meet and fuse till the third month, so that till that date there is a potential menstruating cavity. This occurrence is rare, and less likely to cause the patient to seek advice than to lead to a miscalculation of the time of onset of labour. Bleeding may be due to the presence of tumours of the cervix, chiefly polypi or carcinoma. It may be due to ectopic pregnancy. In such a case the usual history is that the patient has gone two weeks or so over her time and then started bleeding. Pain on the affected side is a constant symptom, and a decidual cast of the uterus may be shed. The discharge is characteristically dark and thick. Vaginally an enlarged tube will be felt to the right or left of the uterus.

A tubal pregnancy may die and haemorrhage take place into it and produce a mole, without any serious symptoms save that the uterine haemorrhage continues. The pregnancy may be aborted from the fimbrial extremity, and remain in the peritoneum, often attached to the end of the tube, and causing the same results as in the last case. The tube may rupture into the layers of the broad ligament, causing haematoma with severe symptoms temporarily, or into the peritoneum, with sudden agonizing pain on the affected side, often fainting, increasing pallor and pulse rate, and falling temperature. This with a history of a missed period presents a picture difficult to mistake for any other abdominal condition. Per vaginam, a pelvic haematocoele, soft and boggy, will be felt in the pouch of Douglas.

The haemorrhage may be due to abortion, and commonly is. We speak of abortion as threatened and inevitable, and the distinction is often difficult to make. I regard abortion as inevitable when there is dilatation of the cervix together with pain and haemorrhage. If haemorrhage be the only sign, I have often known the pregnancy to proceed. For the *threatened* type absolute rest in bed till all haemorrhage has ceased for at least a week, with small doses of potassium bromide and no violent aperients, constitutes the treatment. In the *inevitable*, as soon as it is considered that the patient's general condition is suffering from the haemorrhage, and there is no sign of natural abortion taking place, it is best to evacuate the uterus. Up to the third month dilate to the size of the index finger, then remove the ovum with sponge forceps, and make quite sure with the finger in the uterus that evacuation is complete. Afterwards douche with a blunt curette, and pack in a little gauze till morning. I never feel satisfied

about a case unless I have actually had my finger in the uterus. By this means subsequent bleeding and possible sepsis from retained products of conception can often be avoided. After the third month the immediate evacuation of the uterus becomes a very dangerous operation, and the safest plan is to use Taylor's bag, a small elastic rubber bag capable of distension up to six compressions of a Higginson's syringe. This bag, with the air expelled and folded up, may be introduced through the undilated os with sinus forceps. It is usually expelled in twenty-four to forty-eight hours and followed by the complete ovum. If not, there is now sufficient dilatation to render evacuation safe and easy. It is more certain and accompanied by less risk of subsequent sepsis than is packing.

In cases where some critical state of the patient may demand immediate evacuation, extreme caution in dilatation is necessary, and if the cervix shows the slightest tendency to split it may become necessary to perform hysterotomy. At all events I consider such an instrument as a Bossi's dilator is always dangerous, and should never be used.

A pregnancy becoming molar may lie in the uterus for months without sepsis and often with slight bleeding only. This is the carneous type of mole. In hydatid mole the diagnosis is often difficult: bleeding from a uterus which is of much larger size than the period of amenorrhoea would indicate, some toxæmia, and the passage of hydatid material, are the signs. The importance of extremely thorough evacuation must be emphasized, on account of the risks of deciduoma malignum following.

II. HAEMORRHAGE IN LATE PREGNANCY AND EARLY IN LABOUR.

This group includes two very serious complications—namely, haemorrhage from a normally situated placenta in the upper uterine segment or accidental haemorrhage of two types, concealed and apparent; and haemorrhage from an abnormally situated placenta or placenta praevia in the lower uterine segment, when the haemorrhage is called unavoidable.

ACCIDENTAL HAEMORRHAGE.

I first take accidental haemorrhage, which complication of late pregnancy and early labour is characterized by the very great difference in the severity of the symptoms exhibited by different cases. For the most part the symptoms are only slight and cease with suitable measures, but in a smaller number the symptoms are so severe that these cases become the gravest class the obstetrician is called upon to deal with. Fortunately these severe cases are rare, and seldom met with in general practice, but in the practice of a large maternity hospital, drawing abnormal cases from a very wide area, a considerable number are encountered, and it may be of interest and value to analyse a large number of consecutive cases, with the various methods of treatment adopted. There is nothing new or original to be described in the methods of dealing with such cases, and I merely give certain statistics, and the conclusions which may legitimately be drawn from them. For this purpose I have investigated all the cases of accidental haemorrhage admitted to the St. Mary's Hospitals, Manchester, during the ten years 1906 to 1915 inclusive—253 cases altogether.

Diagnosis.

The most important differential diagnosis is from placenta praevia, for, as I shall presently show, the safest line of treatment in placenta praevia proves one of the worst in cases of accidental haemorrhage. The central and marginal types of placenta praevia present no difficulty in diagnosis, but the partial type, where just one edge of the placenta reaches the lower uterine segment, and is almost out of reach of the examining finger, presents a difficulty, and will be apt to be diagnosed as accidental haemorrhage. In such cases the haemorrhage will be slight, as the amount of placenta separated is so small, and it seems to me very likely that most of the slight cases of accidental haemorrhage are really of the above type, especially when the bleeding ceases untreated. It must be remembered that

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there may be haemorrhage from the portion of a placenta in the lower uterine segment concurrently with that from a portion separated in the upper uterine segment, which may well account for some cases of placenta praevia not responding to orthodox treatment.

Apart from haemorrhage and inability to feel the placenta, a most important feature in accidental haemorrhage is the presence of albumin in the urine; probably in from 40 to 50 per cent. of all cases. In the series under consideration the presence of albumin is recorded only in 51 cases—one-fifth of the whole—but I feel sure that this is due to the fact that the urine analysis was not noted. This brings up the point as to whether there is a predisposition to accidental haemorrhage in cases of toxic albuminuria or not. I incline to the belief that accidental haemorrhage is due to a diseased condition of the uterine wall, for failure to contract and retract after delivery is a notable feature of the condition. On the other hand, the actual bleeding into the uterine wall, and through it into the peritoneum and the broad ligaments, is suggestive of the haemorrhages found in cases of chronic Bright's disease.

In cases of placenta praevia the uterus almost invariably recovers after orthodox treatment, the uterus is healthy, and albuminuria is not a feature. A case of concealed accidental haemorrhage might simulate rupture of the uterus, but the history of absence of severe labour pains, failure to feel foetal parts, and the characteristic hard wooden feeling with extreme tenderness of the uterus, and possibly a greater enlargement thereof than is consistent with the period of amenorrhoea, render a mistake unlikely.

Symptoms.

There are, of course, two types of accidental haemorrhage: one when the bleeding is visible, the external or revealed; the other when the bleeding is internal or concealed. It is not unusual to have both types coexistent.

In cases of revealed accidental haemorrhage bleeding in the later months of pregnancy or early in labour is found, and no placenta is to be felt in the lower uterine segment. In severe losses the characteristic signs of haemorrhage will be present. The coexistence of concealed haemorrhage is found out after delivery by the expression of large dark clots before or with the birth of the placenta.

In concealed cases, with or without any external bleeding, the symptoms are those of internal haemorrhage with rising pulse, falling temperature, and anaemia. The uterus, from the presence of retained blood, may be larger than it should be for the period of amenorrhoea, and is particularly hard and tender.

Prognosis.

In severe cases the outlook is bad, as the risk of post-partum haemorrhage is always great. Slight cases do well, often without any treatment at all except rest in bed. The concealed type is extremely fatal, and is one of the most serious obstetric complications met with. Blacker¹ gives the mortality in accidental haemorrhage at the Guy's Hospital Lying-in Charity as 11.4 per cent. in the mother; the foetal mortality is much higher. In my series of 253 cases there were 22 maternal deaths—a mortality of 8.6 per cent. It is a curious fact that 18 of these 22 patients died in the last three years of the series—1913, 1914, and 1915—when there was a great increase in the number of cases admitted suffering from this condition, and the cases were particularly severe and the concealed type was relatively common (Fletcher Shaw²). Of these 22 cases, 14 were of the concealed type, 4 were apparent, and 4 were of the combined apparent and concealed.

I will next consider the results of the present investigation.

Age.—The average age of the patients was 33 years.

Parity.—Twenty were primiparae, 233 were multiparae—that is, a very large proportion of multiparae, which is usual.

Maturity.—Of the 253 cases, 155 were 8 months and over, and 98 cases under 8 months. Of the 155 cases, 76 were at term; of the 98, 74 were at 7 and 7½ months.

Type.—There were 203 cases of apparent haemorrhage, and 50 cases of concealed and concealed and apparent together.

Albuminuria was recorded in 51 cases only.

Mortality.—Among the 253 cases there were 22 maternal deaths (8.6 per cent.), and 196 foetal (176 stillborn, 20 died), a percentage of 77.

Treatment.

In 19 of 109 slight cases the bleeding was arrested without obstetric treatment, and the patients were sent home undelivered and well to proceed to term if possible. The remaining 90 slight cases also received no obstetrical intervention and were treated by rest in bed, the bleeding ceasing and delivery taking place naturally. They all recovered. Of the children, 45 were living and 45 stillborn. The remaining cases were treated by the methods shown in the table, which also gives the results to mother and child.

Results of Different Methods of Treatment.

Treatment.	No. of Cases.	Mothers.		Children.		
		Living.	Died.	Living.	Undelivered.	Still-born.
Nil	109	109	0	45	19	45
Ruptured membranes	66	62	4	15	0	51
Plugging	23	22	1	3	0	20
Forceps	8	5	3	0	0	8
Version	20	13	7	4	0	16
Caesarean section and hysterectomy	16	10	6	1	0	15
De Ribes's bag	9	8	1	3	0	6
Vaginal hysterotomy	2	2	0	0	0	2

From the table we find that the method of treatment most commonly adopted was that of rupturing the membranes, applying a tight binder, and administering ergot or pituitrin. The number so treated was 66, and of these 4 died. With regard to these latter, the notes state that one was a bad cardiac case, one died almost immediately on admission, and the other two died of post-partum haemorrhage.

The method next in frequency was plugging the vagina with rupture of the membranes in 23 cases, one of which died. This patient had the packing in for some days before admission, and gangrene had set in. *Post mortem* the *B. aerogenes capsulatus* was found to have invaded most of the abdominal organs. Version was performed in 20 cases, with 7 deaths. Four of these cases are stated to have been moribund on admission. One was a case of eclampsia and died from this cause. The other two died of post-partum haemorrhage.

Caesarean section with hysterectomy was performed in 16 cases of severe concealed haemorrhage, and of these 6 died. All were in *extremis* on admission, and it may be considered lucky that 10 recovered.

Champetier de Ribes's bag was used in 9 cases, with one death.

Forceps application after manual dilatation of the cervix was resorted to in 8 cases, with 3 deaths.

Vaginal hysterotomy with delivery by forceps or version was performed in 2 cases successfully.

Summary of Results.

Rupture of the membranes, etc., a mortality of 6 per cent.	
Plugging the vagina	4.3 "
Version	35.0 "
Caesarean with hysterectomy	37.5 "
Champetier de Ribes's bag	11.0 "
Forceps	37.5 "
Vaginal hysterotomy	0.0 "

It is to be remembered that in all those cases where obstetric treatment was adopted the condition of the patients was critical. Of those who died 20 were multiparae, 2 primiparae; 5 were at term, 17 were premature; 14 were severe concealed haemorrhage cases, 4 were apparent, and 4 were of the combined type.

Conclusions.

It seems fair to draw the following conclusions:

1. Plugging, I know, is often regarded as the best treatment, especially for general practice. The drawbacks to it are that it may predispose to sepsis, but this largely depends on the material to hand and the assistance

available. At the Rotunda Hospital, Dublin (Hastings Tweedy³), it is the routine treatment for every case of accidental haemorrhage. As carried out in that hospital it is claimed that the pulsation in the uterine arteries is stopped by the method. The collateral circulation is, however, so free that plugging the vagina appears to me to be insufficient to effect this. The method has perhaps hardly been given a fair trial in Manchester. In the carefully packed cases that I have observed the plug has gradually become saturated and slippery with blood, and has eventually slid out of the vagina, the bleeding still continuing. In cases of partially concealed bleeding I cannot conceive that it is sufficient, and it is apt to give a sense of false security. I feel inclined to regard it as a good temporary measure to be adopted in cases of moderate severity, and only after the next method has been given a good trial.

2. Rupture of the membranes, application of a tight binder, and the administration of ergot or pituitrin has been and still is the method chiefly adopted in Manchester at St. Mary's Hospitals. Four out of the 66 cases so treated died; they were in an almost hopeless condition on admission. This treatment is all that is necessary in most cases; it is simple to carry out, and is very largely free from the risk of subsequent sepsis. It is the method that appeals to me most of all for the average case where the patient is constantly under the practitioner's eye. Should he find that uterine contractions are not provoked, and that although external bleeding has ceased the patient does not improve, it is reasonably certain that the case is one of concealed bleeding also, and in many cases like this operation holds out the only hope, and then only if not too long delayed.

3. This brings us to Caesarean section, usually combined with supravaginal hysterectomy. I have had the opportunity of seeing most of the cases so dealt with in this series, and in all of them the uterus was sodden with blood, the broad ligaments were filled with blood, and there was free blood in the peritoneum. The uterus in all cases made no effort to contract after the Caesarean section, and so was removed. Fortunately these severe cases are very rare. In the present 253 cases there were only 14 concealed and 4 concealed and revealed combined; 16 were treated by Caesarean section and hysterectomy, and 6 died. Remembering the cases, I feel that it was a great matter for congratulation that 10 were saved. I am convinced that this method is the only one that holds out any hope for a case with rapidly rising pulse and falling temperature, a particularly hard uterus, possibly distended to a size greater than would be expected for the corresponding period of amenorrhoea, and very slight or no external bleeding to account for the patient's condition. Such cases are best in hospital, and even then the outlook is bad.

4. Version, such admirable treatment in cases of placenta praevia, is to be condemned in accidental haemorrhage. One-third of the cases so treated died, and those who did not were probably cases of partial placenta praevia.

5. Forceps application, like version, has really no place as a method of treatment for accidental haemorrhage.

6. De Ribes's bag was used in only 8 cases. It often fails to excite any contractions, and so necessitates some further treatment after it has been removed. Further, it is difficult to insert and it is seldom at hand when required.

In brief, the average case of accidental haemorrhage is met by rupture of the membranes, a tight binder, and ergot. In slighter cases merely rest in bed suffices. Plugging the vagina may be combined with the above, but greatly increases the risk of sepsis, and may, if the doctor is obliged to leave the case for a time, disguise to the nurse the symptoms of concealed bleeding.

No rapid method of evacuation of the uterus is in these cases to be considered for a moment, unless it is feasible to go on to the performance of hysterectomy. For this reason both forceps and version are contraindicated in the treatment.

The absolutely and many of the partially concealed types of accidental haemorrhage are only to be treated by hyster-

ectomy, and are best in hospital, unless the home conditions are ideal.

PLACENTA PRAEVIA.

I will now consider in a much more cursory manner some aspects of cases of placenta praevia which occurred in the same period of 1906 to 1915.

The number of cases admitted was 405, and of these 36 died, a mortality of 8 per cent.

Of the children, 251 were stillborn—that is, 61 per cent.; further, of these 405 cases, only 102 were at term, and 301 were premature. Thus three-quarters of the children were premature on delivery.

There were only 42 primiparae in the series of 405 cases, showing the comparative rarity of the condition in first pregnancies.

Thirty-six patients died. Of these, 14 are recorded as having been moribund on admission, and only surviving for a very short time. It is, of course, to be expected that many such desperate cases are admitted, often after a long journey by ambulance. They are literally bled white and cannot be expected to rally. Ten cases died after version combined with extraction of the foetus. This line of treatment, which has as its aim the production of a living child, was tried for a brief period and has now been quite abandoned. The child being so often premature, there is little to be said for a method of treatment which places the mother's life in jeopardy also. Four cases died after dilatation and forceps extraction, which is only to be compared with version and extraction and has little to recommend it. One case died after version without extraction of the child, and may in all probability have been a case of accidental haemorrhage.

The remaining seven cases died from extraneous causes as follows: Two from eclampsia, one from each of the following complications—eclampsia, pneumonia, puerperal sepsis, a fibroid complicating labour, uterus ruptured after version; and one died under chloroform.

The Methods of Treatment.

Eighty-one cases delivered themselves naturally. Version was performed in 220 cases, leaving the uterus to expel the foetus itself. Eighteen cases are recorded as having version performed with extraction of the child. This figure is probably too low, and should include some of the cases simply recorded as version. De Ribes's bag was used in 26 cases. It has the disadvantages referred to under accidental haemorrhage. In 12 cases the vagina was plugged—a risky method from the point of view of subsequent sepsis, and not an efficient one. Seventeen cases were delivered with forceps, which method has all the disadvantages of version with extraction. Six were cases of breech presentation and a foot was pulled down. In 11 cases the membranes were ruptured. In 2 cases Caesarean section was performed.

Conclusions.

The broad results of these figures, I consider, bring out the following points, which are now, of course, well established.

1. That when we have a living foetus at term, and in a case of central placenta praevia, especially in a primipara, Caesarean section is the operation of election. Version in a primipara at term, with the difficulty in dilatation of the soft parts of the parturient canal, is bound to be a troublesome proceeding, and the child is sure to be sacrificed. Caesarean section is undertaken with so little risk that a happy result for both the mother and child can be practically promised.

2. In all premature cases the foetus is not to be considered. A foot must be pulled down and a weight attached to it. This invariably arrests the haemorrhage, and gives the patient time to recoup her loss of blood and to have salines and restoratives administered to her. The uterus in the meantime will recover, expel the child and the placenta, and this without further loss of blood. If the child is born alive, it is all to the good.

3. There are a few slight cases of marginal and partial placenta praevia where rupture of the membranes suffices

to stem the bleeding, and delivery may take place naturally. Should the bleeding continue, version must be undertaken, and it is a much more difficult operation after the waters have been drained away.

One may almost say that the treatment of placenta praevia resolves itself into version and allowing the uterus to expel the foetus, with two exceptions: First, in a primipara at term with a central placenta praevia, Caesarean section must be insisted on for the sake of both mother and child. Secondly, in a multipara in the same case Caesarean section may be suggested if a living child is especially desired. If not, version is the treatment. However great the temptation to terminate the case either by version with extraction or by forceps extraction, this temptation must be resisted.

Post-partum haemorrhage is a subject closely associated with the two foregoing conditions.

Severe uncontrollable post-partum haemorrhage is only met with in cases where a uterus which is not contracting has been suddenly emptied. In placenta praevia this extra loss is sufficient to kill the patient before the uterus has time to recover. In accidental haemorrhage the same occurs, only the uterus would probably not recover its tone anyhow. I have already indicated how with due care these misfortunes may be avoided.

The average case of post-partum haemorrhage following unduly prolonged labour or overdistension of the uterus by twins or by hydramnios as a rule readily responds to massage of the fundus and pituitrin, or careful control by a hand on the fundus for a judicious period of time. Failing this, bimanual compression of the uterus, taking the opportunity to ascertain that the uterine cavity is quite empty of secundines, possibly combined with a hot douche, generally meets the case. Compression of the abdominal aorta often gives the uterus time to contract successfully and retract, and so stop the bleeding. The question of the treatment of post-partum haemorrhage is so well worn that I will not dwell on it. A great percentage of the cases respond to any of the accepted forms of treatment. Those that do not generally die unless it is feasible to perform hysterectomy, and this, hoping against hope, is generally postponed until it is too late.

III. HAEMORRHAGE DURING THE THIRD STAGE OF LABOUR.

Some of the most alarming cases with which we have to deal in midwifery are those of severe bleeding while the placenta is still *in utero*. This is due to a partial separation of the placenta, and this separation itself is generally due to efforts to expel the placenta by pressure on the fundus before it is naturally separated from the uterine wall and has passed into the vagina. The signs of this having happened—rising up of the fundus, uterus smaller and flatter from front to back, escape of more cord, and slight gush of blood—are well known. In a partial separation thus brought about, the bleeding is often extremely severe. Attempts at expression will have failed, and the only treatment is to pass the sterilized hand into the uterus, complete the separation with the fingers, give 5 c.cm. of pituitrin, and maintain a firm grasp of the fundus till the uterus is and remains firmly contracted. This is what the midwives are now taught to do in extreme cases where they find it quite impossible to get a medical man in time to save the patient's life.

IV. SECONDARY POST-PARTUM HAEMORRHAGE.

Haemorrhage occurring after the first twenty-four hours may be due, first, to retained products of conception, often a small piece of placenta or placenta succenturiata, or, more rarely, membrane; secondly, to getting up too soon, or overexertion, and not infrequently as a sequela of puerperal sepsis.

The treatment is to clear out the uterus, and swab it out afterwards with tincture of iodine, and pack with gauze for twenty-four hours.

REFERENCES.

¹ Blacker, G. F.: *Practitioner's Encyclopaedia of Midwifery and Diseases of Women* (Fairbairn), p. 261. ² Shaw, W. Fletcher: *Trans. Roy. Soc. Med.*, October, 1916. ³ Tweedy, Hastings: *Ibid.*, October, 1920.

CYESOEDEMA: A PECULIAR BLOATING OF PREGNANCY.

BY

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THE object of this somewhat bizarre heading* is to attract attention to an accompaniment of pregnancy which I have seen very pronounced in 6 out of 363 consecutive cases of midwifery since I first observed the condition in 1901.

It is a peculiar bloating or swelling, which is quite distinct, on the one hand, from anasarca or ordinary pitting dropsy, and, on the other hand, from the solid swellings, such as myxoedema, which it certainly more nearly resembles.

It affects the whole body, but naturally it attracts more attention in the face, as it so greatly alters the features of a young woman as almost to make her unrecognizable towards the end of pregnancy. In my experience it has occurred only in primiparae; it disappears with considerable rapidity after the labour is over; it has not recurred in my cases in subsequent labours; though not specially associated with post-maturity according to the maternal reckoning, the babies have been large—in three instances they weighed on the average just under 8 lb., and in two other cases were described as very large. In two cases there was some albuminuria, but no other recognized indication of the so-called toxæmia of pregnancy.

To describe cyesodema is a matter of some difficulty, and I must confess rather beyond my powers. I was never able to induce a victim of it to sit for her photograph. There is no accompaniment such as the slow speech of myxoedema, nor the supraclavicular fatty masses; there is no sense of general ill health complained of. There is not the pallor of renal oedema, nor the porcelain china tint to be seen in the cheek. There is rather some lividity, but happily it does not suggest alcoholic indulgence; it has not been associated with high blood pressure, though the cases mostly were observed before the sphygmomanometer came into general use.

Of one of these cases I have lost sight; of the remainder four agree in this respect—that they have all become stout in middle age, and three have undergone treatment for obesity.

What is its nature? It is certainly not due to nephritis, and I think that hypothyroidism may be ruled out of the question. I have failed to find any description of cyesodema in any textbook in our university library, but Whitridge Williams refers to "the non-oedematous" (presumably non-pitting) "thickening of the features observed in so many pregnant women," and suggests that it may be related to hypertrophy of the anterior lobe of the pituitary body, which, he says, has been "shown to undergo regularly great hypertrophy during pregnancy and to atrophy after the termination of the pregnancy."

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

THE NON-LUETIC ARGYLL ROBERTSON PUPIL.

IN my experience the phenomenon of this form of Argyll Robertson pupil reported by Mr. Foster Moore (November 7th, p. 843) is not uncommon, and to the features described by him I would add certain others which appear to me no less important—namely, that the condition occurs more often in women than in men, and that when uniocular it is (or has been in all my cases) the left eye which is affected. In a paper entitled "Emotion and eye symptoms," read in 1921 before the Medical Section of the British Psychological Society, I referred to several of these cases, whose history strongly suggested that the unequal pupils were the result of emotional stress, and in each of these it was associated with the death of the father. This led me to regard the phenomenon as a disorder of the sympathetic nervous system, and

* *Κύσσις*, pregnancy; *οίδημα*, swelling.