A CONTRIBUTION TO THE NATURAL HISTORY OF DYSMENORRHŒA.

By G. Ernest Herman, M.B.Lond., F.R.C.P., F.R.C.S.,

SENIOR OBSTETRIC PHYSICIAN TO THE LONDON HOSPITAL; PAST PRESIDENT OF THE SOCIETY;

AND

H. Russell Andrews, M.D., B.S., M.R.C.P.,

OBSTETRIC TUTOR, LATE OBSTETRIC REGISTRAR, TO THE LONDON HOSPITAL AND MEDICAL COLLEGE.

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(*Abstract.*)

The authors compare a number of cases of dysmenorrhœa cured by dilatation of the cervix with a number of others in which dilatation of the cervix produced no benefit. They find no reason to think that dysmenorrhœa curable by dilatation is frequently associated with imperfect development of the uterus.

They find that dysmenorrhœa curable by dilatation begins with the establishment of menstruation in about two thirds of the cases, and is acquired later in about one third; that it almost always begins before the age of twenty-five, but may be acquired at any age.

They find that the result of treatment is not materially affected by the length of time the dysmenorrhœa has lasted, the age of the patient when treated, or the duration of her married life.

They find that in most cases cured by dilatation the time of commencement of pain is very near the time of commencement

of the flow, while in most of the cases not cured by dilatation the pain begins two days or more before the flow. In half of those cured by dilatation the pain is over in less than two days; in more than half of those not cured by dilatation the pain lasts more than four days. In four fifths of those cured by dilatation the pain is paroxysmal; in three fourths of those not cured by dilatation it is constant. In most of the cases cured by dilatation the pain is not relieved by lying down.

The authors give details showing the severity of the pain. They find that only a few patients were known to pass membranes, and that in only a few were there physical signs of disease. They find no evidence of such narrowing of the cervical canal as to mechanically hinder the flow of blood through it. They think it possible that some degree of smallness and rigidity of the canal may hinder the physiological dilatation of the canal which should take place during menstruation, and so provoke painful contractions of the uterine body; but they are unable to adduce evidence of this.

They give tables showing the known duration of cure in the cases on which the paper is based, and the number of cases in which pregnancy followed dilatation in married women who were previously sterile.

Some cases of menstrual pain are cured by dilatation of the cervix, others are not. It is plain that the former cases have at least one feature in common. The latter may be of the most diverse kind.

The present contribution differs from that of Sir J. Williams, with a somewhat similar title, published in vol. xxiv of the 'Obstetrical Society's Transactions,' in that he appears to have based his paper upon cases comprising menstrual pain of every kind; what we have to say applies chiefly to menstrual pain curable by dilatation of the cervix.

In the present paper we purpose to analyse some cases taken from the records of the London Hospital and from the private practice of one of the authors. We wish to express our thanks to Dr. Lewers for permission to use the notes of some of his cases. The only selection that

has been made is that only those cases have been taken of which the after history is known. In the large majority of these cases, if not in all, medicinal treatment had been tried first and had been unsuccessful.

The reports of cases on which this paper is based have not been made specially for it. They were made in the ordinary routine of practice, without any ulterior purpose. Hence they were not always so complete as we could wish, but they were made without any preconceived bias.

Although this disease is a common one, and the method of treatment is not novel, yet works have even recently appeared, by authors of high reputation, professing to give accounts of the diseases of women complete enough for the needs of the student and practitioner, but without any mention of this disease or its treatment. We may refer to the works of Baldy, Skene, Garrigues, Gebhardt, and Runge.

In the writings of authors who mention that dysmenorrhœa is sometimes cured by dilatation we find theoretical statements as to its causation; but we find no author who has analysed his experience to find out the frequency of such cases, the duration of the cure, or the characters in which such cases differ from cases of monthly pain not curable by dilatation.

One theoretical statement repeated by many writers, among whom we may mention Gusserow, Giles, More Madden, Schröder, Hart and Barbour, and Pozzi, is that dysmenorrhœa is due to anteflexion. A paper was published in 1881, in the 'Transactions' of this Society, by one of the authors of the present communication, in which it was shown that anteflexion was present with precisely the same frequency in women who menstruate without pain as in those who menstruate with pain; and that in women with anteflexion no greater proportion menstruate with pain than among those whose uteri are straight. In the same year Vedeler, of Christiania, published an investigation made independently, which led him to the same conclusion. No one since has brought

forward any evidence to controvert these statements, nor even attempted to do so.

Some who speak of anteflexion as a cause of dysmenorrhœa do so with the qualifying adjective of "pathological" anteflexion. Schultze has described how pelvic peritonitis or pelvic cellulitis may produce anteflexion. Without discussing how far the effects of pelvic peritonitis and cellulitis are modified by any change produced in the shape of the uterus, we may point out that among the class of patients who come to be treated for dysmenorrhœa, pelvic peritonitis and cellulitis are excessively rare. With the exception of Schultze we know of no writer who has shown in what way the "pathological anteflexion" which causes dysmenorrhœa differs from anteflexion which is not pathological.

One of the conclusions reached by Sir J. Williams is that the uterus is imperfectly developed; but he found that menstruation in his cases began at about the same age as in the average of women in London. We give the details of our cases which bear on this point.

Menstruation commenced at the following ages in seventy-one patients with dysmenorrhœa cured by dilatation.

The first column shows the number beginning at each age, the second column the calculated proportion per thousand, the third the numbers commencing at the different ages in 1000 women tabulated by Dr. Giles.

Age.	I.	II.	III.
11 ...	2 ...	28 ...	37
12 ...	4 ...	56 ...	85
13 ...	14 ...	197 ...	188
14 ...	19 ...	267 ...	211
15 ...	13 ...	183 ...	173
16 ...	10 ...	140 ...	151
17 ...	5 ...	70 ...	76
18 ...	1 ...	14 ...	28
19 ...	2 ...	28 ...	18
20 ...	1 ...	14 ...	6

In further considering our cases we shall compare those which were cured by dilatation with those in which dilatation was done, but the pain was not removed.

Sir J. Williams, in 873 cases, found only 11 of acquired menstrual pain. Our experience is different. Of 67 cases cured by dilatation, in 43 the pain dated from the beginning of menstruation, in 24 it was acquired later, *i. e.* roughly in about one third.

Of 36 where dilatation was done without benefit, in 18 it was primary, in 18 acquired.

It seems, therefore, that primary dysmenorrhœa is more likely to be cured by dilatation than that which is acquired.

Putting the figures in another way, we have—

Primary 61	Unsuccessful married	7	**18**, or 30 per cent.	
	„ single	11		
	Successful married	24	**43**, or 70 per cent.	
	„ single	19		
Acquired 42	Unsuccessful married	11	**18**, or 43 per cent.	
	„ single	7		
	Successful married	11	**24**, or 57 per cent.	
	„ single	13		

The following are the ages at which the menstrual pain began in the cases which were cured by dilatation:

Age 11 in 1 case.	Age 20 in 5 cases.
„ 12 „ 3 cases.	„ 21 „ 5 „
„ 13 „ 8 „	„ 22 „ 3 „
„ 14 „ 10 „	„ 23 „ 3 „
„ 15 „ 7 „	„ 24 „ 2 „
„ 16 „ 6 „	„ 26 „ 1 case.
„ 17 „ 6 „	„ 28 „ 2 cases.
„ 18 „ 4 „	„ 31 „ 1 case.
„ 19 „ 1 case.	„ 37 „ 1 „

It will be seen that all but 5 began to have pain before the age of twenty-five.

The interval between the first menstruation and the beginning of pain was—

2 years in 1 case.		8 years in 3 cases.	
3 „	1 „	9 „	3 „
4 „	5 cases.	10 „	1 case.
5 „	2 „	12 „	1 „
6 „	5 „	13 „	3 cases.
7 „	2 „	18 „	1 case.

This shows that dysmenorrhœa may be acquired at almost any time in the first half of menstrual life.

Patients with dysmenorrhœa do not generally seek treatment very quickly, for they are of the class of patient in whom feelings of delicacy are most powerfully operative.

The following tables show that the result of treatment is not materially affected by the length of time the dysmenorrhœa has lasted, the age of the patient when treated, or the duration of married life.

Duration of dysmenorrhœa before treatment.

	Less than 1 year.	1—2 years.	2—3 years.	3—4 years.	4—5 years.	5—6 years.	More than 6 years.
Successful cases **72**	**1**, or 1 per cent.	**4**, or 6 per cent.	**2**, or 3 per cent.	**4**, or 6 per cent.	**4**, or 6 per cent.	**3**, or 4 per cent.	**54**, or 74 per cent.
Unsuccessful cases **37**	0	**2**, or 5 per cent.	**3**, or 8 per cent.	**2**, or 5 per cent.	**3**, or 8 per cent.	**4**, or 11 per cent.	**23**, or 62 per cent.

Age of patients when treated.

	18—20.	21—25.	26—30.	31—35.	36—40.	41—46.
Successful cases **77**	**6**, or 8 per cent.	**27**, or 35 per cent.	**27**, or 35 per cent.	**13**, or 17 per cent.	**4**, or 5 per cent.	0
Unsuccessful cases **41**	**5**, or 12 per cent.	**15**, or 37 per cent.	**13**, or 32 per cent.	**4**, or 10 per cent.	**3**, or 7 per cent.	**1**, or 2 per cent.

Duration of married life before treatment.

	Under 1 year.	1—2 years.	2—3 years.	3—4 years.	4—5 years.	Over 5 years.
Successful cases **42**	**5**, or 12 per cent.	**10**, or 24 per cent.	**6**, or 14 per cent.	**4**, or 9 per cent.	**3**, or 7 per cent.	**14**, or 34 per cent.
Unsuccessful cases **21**	**1**, or 5 per cent.	0	**5**, or 24 per cent.	**3**, or 14 per cent.	**3**, or 14 per cent.	**9**, or 43 per cent.

We think that the diagnosis of spasmodic dysmenorrhœa, *i. e.* of the kind of menstrual pain that is cured by dilatation, can only be made by the characters of the pain. We shall examine our cases from this point of view.

The pain felt with menstruation may be of two kinds: a general aching due to the congestion of the pelvic organs which precedes menstruation, which is relieved by the bleeding from the uterus, and the sharp spasms of uterine colic. The former is not affected by dilatation of the cervix, the latter is often cured by it.

The clinical difference between the aching of pelvic congestion and the spasm of uterine colic is that the former precedes menstruation, often by several days, while the spasmodic pain usually begins either with the flow, or within a very short time of its appearance.

Onset of pain.

	With flow, or a few hours before or after beginning of flow.	1 day before beginning of flow.	2 days before beginning of flow.	More than 2 days before beginning of flow.
Successful cases **73**	**42**, or 58 per cent.	**9**, or 12 per cent.	**11**, or 15 per cent.	**11**, or 15 per cent.
Unsuccessful cases **41**	**12**, or 30 per cent.	**5**, or 12 per cent.	**7**, or 17 per cent.	**17**, or 41 per cent.

The preceding table shows that in three fifths of the cases cured by dilatation the time at which the pain began

was very close to that at which the flow began. In most of those which were not affected by dilatation the pain began two days or more before the flow.

The pain of pelvic congestion not only begins earlier but lasts longer than the pain of uterine spasm. In the following table it will be seen that of those not cured by dilatation, in more than half the pain lasted more than four days, and in only a fifth was it limited to two days. Of those cured by dilatation, in just upon half the pain lasted less than two days.

Duration of pain.

	Less than 1 day.	1—2 days.	2—3 days.	3—4 days.	More than 4 days.
Successful cases **68**	**15**, or 22 per cent.	**18**, or 27 per cent.	**10**, or 14 per cent.	**8**, or 12 per cent.	**17**, or 25 per cent.
Unsuccessful cases **38**	**4**, or 10 per cent.	**4**, or 10 per cent.	**5**, or 13 per cent.	**5**, or 13 per cent.	**20**, or 54 per cent.

The pain of pelvic congestion is constant, that of uterine spasm intermittent.

The following table shows that in the cases cured by dilatation the pain was of the paroxysmal kind in four fifths, while amongst those not cured by dilatation it was constant in three fourths. In some cases both kinds of pain were present. In one fifth of the cases cured by dilatation the pain was said to be constant. Two explanations may be given of this. One is that the pain was due to tonic spasm of the uterus. The other is that the record was incorrect, either because the patient misunderstood what she was asked or misdescribed her pain, or because the reporter misunderstood the patient's answers to questions.

Character of pain.

Successful cases **67.**		Unsuccessful cases **35.**
41, or 61 per cent. .	Paroxysmal	. **9**, or 26 per cent.
15, or 22 per cent. .	Constant	. **18**, or 52 per cent.
	Constant with exacerbations	. **3**, or 8 per cent.
11, or 17 per cent.	Constant and paroxysmal	**5**, or 14 per cent.

Another difference between the pain which is relieved by dilatation and that which is not is in the effect of position. When the spasmodic pain is very bad the patients say that they cannot lie still; if they do lie down they roll about with the pain. The pain of pelvic congestion is relieved by quiet recumbency. But a patient with very severe pain may prefer to lie down even if her pain is not thereby lessened. Hence whether the patient finds herself better while lying down or not depends much upon her idiosyncrasy.

The following table shows that in most of the cases cured by dilatation lying down did not relieve the pain.

Effect of position.

Successful cases **53.**		Unsuccessful cases **24.**
43 per cent., or **23** .	Relieved by lying down	. **12**, or 50 per cent.
57 per cent., or **30** .	Not „ „	. „ „

The pain of spasmodic dysmenorrhœa is very severe. It is generally accompanied by nausea, and in about one fourth of the cases by vomiting. There may be other manifestations of suffering which are detailed in the table which follows. Some of these, such as headache, prostration, feeling of heat and cold, and faintness, are to be attributed to the general disturbance—raised vascular tension and lowered nervous tone—which precedes the full establishment of menstruation, rather than to pain. Symptoms directly due to increased afflux of blood—aching in the breasts and pain on micturition—in our collection of cases occurred only in the cases not cured by dilatation. In thirteen of the cases not cured by dilatation the pain was so bad as to produce vomiting,

and in one to "double up" the patient. These we take to be genuine but incurable cases of spasmodic dysmenorrhœa.

Effects of pain.

Successful cases.		Unsuccessful.
15	Vomiting	13
6	Nausea without vomiting	4
2	"Doubled up"	1
4	Sweating	1
2	Fainting	1
5	Faint feeling	2
10	Laid up	8
8	Rolling about	3
2	Diarrhœa	2
3	Headache	2
2	Prostration	--
1	Vertigo	—
1	"Comes over hot"	—
1	Feels cold	—
—	Pain in breasts	2
—	Painful and difficult micturition	1
—	Loses use of limbs	1

In many of the cases no special effect of the pain is noted.

Those who have searched carefully for membranes in cases of dysmenorrhœa have found them to be passed very frequently. In our cases special search was not made as a rule, for whether a patient who menstruates with pain passes membranes or not is only important theoretically; the treatment is the same, whether membranes are passed or not.

Passage of membrane is noted in seven cases:

1 successful, married.
1 unsuccessful, married.
3 successful, single.
2 unsuccessful, single.
(1 doubtful.)

In most cases of dysmenorrhœa there is no sign of organic disease of the uterus. Those who have tried to find a physical basis for dysmenorrhœa have been, as is

known, reduced to describing, as the cause of the dysmenorrhœa, peculiarities in the shape of the uterus or of the cervix which are found also in women who menstruate without pain.

We find physical signs noted in five cases only. In one, a single woman, treated with success, there was an erosion of the cervix; in two single women, unsuccessfully treated, there was in one an imperfectly developed uterus, and in the other a small fibroid; in two married women, treated with success, there was smallness of the vaginal orifice causing dyspareunia, and in one of them retroflexion.

The most obvious explanation of the cure of menstrual pain by dilatation of the cervical canal is that the pain is caused by narrowness of the canal. The cervical canal of a young nulliparous woman has never been seen narrow enough to mechanically hinder the passage of the few ounces of blood that are lost at each menstrual period. Such stenosis exists only in diagrams. But during menstruation the body of the uterus contracts and the cervix dilates. The former is believed to take place because it is observed in pregnancy, labour, and in uteri enlarged by fibroids to a degree which makes it possible to observe the fact of contraction. The latter has been shown to occur in a paper published in vol. xxxvi of our 'Transactions.'

But the cervix, if not narrow enough to mechanically hinder the outflow of blood, may yet be small and rigid, and not dilate as it should during menstruation; and it is possible that such deficient dilatation or dilatability may be the cause of the painful spasms.

We give some measurements, made in the way described in the paper referred to, of the size of the os internum and os externum of some nulliparæ, and of the os internum of some parous women who had pain with menstruation. To compare with these we give some measurements, made in the same way, of patients who menstruated without pain. They are few, because

	Painful.			Painless.		
	Nulliparous.		Parous.	Nulliparous.		Parous.
	External os.	Internal os.	Internal os.	External os.	Internal os.	Internal os.
Less than No. 3	—	4, or **12** per cent.	1, or **3** per cent.	1, or **17** per cent.	—	—
No. 3	1, or **3** per cent.	—	—	—	—	—
No. 4	1, or **3** per cent.	5, or **16** per cent.	2, or **5** per cent.	—	—	—
No. 5	3, or **8** per cent.	7, or **22** per cent.	5, or **13** per cent.	—	—	8, or **12** per cent.
No. 6	5, or **14** per cent.	5, or **16** per cent.	12, or 31 per cent.	—	3, or **50** per cent.	13, or **19** per cent.
No. 7	3, or **8** per cent.	6, or **19** per cent.	3, or **8** per cent.	—	1, or **17** per cent.	6, or **9** per cent.
No. 8	2, or **5** per cent.	2, or **6** per cent.	—	1, or **17** per cent.	2, or **33** per cent.	9, or **13** per cent.
No. 9	5, or **14** per cent.	1, or **3** per cent.	2, or **5** per cent.	—	—	4, or **6** per cent.
No. 10	3, or **8** per cent.	2, or **6** per cent.	6, or **15** per cent.	—	—	5, or **7** per cent.
No. 11	8, or **22** per cent.	—	3, or **8** per cent.	—	—	4, or **6** per cent.
No. 12	6, or **16** per cent.	—	5, or **15** per cent.	4, or **68** per cent.	—	18, or **27** per cent.
	37 cases	32 cases	39 cases	6 cases.	6 cases	67 cases.

nulliparæ who menstruate without pain, and are free from local disease, seldom present themselves for examination.

It will be seen that while there is no great difference in the size of the canal in the two sets of cases, yet cervical canals admitting only a small bougie are more frequent among the cases with painful menstruation. We have notes that the canal offered unusual resistance to dilatation in fourteen cases. Of these nine were married, and dilatation removed the dysmenorrhœa in five; five were single, and dilatation was successful in four.

Without claiming to have substantiated the statement, we are yet of opinion that undue smallness and rigidity of the cervical canal is sometimes a condition underlying, and perhaps causing, spasmodic dysmenorrhœa, acting not by causing mechanical obstruction, but by preventing physiological dilatation.

The treatment of these patients consisted in the dilatation of the cervical canal by bougies.

The following table (p. 384) shows the known duration of cure.

A second dilatation was done in 9 cases.

2 married, unsuccessful.
1 single, „
2 „ successful.
4 married, „

In one single woman a fourth dilatation proved most successful.

Duration of cure; single women.

Under 1 year.	1–2 years.	2–3 years.	3–4 years.	4–5 years.	5–6 years.
(6) 1 month +	(2) 1 year	(1) 2 years	(3) 3 years +	(1) 4 years +	(1) 5½ years +
(1) 2′ months	(1) 1 year +	(1) 2½ years	(1) 3½ years	—	(1) 5½′ years +
(1) 3 months +	(2) 16 months +	—	—	—	—
(1) 3′ months	(1) 20 months +	—	—	—	—
(2) 4 months +	(1) 22 months	—	—	—	—
(1) 5′ months	—	—	—	—	—
(1) 5 months	—	—	—	—	—
(2) 5 months +	—	—	—	—	—
(1) 6 months	—	—	—	—	—
(2) 6 months +	—	—	—	—	—
(1) 7 months +	—	—	—	—	—
(1) 9 months + (pain not entirely gone)	—	—	—	—	—
(2) 10 months +	—	—	—	—	—
(1) 11 months +	—	—	—	—	—

The 2′, 3′, and 5′ months and 5½′ years + all refer to the same case, *i.e.* this patient was dilated four times, relief following the last dilatation lasting 5½ years +.

\+ After a number means that the pain had not returned when the patient was last heard of.

None of the cases of "1 month +" were in hospital during the first menstrual period after dilatation.

Duration of cure; married women.

Under 1 year.	1—2 years.	2—3 years.	3—4 years.	4—5 years.
(1) 2 months +	(1) 1 year +	(3) 2 years +	(1) 3½ years +	(1) 4 years +
(1) 2 months (then partial return)	(1) 16 months +	—	(1) 3½ years + (pain not quite gone)	(1) 4½ years +
(2) 3 months +	(1) 17 months +	—	—	—
(1) 3 months	(1) 18 months +	—	—	—
(3) 4 months +	(1) 21 months +	—	—	—
(1) 4 months	(2) 22 months +	—	(1) 6 years +	—
(2) 5 months +	—	—	(1) 19 years + ("pain trifling")	—
(1) 6 months +	—	—	(1) 22 years +	—
(1) 7 months	—	—	(8) Pregnant when last heard of; no pain till then	—
(1) 8 months + (pain not quite gone)	—	—	—	—
(1) 9 months (then partial return)	—	—	—	—
(1) 10 months +	—	—	—	—
(1) 11 months +	—	—	—	—
(1) "Some months" (then returned)	—	—	—	—

Cases in which dilatation was repeated.

Name.	Age at first menstruation.	Age at which menstrual pain began.	Age at marriage.	Age at which treated.	Time of onset of pain.	Duration of pain.	Constant.	Paroxysmal.	Effect of position.	Vomiting.	Other effects of pain.	Effect of other treatment.	Period of sterile marriage.	—
F. A.	11	17	17	21	With flow	1—3 days	Yes	—	Not relieved by lying down	Yes	Cannot sleep; loses use of limbs	Somewhat relieved by leeches	4 years	Dilatation very difficult; no relief.
				21	...	...	...	...	...	...	...	...	...	No relief.
A. J.	13	26	25	32	With flow	3 days	Yes	Yes	Not relieved by lying down	Feels sick	—	No relief from castoreum, exalgin, phenacetin, antipyrin, or ichthyol	7 years	No relief.
				33	...	...	...	...	...	...	...	...	8 years	„
L. S.	9	9	Single	22	Just before flow	3—24 hours	Yes	—	—	Yes	Laid up	Somewhat relieved by cannabis indica	Single	„
				27	...	...	...	...	...	...	...	...	...	„
F. B.	14	18	„	23	With flow	24 hours	—	Yes	—	...	Laid up; vertigo	—	Single	Relief for 1 year.
				24	...	...	...	...	...	...	...	...	...	Relief for 1 yr. 8 mos. +

XXI	13		—	35	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Relief for 5 months
		Trifling until 31		36	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Relief for 3 months.
				37	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Relief for 2 months.
				37	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Relief for 5¼ years +
XVI	14	Slight before 21	22	28	A week before flow	10—11 days	—	—	Relieved by lying down	—	—	—	—	—	—	—	6 years	No relief.	
				28	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Pregnancy followed in 14 months, during which time pain was relieved, though not cured.
M. L.	15		15	22	With flow	24 hours	?	?	Has to walk about	Yes	—	—	—	—	—	—	13 months	Relief for 22 months.	
				23	...	...	...	Yes	...	...	...	...	...	...	...	...	...	Relief for 2 years +	
F. L. R.	14		14	22	Just before flow	Short	—	Yes	Somewhat relieved by lying down	—	—	—	—	—	—	—	4 years	Relief for 4 months.	
				26	,,	,,	...	,,	...	...	...	...	...	...	...	...	7 years	Relief for 10 mos. +	
R. L.	11		17	24	A week before flow	8 days	?	?	Not relieved by lying down	?	Nausea	—	—	—	—	—	8 years	Relief for 1 month.	
				32	...	...	...	...	...	...	...	...	...	...	...	...	10 years	Relief for 6 years +	
				34															

The last point to which we direct attention is the association of spasmodic dysmenorrhœa with sterility, and its cure by dilatation.

Fertility—62 married patients.

Before dilatation 2:

1 of the successful cases had had 2 miscarriages.

1 of the unsuccessful cases had had 9 children and 2 miscarriages.

After dilatation 16 patients became pregnant, all of them among the successful cases, *i. e.* 16 out of 41, or 39 per cent.

	Period of sterile marriage before dilatation.	Interval between dilatation and pregnancy.
(i)	1 month	1 month.
(ii)	2 months	?
(iii)	6 months	2 months.
(iv)	10 years to first husband; 6 months to second ...	2 months.
(v)	7 months	2 months.
(vi)	1 year	?
(vii)	1 year	10 months.
(viii)	13 months	1 month.
(ix)	1½ months	1 month.
(x)	2 years	5 months.
(xi)	2 years	8 months.
(xii)	2 years	9 months.
(xiii)	3½ years	?
(xiv)	5 years	Under 1 year.
(xv)	6 years	14 months.
(xvi)	10 years	?

No. viii, who had been married thirteen months before treatment, had had vaginal fixation performed, and the vaginal orifice enlarged.

In none of the other cases which became pregnant after dilatation had the vaginal orifice been enlarged.

The pain began after marriage in—

4 out of 39 successful cases, or 10 per cent.

7 out of 19 unsuccessful cases, or 37 per cent.

The PRESIDENT agreed with the authors that, speaking generally and broadly, it was true that when the pain in dysmenorrhœa was paroxysmal, it was more likely to be of uterine than of ovarian origin. But like most other things in medicine, surgery, and obstetrics, it was impossible to deduce definite laws without having to admit numerous exceptions. Hence, for the purposes of treatment, it was of little use in the majority of cases making or trying to make a diagnosis. For even if a case presented features pointing to other than a uterine cause for the pain, it was impossible to say beforehand that dilatation would not lessen or cure the pain. He gave details of a case of undoubted ovarian dysmenorrhœa where there was a congenital absence of vagina, and where the uterus was represented by a mere band, and yet where the pain every month was so severe that the patient was in agony and was obliged to go to bed for several days. The ovaries, after every other means had been tried, were removed by abdominal section, and the patient had never been troubled since, the operation having been done in 1898. Again he asked for information as to the method of dilatation. The authors spoke of dilating the cervix. Did they dilate the cervix only, or did they dilate the uterine cavity as well? Did they use Hegar's dilators, and if so, to what number did they go? He believed that, whatever theory in regard to the production of the pain or of its relief by dilatation might be correct, it would be found that the alleviation or cure of the dysmenorrhœa was owing to laceration of the fibres. For this reason he had himself adopted a modification of Sims' operation. That is, in addition to slitting the cervix backwards from the os externum up to the posterior fornix, he made a counter-incision to the left or to the right of the cervix, which thus divided the cervix into two unequal parts, a quarter and three quarters respectively. His object in doing this was to cut through the circular fibres twice. For he had found from experience that Sims' operation, even though it relieved for a time, was apt to be followed by a recurrence of the dysmenorrhœa, owing to the cicatrisation of the parts. Whereas, by cutting through the circular fibres twice, each set—that is the set in the quarter segment and the set in the three-quarter segment—contracted, and even when the active contraction passed off remained shortened, having no longer power to approximate. Hence the increased space in the os externum and cervical canal remained more or less permanent. In this way he had treated many cases with conspicuous success, and certainly with much better results than by mere dilatation. For obviously, if dilatation were carried out to only a slight degree, the uterus was bound to contract again, and the condition would soon be as before, whilst if carried to a considerable extent the parts were more or less lacerated. His colleague, Dr. Galabin, was in the habit of dilating with Hegar's dilators

to a considerable degree, he thought to No. 19; and as a rule the parts were lacerated, as indicated by a dilator of a higher number passing more easily than the one immediately preceding it. Then, again, the authors spoke of cases of stenosis of the os uteri as existing only in pictures in text-books. He could not agree to that, for he had seen cases of pinhole os where it was impossible to pass an ordinary uterine sound, and where there was great dysmenorrhœa. Moreover such cases were very satisfactorily treated by a modified Sims' operation. Again, he disagreed with the remark that it was of no importance as to whether a patient passed membranes or not, inasmuch as the treatment was the same—namely, dilatation. His own experience was that dilatation or a modified Sims' operation was practically useless in membranous dysmenorrhœa. In all such cases he recommended careful and thorough curetting and the application of a strong caustic, such as iodised phenol or pure carbolic acid. The authors had suggested a new theory as to the cause of the pain in these cases of uterine dysmenorrhœa, namely, that it was due to the cervix not dilating when the fundus and body contracted. He did not think this was a correct expression, because the law was that when the fundus and body of the uterus contracted the cervix relaxed. Then, when in this physiologically relaxed condition, it could be easily dilated if there were anything to dilate it, such as the bag of waters, or if the amnion had ruptured, the child's head, etc. Certainly there were some longitudinal fibres in the cervix which could draw it open, even in the absence of these dilating forces, but they only came into operation at a late stage. Hence we did not find the os uteri patent in these cases of uterine dysmenorrhœa. Finally, he thought that whilst the menses when fluid found a free enough exit, they might, when clotted inside the uterus, require uterine contractions that amounted to miniature labour pains, and which were as painful sometimes as labour pains, to expel the clots.

Dr. Heywood Smith considered that the dysmenorrhœa characterised by forcing pain at the beginning of the flow was usually due to anteflexion. He agreed to what had fallen from the President, that the acting pre-menstrual pain was generally due to ovarian mischief, and probably also to chronic endometritis. As to the cause of the pain in cases of anteflexion, where the sound could be passed without any marked obstruction, he considered as a possible explanation that it was due to the overcoming effort to extrude the discharge through the inner os, which was temporarily obstructed by the hypertrophic engorgement of the mucous membrane of the body of the uterus producing a kind of bulging at the line of the inner os. He agreed also with the President that cases of membranous dysmenorrhœa demanded more than mere dilatation, and he had found that the

application of iodoised phenol was of great service in such cases. As to the treatment of dysmenorrhœa from stenosis of the inner os, he did not consider dilatation alone sufficient, and the authors had referred to cases that had required repeated dilatations. The cavity of the uterus, on being dilated, tended to contract again to its former condition. What was necessary was dilatation *plus* a slight incision bilaterally, then forcible dilatation until some fibres were felt to give way, and the insertion of a sterilised glass stem with a large button, which, resting on the posterior vaginal wall, would prevent it being extruded.

Dr. BOXALL doubted whether, in such a case as that mentioned by the President, cessation of dysmenorrhœa after removal of the ovaries could be rightly regarded as affording conclusive evidence that the pain had been of ovarian and not of uterine origin. Many years ago he had the opportunity of observing a remarkable case of dysmenorrhœa under the care of Sir John Williams in University College Hospital. The patient, apparently a woman (at any rate she had been up till that time regarded as such), possessed a deep bass voice. She had a large clitoris and a rudimentary vagina and uterus. She was kept under observation for some months suffering from severe dysmenorrhœa, and eventually, other means having failed to give relief, the abdomen was opened. No trace of ovary could be found on either side, but on one side was found what appeared to be a rudimentary and undescended testis. Now the curious part of the case is that, though nothing whatever was removed, the dysmenorrhœa was forthwith relieved. In that case, at any rate, the pain could not have been ovarian in character. He also drew attention to one rather remarkable fact which he had observed in some cases of dysmenorrhœa associated with sterility, where the uterus was quite small, say no larger than the top of one's thumb. In spite of this ill-developed condition impregnation had rapidly followed dilatation, and the patient had carried to term and been delivered without unusual difficulty.

Dr. ALEXANDER DUKE quite agreed with the President that "there was a large percentage of cases of dysmenorrhœa not referable to the uterus at all." In cases of (so-called) "obstructive" he has had excellent results by incision and dilatation combined, followed directly by the insertion of his "spiral wire stem," which, if left long enough in cervix, was certain to maintain the permanent patency of that canal, the all-important result looked for. Dr. Heywood Smith had alluded to the wearing of a glass stem by patient after dilatation, but the difficulty was to keep such from falling out if patient were not confined to recumbent position. His own stem, being flexible and hinged on disc at base, kept its place, and allowed wearer to go about as usual quite unconscious of its presence, and some of his patients rode bicycles while wearing the stem without any injury or discom-

fort. The stem being open from end to end allowed free exit of the secretions (acting as drainage-tube), and often in this way cured the endometritis which co-existed in a number of such cases, and which he considers might sometimes be the primary cause of the complaint. Dr. Herman's paper mentioned some cases which had to be dilated more than once. If the first dilatation had been maintained by the wearing of a suitable stem, there should have been no necessity for re-dilatation. He leaves the stem *in utero* till it becomes loose, *i. e.* moving freely up and down, thus conquering the spasm, the main factor in the discomfort complained of in the greater number of these cases. His stem being flexible and hinged yields to every movement of the uterus, and if the patient be directed to use a syringe or douche *regularly* (period included) with hot water morning and night, Dr. Duke has seen no harm, but positive advantage and permanent cure, conception following in a fair number of cases.

Dr. ARTHUR GILES remarked that the paper served a useful and practical purpose in defining the type of dysmenorrhœa in which dilatation was likely to be successful. The authors had shown that this treatment was not suitable for cases of dysmenorrhœa in which the pain occurred chiefly before the onset of the flow; and this was easily understood, because such pain was congestive in origin, and they could not hope to cure congestion occurring before menstruation by dilatation. He agreed with the authors that "obstructive" dysmenorrhœa was a fallacy, and he did not hold the view which the authors appeared to attribute to him, that anteflexion could cause obstruction or was necessarily a cause of dysmenorrhœa. It was, of course, a fact that anteflexion was often associated with dysmenorrhœa, but if any causal relation existed it seemed to him that it was probably this, that the flexion led to painful contractions. The cause of painful uterine contractions was obscure, and before they could be explained it would be necessary to explain why uterine contractions during labour were painful, and why certain intestinal contractions were painful, causing colic. He was interested in Dr. Boxall's cases of under-developed uterus, and thought that Dr. Boxall's experience was unusual. In his experience the striking features of menstruation in cases of under-developed uterus were that the function started late and was painless, while the flow was scanty, and sterility was almost the rule.

Dr. GALABIN said that he thought that the diagnosis by description of symptoms as to whether a dysmenorrhœa were due to painful uterine contractions was apt to be fallacious. If the pains were continuous, and began several days before the flow, it might doubtless be inferred that the cause of it was congestive or inflammatory; but many women described the pain as being intermittent, spasmodic, or paroxysmal. On cross-examination, however, it often appeared that the spasms of pain lasted for

half an hour or more, and all kinds of intermediate conditions were found. Such pains could hardly be due to uterine contractions, and were only spasmodic in the sense in which a toothache or any neuralgic pain might be spasmodic. His experience was that the proportion of cases of dysmenorrhœa which could be ascribed wholly and with certainty to painful uterine contractions was a very small one, and that much more frequently some inflammatory or congested condition of the endometrium was an element in the case. This was confirmed by the fact that uterine leucorrhœa was often associated with dysmenorrhœa in young unmarried women, and that not infrequently a patch of granular inflammation was found around the os, really an adenomatous hyperplasia of mucous membrane. Accordingly he thought that the addition of curetting to dilatation in the majority of cases increased the efficacy of the operation. He did not usually carry the dilatation beyond about No. 13 or 14 Hegar's dilator. This did not generally lacerate the external os, but might rupture some fibres around the internal os. Of late years he had used incisions of the vaginal portion only when the external os was manifestly minute. He then excised a V-shaped piece from the posterior lip, and generally united external and internal mucous membrane by sutures. The authors appeared to assume that if dilatation cured the dysmenorrhœa it was a proof that the pain was due to painful uterine contraction. He did not think that this held good universally, for dilatation might affect the uterus in other ways. If there were endometritis the freer drainage so produced might enable a catarrh to get well which would have remained chronic while sufficient mucus was retained to form a nidus for microbes.

Dr. LEWERS said he had intended to make the same inquiry as had been made by the President as to the degree of dilatation of the cervix employed by the authors in their cases. Perhaps this information would be found in their tables. For his own part, he found the extent to which the cervix of a nullipara could be dilated varied considerably. In some cases it was impossible, without risk of lacerating the cervix, to go beyond No. 9 or No. 10 of Hegar's bougies. In other nulliparæ it was possible to go as far as No. 16 or 17 of the same series without much difficulty. His practice was to go on till some distinct difficulty in passing the dilator was met with. He usually found that the passing of the bougie when this occurred was followed by a little fresh bleeding, probably due to a very superficial laceration about the internal os. When this occurred he considered the safe degree of dilatation had been reached.

Dr. W. S. A. GRIFFITH criticised the title of the paper, which would have been more explicit had it been "A Contribution to the Study of Certain Cases of Spasmodic Dysmenorrhœa treated by Dilatation." The necessity for a definite limit to the dis-

cussion of this subject was evident, for there was no common symptom of which our knowledge was more imperfect, and about which such various views were held, than dysmenorrhœa. The paper before them was a valuable contribution to the subject. How many men began the study of dysmenorrhœa who were very imperfectly acquainted with the anatomy and physiology of normal menstruation! From this arose some of the extraordinary assertions by writers on the subject, and no disease gave greater opportunities to faddists of all kinds to proclaim the virtues of their special mode of treatment by pessary or metrotome. The study of the rare cases of spasmodic dysmenorrhœa without menstrual flow, of which Dr. Griffith had had one typical case under his care, should help to remove some errors, and in his opinion the different degrees of pain suffered depended more on the nerve sensibility of the individual than on structural variations of the uterus and its appendages; and these excellent results were obtainable by the judicious treatment of points of general health in a very large number of cases, without either direct examination or treatment of the organs in which the pain arises. Dilatation was a valuable method in some of the more severe and persistent cases. He had frequently met with cases of "pinhole os" in which dysmenorrhœa was absent. The statement of the passage of clot or membrane was of little value unless an accurate examination of them was made.

Dr. BRIGGS alluded to the uncertainty of results, but agreed in the main with the authors of the paper in their conclusions as to the cases of dysmenorrhœa most likely to be benefited by dilatation or section of the cervix. He desired to speak on behalf of the Liverpool practice of a high degree of dilatation supplemented by a deep posterior section of the cervix throughout its entire length. The graduation of metal bougies over four sizes which he first adopted in 1889 had simplified dilatation by minimising laceration. Notwithstanding the complete character of the Liverpool practice, the results, he feared, were not more, but less encouraging than those of the authors of the paper. He had some hesitation in accepting spasm as more than a minor portion of the pathology in cases apparently spasmodic.

Dr. HERMAN said that the authors were aware of the difficulties and uncertainties referred to by the President and Dr. Galabin, and had alluded to them in their paper. The pain of pelvic congestion was, as they said, often described as coming and going; but on close inquiry it would be found that each attack was said to last an hour or two; it was not a sharp, short spasm like that of uterine colic. In the cases on which the paper was based the dilatation was of both the external and internal os, and was done with bougies, graduated in size according to the catheter scale. Successive sizes were passed

until considerable resistance was met with. Usually it was carried up to No. 12 or higher. After such dilatation the cervical canal remained larger than before for at least some months. This he had verified by measurement. When he commenced practice, the regular treatment for bad cases of dysmenorrhœa at most hospitals, certainly at the London, was division of the vaginal portion. He was led to abandon that by meeting with cases in which the vaginal portion had been divided without benefit, but which were cured by dilatation with bougies of the os internum. He would like to know what meaning the President attached to the word "permanent," when he spoke of "permanent cures" of dysmenorrhœa. He (Dr. Herman) thought the use of the word "permanent" was only justifiable if the patient's condition was known up to the time when menstruation ceased. It was so difficult in consulting practice to watch cases as long as this, that he thought cases known to be permanent cures must be few. He had himself records of one case in whom the cure of dysmenorrhœa lasted till the menopause. He would like to know how many cases of the "permanent" cure of membranous dysmenorrhœa the President had seen. He (Dr. Herman) had known curetting and caustic fail, not only in his own hands, but in those of others. He thought dilatation was the most effective treatment of membranous dysmenorrhœa. He would also like to know how membranous dysmenorrhœa was to be prevented. Like Dr. Griffith and others, he had seen cases in which the os externum was so small that it would not admit a probe, but the patients menstruated without pain. In such cases he thought it was good practice to divide the vaginal portion in order to prevent delay in the first stage of labour. When clots were passed from the vagina he knew no sure way of telling whether the blood had clotted in the uterus or in the vagina. Many small lumps described by patients as clots, if carefully examined, would be found to be rolled-up membranes. The President's distinction between "dilatation" and "relaxation" seemed to him verbal rather than real. He (Dr. Herman) had shown in a former communication to the Society that the cervical canal did enlarge during menstruation. He agreed with Dr. Heywood Smith and Dr. Giles that anteflexion was common with dysmenorrhœa. But his investigation and that of Vedeler showed that it was present with exactly the same frequency in women who menstruated without pain; and these facts had never been controverted. If Dr. Heywood Smith and Dr. Giles would study the frequency of anteflexion without dysmenorrhœa they would change their views. Seeing that most patients with dysmenorrhœa were young girls who, except for their monthly pain, were in perfect health, he did not think with Dr. Galabin they were frequently suffering from endometritis, nor that dilatation cured them because it favoured the cure of

endometritis. He agreed that it was difficult to distinguish the cases that could be cured by dilatation from those that could not; and it was the object of the paper to assist in this difficult task. He agreed with Dr. Griffith that the severity of menstrual pain depended much on the sensitiveness of the patient.