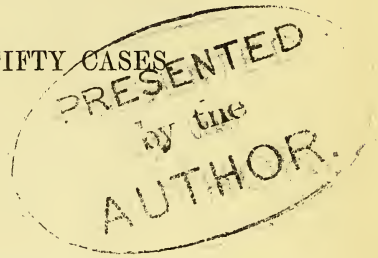
ON THE

PAIN IN PELVIC CANCER

AND ITS

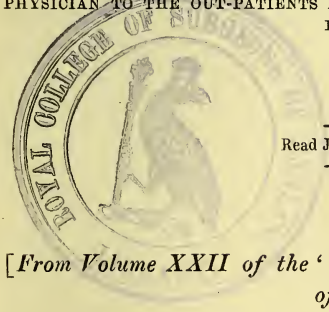
RELIEF BY MORPHIA,

ILLUSTRATED BY FIFTY CASES.



BY

FRANCIS HENRY CHAMPNEYS, M.A., M.B. Oxon.,
M.R.C.P.,
MEDICAL REGISTRAR TO ST. BARTHOLOMEW'S HOSPITAL;
PHYSICIAN TO THE OUT-PATIENTS AT THE SAMARITAN AND QUEEN CHARLOTTE'S HOSPITALS.



Read January 14th, 1880.

[*From Volume XXII of the 'Transactions of the Obstetrical Society of London.'*]

LONDON:
PRINTED BY
J. E. ADLARD, BARTHOLOMEW CLOSE.

1881.

ON THE PAIN IN PELVIC CANCER AND ITS RELIEF BY MORPHIA, ILLUSTRATED BY FIFTY CASES.

By Francis Henry Champneys, M.A., M.B. Oxon., M.R.C.P.,
MEDICAL REGISTRAR TO ST. BARTHOLOMEW'S HOSPITAL;
PHYSICIAN TO THE OUT-PATIENTS AT THE SAMARITAN AND QUEEN CHARLOTTE'S HOSPITALS.

The following study of pelvic cancer is offered as a contribution to the general knowledge of a disease, common as it is incurable, with the following objects :—First, of forming some basis for our choice of one or other of the different modes of administering morphia founded on fact; secondly and principally, of formulating our observation with regard to the frequency, duration, quality, locality, and severity of the pain, in malignant disease of the uterus and pelvic organs; on the principle of studying the phenomena of diseases even where we cannot foresee any immediate effect on practice, that is, so far as we can see, unpractically.

The opportunity for this study has been given me in the wards of St. Bartholomew's Hospital by the kindness of Dr. Matthews Duncan.

The cases have been such as offered themselves in the out-patient room of the hospital and have not been selected, but admitted in order. To the 50 cases thus admitted without selection I have added four others in an appendix,

since they offered some special feature of interest, but I have not included them in any statistics.

Although the notes which I have taken deal with other points, I have thought it best to confine myself in this communication to the subject of *pain* (including therein one or two other nervous phenomena) and its treatment by morphia; other points I hope to deal with hereafter. The dates range from March, 1878, to November, 1879. The cases themselves are given in an appendix. From them any statements may be confirmed or disproved.[1]

The *ages* of the patients ranged from twenty-four up to sixty-four; the average age was forty-three.

TABLE I.

Between 20 and 30	5
30 and 40	15
40 and 50	15
50 and 60	10
60 and 70	5
70	0
	50

The equality in numbers between the periods thirty to forty and forty to fifty is not according to the general rule that cancer is most frequent in the period forty to fifty.

About this, as it does not directly concern the subject in hand, I shall say no more.

The frequency of the occurrence of pain of some sort or another as the first symptom, compared with hæmorrhage or discharge, is shown in the following table.

TABLE 2.—*First symptom.*

Pain	in 13 cases,	or 26	per cent.
„ with hæmorrhage	in 8 „	or 16	„
Hæmorrhage	in 8 „	or 16	„
Discharge, offensive in 5 cases „ not offensive in 2 cases	= in 7 „	or 14	„

[1] Omitted for want of space.

Pain, with discharge . . .	in 2 cases,	or 4	per cent.	
„ hæmorrhage, and discharge .	in 2 „	or 4	„	
(Incontinence of urine . . .	in 1 „	or 2	„	)
(General malaise . . .	in 1 „	or 2	„	)

This differs from the proportions deduced from 166 cases in Dr. West's last edition of his work 'On the Diseases of Women,' 1879, p. 375, which give for the cases commencing with hæmorrhage unaccompanied by pain the percentage of 46·3; for the cases commencing with pain only the per-centage of 18·0; for those of hæmorrhage with pain the per-centage of 13·8; for those of pain with discharge 9·0; for those of discharge without pain 12·6.

But if we add his cases in which pain with or without other symptoms was present as a first symptom we get a total of sixty-eight, or all but 40 per cent., while mine similarly treated give a total of twenty-five, or 50 per cent.

Something must be allowed for the memory in these cases; it is impossible to arrive really at the first symptom noticed; we cannot get further than the first symptom remembered.

Where any symptom was believed by the patient to have definitely preceded all others, even by a short interval, I have noted that symptom only.

With regard to those which were stated to have commenced with pain, I have the following comments to make:

One patient aged fifty had had a flooding five years previously before the menopause, but no other symptoms till five months before admission. In this case I decided to disregard the hæmorrhage.

In two cases pain, hæmorrhage, and discharge were noticed at the same time; this may have been the case in one or two others.

The commonest seat of the first pain is extremely variable, and my notes do not enable me to make any statements with regard to it. I would refer to the table of pain felt in one locality only and the remarks accompanying it.

The cases in which pain was present as a first symptom were as above stated twenty-five, or 50 per cent. Those in which hæmorrhage was present as a first symptom, with or without

other symptoms, amount to eighteen, or 36 per cent. In Dr. West's table they would amount to 100, or 60·2 per. cent. Those in which discharge was present as a first symptom, with or without other symptoms, amount to eleven, or 22 per cent.

In Dr. West's tables they would amount to thirty-six, or 21·0 per cent.

Where the pain was slight and the first hæmorrhage was profuse, it is not improbable that the pain would be forgotten as a first symptom, while a moderate hæmorrhage would most probably attract attention. This may explain discrepancies in various tables, and would tend to strengthen the position of pain as a first symptom on the whole.

TABLE III.—*From the commencement of the disease—*

Pain, with or without other symptoms, was present	in 25 cases,	or 50	per cent.
Hæmorrhage, with or without other symptoms was present	in 18 „	or 36	„
Discharge, with or without other symptoms, was present	in 11 „	or 22	„

Thus, my cases taken in either way show that pain rather than any other symptom marked the commencement of the disease.

I would add, however, that my cases amount to 50, whereas Dr. West's amount to 166.

Three cases had no pain. In one of them, a patient aged twenty-eight, who dated her illness twelve months back, the disease was an ordinary epitheliomatous cervix, the uterus being movable. In another, aged thirty-two, who dated her illness from a hæmorrhage four months back, the disease was an epithelioma of the posterior lip of the cervix and posterior vaginal wall. In the third, aged forty-six, whose illness began with a discharge six months back, the disease had begun to spread from the cervix to the vagina. All three had suffered from hæmorrhage during the past four months.

To these I have to add two from the Appendix, selected on account of this point. One was a florid, healthy-looking

woman, aged thirty, whose first symptom was a hæmorrhage three months past, and whose disease consisted of an advanced cancer, which had involved the vagina and fixed the uterus. The other was aged sixty. Her illness had begun with hæmorrhage twelve months back, and her disease was an advanced fungating cancer, which had fixed the uterus.

These cases represent every stage of the disease except the most extreme ulceration, all that can be remarked about them in common being the presence of hæmorrhage.

With the above are to be considered 14 other cases in which the pain after admission and rest in bed was found to be not severe enough to give a good test of the efficacy of morphia.

TABLE 4.—*Seat of pain.*

Sacrum generally	9	added together, minus 2 cases in common to more than one heading = 30
„ apex	6	
„ base	17	
Hypogastrium		26 (1*)
Poupart's ligament		23
Pudenda		18
Front of thigh		11
Painful sitting		6 (1*)
Back of thigh		6 (1*)
Inner side of thigh		6
Coccyx		5
Painful standing		5
Painful micturition		5
Loins above sacrum		4
Internal abdominal ring		4
Sacro-iliac joints		4
Pain transfixing the body		4 (1*)
Iliac crest		4
Rectum		4
Outer side of thigh		4
Below knee		4
Anterior superior spine of ilium		3
Outer side of ilium		3
Buttocks		2
External abdominal ring		2 (1*)
Painful defæcation		2
Painful lying		1
Posterior superior spine of ilium		1 (1*)

Over hip-joint	1
Over trochanter	1
In knee	1
Total . . .	190 (6*)

N.B.—Cases in Appendix are marked with an asterisk.

The seat of pain was ascertained by making the patient place her hand or finger on it. In a few early cases the part of the sacrum was not specially noted. In two cases pain was felt in two distinct parts of the sacrum, and not generally throughout its extent. The apex is not uncommonly the seat of pain. If we were to speak generally of "backache," we should have to include with the sacrum the loins above the sacrum, sacro-iliac joints, buttocks (?), and posterior superior spines of ilium, which would give a total of forty-six out of a total of 190 pains of all sorts, or 24 per cent.

The *hypogastrium* was indicated in most cases by the patient laying her hand above the pubes in a vertical direction, the fingers pointing towards the pubes.

Poupart's ligament.—The pain above Poupart's ligament, and parallel to it, was indicated by laying the hand of the corresponding side exactly parallel to and above it. If we were to speak generally about the "groin" or "iliac fossa," we should have to include pains over the internal and external abdominal rings, and anterior superior spine of ilium (?), making a total of thirty-five, or 18 per cent., of all pains.

If we add the cases in which pain was rather worse in the left inguinal or iliac regions, or exclusively on that side, as compared with the right, we find the numbers—left=12, right=2, or 6 to 1.

This preponderance of left-sided pain in cancer seems to argue for the essential difference between the two sides in their capacity for feeling pain, for cancer has no predilection for the left side.

This preponderance of left-sided pain is well-known with regard to submammary pains, as well as pains in the iliac fossa; indeed, "pain in the left side" is almost a proverbially frequent female complaint.

But it is not only in the capacity for feeling pain that the left side is distinguished from the right, for it is also more often affected with anæsthesia. Briquet[1] found in 90 cases of hemianæsthesia, 20 affecting the right, and 70 affecting the left, side.

That man is not an absolutely bilaterally symmetrical animal is shown, besides, by the localisation of the cerebral centre for speech.

Front of thigh.—The whole of the quadriceps extensor cruris was distinctly indicated by the patients. If we add other parts of the thigh we shall get 27 in all, or 14 per cent. of all pains. Pain in the thighs does not seem to be commoner on one side. It seems to be remarkably frequent in pelvic cancer.

Painful standing.—The pain in these cases is strictly analogous to those in "painful sitting," the diseased viscera being dragged in the former case by their own weight, and pushed up in the latter by the soft structures passing through the pelvic outlet. One case in the series complained that the recumbent position caused pain; this, though unusual, belongs to the same class. The patient felt this pain if she lay on either side, when she "felt as if the womb was being dragged from the side."

Painful micturition.—Of the 5 cases the following are some of the particulars:—The first had an ordinary epitheliomatous cervix, the uterus being movable. She complained of pain in the vulva on micturition, relieved by micturition. The second had an ulcerated cancerous uterus in an advanced stage; the bladder was tender but large. For five out of the six months of her illness she had suffered from frequent and painful micturition, having to pass water at first every hour, more frequently as time went on; the pain on micturition was pricking and burning, like a scald. The frequency of micturition compelled her to rise, when in the hospital, every ten or fifteen minutes. The hypodermic injection reduced this to two or three times a night, greatly relieving the pain. The third case had a generally indurated

[1] Briquet, 'Traité Clin. et Therap. de l'Hystérie,' Paris, 1859, p. 278.

pelvis; the bladder was hard, but scarcely tender, and four inches long. The necessity for micturition came on her with great frequency, suddenness, and pain, which latter was relieved by micturition, but when it came on she could not hold her water. The fourth case suffered from frequent and painful micturition, the pain being felt in the base of the sacrum, and also in the vagina, "a forcing as if something wanted to come away." In her case there was epithelioma of the cervix, with partial fixation of the uterus, the vagina having become involved. In the fifth case micturition was frequent and painful; the disease was general induration of the whole pelvis, with an abdominal tumour and ascites.

The physical signs sufficiently explain the symptoms in three of the cases; in the fourth the disease had begun to extend, but in the first case it was in quite an early stage. We need only allude to the extreme frequency of this symptom in pelvic diseases of various sorts.

Pain in loins above sacrum.—In one case the disease was simply epithelioma of the cervix, uterus movable; the pain was across the loins. In another the disease was advanced, pelvis entirely invaded, with a recto-vaginal fistula; the pain extended from the last lumbar spine down the sacrum. The third was a simple epithelioma like the first; the pain extended from the upper lumbar spine to the coccyx. In the fourth the disease was similar; the pain was over the last lumbar spine.

Pain transfixing the body.—In the first case the disease was advanced, the pelvis generally invaded, with recto-vesical fistula; the pain extended from above the pubes to the right, and lately to the left, posterior superior spine. In the second the cervix was displaced to the left, nearly fixed, hard, and nodulated; the pain began in the coccyx and pierced through to the inner half of both Poupart's ligaments, above the pubes, and down the inner side of both thighs. In the third the pelvis was generally invaded with hardness, the deposit being most on the left, the uterus seeming to be joined to the left sacro-iliac synchondrosis;

the pain was situated in the base of the sacrum and in the left sacro-iliac synchondrosis, from which it pierced through to the left groin. In the fourth the disease was a malignant hypertrophy, the uterus being five inches long, not fixed; the pain pierced from the sacrum to the hypogastrium. In the third case only could any connection be traced between locality of disease and locality of pain. All the cases are seen to be more or less advanced. I am inclined to regard this pain as rare, except in malignant disease.

Iliac crest.—Pain was distinctly referred to the outer side of the iliac crest.

Rectum.—The first was an advanced case with recto-vesical fistula. In the second, which was advanced, the neighbourhood of the rectum was markedly invaded. In the third there was recto-vesical fistula. In the fourth the disease was advanced, the rectum narrowed, producing retention of fæces. Pain was felt nowhere but in the rectum.

Pain below knee.—In one case pain was felt in the left knee and instep; in another in the right or left ankle; in another occasionally down the back of the left calf to the sole of the foot; in the fourth at the back and bottom of the left heel, with redness. The pelvic physical signs throw no light on any of these.

Outer side of ilium, that is, on the fossa of the gluteal muscles or dorsum ilii.

Painful defæcation.—This is here distinguished from pain in the rectum apart from defæcation. Both were advanced cases, one with retention of fæces.

Table 5.

Seat of pain.	Number.	Per cent. (of all pains).
"Backache"	46	24
Lower abdomen	26	14 (nearly).
Groins	35	18 (6 times as often in left as in right).

The following table represents the cases in which pain was felt in one locality only:

TABLE 6.

No.	Age.	Pain.	Duration of pain.	Disease.
14	24	Stabbing over left Poup. lig.	5 months	Cancer with parametritis (?), dense extending hardness above left Poup. lig. and imbedding uterus.
22	44	Indefinite aching of sacrum	3 months	Encephaloid mass protruding into vagina, removed twice.
23	46	Burning above pubes	7 months	Epithelioma of cervix, principally of canal.
24	27	Stabbing in hypogastrium, pain in anus on sitting	2 or 3 weeks	Cancer with perimetritis, uterus fixed.
33	33	Gnawing over last lumbar spine	5 months	Epithelioma of cervix, uterus movable.
42	33	Pain in rectum on defæcation	3 years	Advanced cancer of pelvis, rectum obstructed.
46	60	Burning in pudenda	7 weeks	Advanced ulcerated cancer, malignant vesico-vaginal fistula.

The limitation of the pain in all except one of these cases coincides with its short duration. In No. 42, had not the disease happened to invade the rectum there would have been no pain in a very advanced case. Case 46 is still more remarkable. Cases 14 and 24 are also advanced, though the pain had only lately been felt.

The whole table shows how far cancer may advance without pain, and should be compared with the cases above described, in which pain was absent. It shows so far that no one spot is more frequently than another the seat of the first pain; pain may begin anywhere. Most of the cases had pain in so many different parts that any further generalisation seems impossible.

External soreness to touch was noticed in 26; in one case it was eased by warm drinks, increased by cold drinks; in another it was eased by external warmth. In one case there was soreness to touch, but relief by pressure. In 9 cases there was no spot sore to touch.

I have thought it useless to speculate on the question of nerves involved, for in the first place this would simply

amount to an enumeration of all the nerves in these regions; and in the second place the known course of malignant disease, advancing as it does regardless of anatomical impediments, would vitiate any conclusions based upon the relations of fasciæ or the course of nerves.

TABLE 7.—*Cases showing coincidence of locality of disease and locality of pain.*

No.	Disease.	Pain.
8	Hardness behind cervix on left, extending in front to vagina, which lies pressed to left obturator foramen.	Just within left ant. sup. spine, and along left Poup. lig.
10	Between uterus and left side of pelvis is a mass of induration amalgamating uterus and bone.	Pain down back of left thigh to ham, no such pain on right.
26	Deposit most on left side of uterus, where it seems to be joined to left sacro-iliac synchondrosis.	Pain in left sacro-iliac synchondrosis, and from thence to left groin, sometimes down outer side of left thigh, no similar pain on right side.
29	Uterus adherent to left side of pelvis, right side comparatively healthy.	Twitching and pain down back of left thigh, no similar affection of right.

The results of this table are mostly negative and may be stated thus: that only in 4 of the 50 cases could any such coincidence be traced. It must be remembered that any considerable invasion of the pelvis renders a minute examition of its physical condition impossible.

TABLE 8.

Duration of pain.	Number.
2 weeks	1
4 „	1
6 „	1
7 „	1
8 „	2
9 „	1
11 „	1

Duration of pain.	Number
3 months	3
4 „	4
5 „	6
6 „	6
7 „	1
8 „	1
9 „	3
12 „	4
16 „	1
19 „	1
2 years	6
3 „	2

I have not been able to make any general statements with regard to the date of the commencement of pain, which is subject to enormous variation.

TABLE 9.—*To illustrate the quality of the pains in the words of the patients.*

	Number.	
Aching	24	
Dragging, Forcing, Bearing down†, Like a weight	19 (1*)	†In one case "bearing down, as if something was dragging, relieved by wearing a cloth;" in another "as if the womb were falling out."
Shooting, Stabbing, Darting	17 (1*)	
Gnawing	9	
Hot, burning	8 (1*)	
Throbbing	3	
Like first stage of labour	3	Described as pains in sacrum like those at the beginning of labour.
Like second stage of labour	3	Described as pains like labour when the child is being born into the world.
Smarting	3	
Pricking	3	
Sharp	3 (1*)	
Sore, leaving soreness	2	
Jumping	2	
Relieved by pressure	2	
Like a gathering	2	
Like scraping the bone	2	
Grasping	1	

As if the bones were parting	1	
Bursting	1	
Numb	1	
Windy	1	... Relieved by passing flatus.
Like a stitch	1	
Opening and shutting	1	
Like cramp	1	

Leading questions were avoided, the words are those selected by the patients themselves.

TABLE 10.—*To show intensity of pain.*

Slight	15
Severe	8
Causing screams or groans[1]	16
Preventing sleep:	
Never	4
Occasionally	9
Usually	26 (1*)

TABLE 11.—*To show the relation between intensity of pain and duration of disease.*

Intensity of pain.	Average duration of disease.
None[2]	8 months.
Slight	Nearly 14 months.
Severe	9½ months.
Causing screams or groans	Nearly 15 months.

This table shows that no relation existed between intensity of pain and duration of disease.

TABLE 12.—*To show the relation between intensity of pain and duration of pain.*

Intensity of pain.	Average duration of pain.
Slight	Nearly 9 months.
Severe	8 months.
Causing screams or groans	9½ months.

This table shows that no relation existed between intensity of pain and duration of pain.

[1] The fact of patients groaning or screaming, apart from the individual peculiarity of endurance, is quite as much a question of quality as of intensity of pain; a constant pain is less likely to produce cries than one which is paroxysmal.

[2] Two cases in the Appendix are included.

TABLE 13.—*Showing time when pain is worst.*

Night	20 (1*)
Painful standing	9
Evening	4
No difference, constant	3
Noon and midnight	3
Indefinite	3
Painful sitting	3
10 p.m.	2
When bladder is full	2
3 p.m.	1
4 p.m.	1
From 4 to 7 p.m.	1
8 p.m.	1
After drinking	1
Painful defæcation	1

If all the cases in which pain was worse in the latter half of the twenty-four hours (*i.e.* post meridiem) be added, they amount to thirty (not including one case in which pain was greatest at noon and midnight).

In no case was the pain worst in the former half of the twenty-fours (*i.e.* ante meridiem).

TABLE 14.—*Bleeding and its relation to pain.*

3 patients had no pain [1]	—
Hæmorrhage [2]	41 (3*)
No hæmorrhage	9
	50 (3*)
Pain relieved by bleeding	24 (1*)
Pain worse after bleeding	3
Ditto, "still patient feels relieved by it"	1
Pain absent during bleeding, worse after it	1
Pain worse just before and just after it	1
No difference noticed [3]	7
No data	1

[1] All the patients who had no pain had hæmorrhage.

[2] The 41 cases of hæmorrhage consist of all those in the second half of the table and the 3 painless cases.

[3] In 2 cases the pain was slight; in 2 the bleeding was nearly or quite constant.

Of the patients whose pain was slight, fourteen had hæmorrhage, one had none.

Of the patients whose pain was severe, six had hæmorrhage, two had none.

These figures do not militate against the above table, but they show very little in addition.

I cannot help connecting the two facts of pain worse at night and pain relieved by bleeding, with the thought that they may both be due to a common cause. Pain relieved by bleeding suggests tension of the vessels in the diseased parts as its cause. With regard to pain being usually worst at night I would refer to the common complaint of bandages on the lower limbs, comfortable by day, becoming tight at night, as an indication of a rhythmical change of the vascular state by day and by night.

Symptoms of nerve affection.

It has been difficult to select instances; most of the pains felt externally are no doubt due to some such cause as transference or radiation. I would refer to those cases in which pain was felt below the knee which are mentioned in the table, showing the seat of the pains, and especially to one case in which it occasionally ran down the back of the left calf to the sole of the foot, which was not tender to touch. This was a case of epithelioma of the cervix, uterus fixed.

But two cases have come under my notice in which there were most singular motor phenomena, consisting of twitchings of one or both legs. One case occurred in the series (No. 29), the other I have placed in the Appendix for its special interest (No. 53*). In the former case the movements were seen, in the latter case they were not seen as the patient was an out-patient and they occurred at night only, but they were so graphically described, and resembled so nearly those of the case which was in bed in the hospital that I have no doubt of the truth of the account.

These cases are as follows :

No. 29.—A. P—, æt. 30, four children, last ten years; one miscarriage, twelve months ago. Under observation seventeen days.

Physical condition.—Indurated nodular cervix; *uterus adherent to left side of pelvis,* right side comparatively healthy. *Duration.*—Never well since miscarriage twelve months ago; had a flooding five months ago, worse since then.

Seat of pain—First in middle of hypogastrium, then *went down into the back of the left thigh* from the buttock to the knee; occasionally in vagina; cannot sit on right buttock ("painful sitting"). Duration: two months. Quality: in hypogastrium "aching" and "weight"; down thigh "aching" or "numbness." Motor phenomena in back of left thigh, the muscles of which occasionally twitch, the twitching being accompanied by pain, extending from the hip to the knee, and referred to the region of the left sciatic nerve; noticed for the last two months. The leg sometimes gives under her in walking, so that once she actually fell, but the pain is felt when lying still. Pain in vagina, "aching," also like a periodical "gathering;" "when it breaks she is easier," "it seems to break once in two or three days, or two or three times a day." The twitching attacks do not recur periodically and their duration is variable. Intensity: not severe, does not destroy sleep. Time: no fixed time.

Symptoms of nerve affection.—Twitching (see above).

External soreness.—None. Frequent micturition not complained of. Bleeding: has had three severe floodings; relief with bleeding, pain worse before, better after. Offensive discharge at times. Sweating: none. Pyrexia: not noticed. Morphia treatment: none required.

No. 53*.—E. G—, æt. 29, married 2½ years; never pregnant, seen by ~~Dr. Godson~~ twice in out-patient room of St. Bartholomew's Hospital.

Physical condition.—Cachexia, loss of flesh seven weeks. Large fungating mass involving cervix and upper part of vagina; uterus fixed, bleeding on touch; the mass preventing any further investigation. Duration: first thing

noticed was fainting at a monthly period five months ago, then pain began and returned at every period. For the last two months the pain has been continuous.

Seat of pain.—Above pubes, opposite each external abdominal ring; from the right ring through to right posterior superior spine; also along course of right sciatic nerve as far as ham; nowhere else. Duration: dysmenorrhœa five months, continual pain two months. Quality: in groins "dragging"; from right inguinal ring to sacrum "darting"; down back of right thigh "sharp" and "burning." Intensity: pain down leg, makes her scream, cannot sleep half-an-hour together. Time: worst at night.

Symptoms of nerve affection.—At night a sensation travels all along the course of the right sciatic nerve, from the hip to the toes; the thigh becomes flexed on the abdomen, the knee on the thigh, and the toes are flexed "*en griffe.*" At the same time a gnawing pain begins at the upper part of the back of the thigh and extends as far as the ham along the back of the thigh, no further. The paroxysm of pain and spasm lasts about three minutes; it occurs once or twice every night, never by day. She can walk and use her leg quite well, but sitting hurts her. During the nocturnal attacks the right leg becomes hot to the hand, and her husband complains that it burns him; no redness nor swelling. She can feel in her legs and feet as well as ever.

External soreness over right external ring, over right posterior superior spine, in upper part of vulva (where there is no pain except on pressure). Frequent micturition: no complaint. Bleeding: six weeks. Relief with bleeding: pain is worse than usual before the bleeding; during the bleeding the pain in sacrum is very bad; she feels relieved when the bleeding is over. Offensive discharge: none, no discharge at all. Sweating: none.

Three days after her first visit she returned to say that her left leg had been attacked exactly like the right, the attack had lasted an hour, the leg burnt like the other, and was drawn up just in the same way. She added to her former account one of "painful sitting," when she sits "it

seems to force something up both passages," also of "painful lying," if she lies on her back "the pain goes through to the stomach, if she lies on her stomach, the pain goes through to her back."

No. 54.*—M. S—, æt. 38, married nineteen years; eleven children, the last ten months ago; no miscarriages. Catamenia began at fifteen, and have been regular. Till her last confinement, on December 30th, 1878, she was quite well; the labour was easy and natural. After her confinement a continuous coloured discharge.

In August, 1879, a growth was removed in the hospital. On the third day after the operation she was seized with pain, which has become gradually worse for the last four weeks, and has made her unable to lie, except on her left side; decubitus previously indifferent.

On her admission, on November 13th, 1879, she lies on her left side, with the right thigh flexed at an angle of sixty or seventy degrees on the trunk, in which position she suffers least pain. She thinks she could move the thigh if it were not for the pain. There is an area of blunted sensibility to gentle pressure on the front of the right thigh, extending somewhat to the external side. This area does not correspond exactly to the distribution of any single nerve. It is mainly situated over the region supplied by the external cutaneous nerve, but it also encroaches on those supplied by the middle and internal cutaneous nerves. Its boundaries are not constant. Around this area is an occasional zone of exalted sensibility, but this is also not constant. The most sensitive points are over the articular ends of the tibia and femur at the knee-joint. Another area of exalted sensibility follows somewhat the course of the long saphenous nerve, but very inaccurately. The whole of the thigh is exceedingly sensitive to deep pressure, and often the seat of paroxysms of pain. The amount of pain seems to vary much from time to time, and to be greatest when the patient's attention was directed to the limb.

Physical examination (imperfect on account of patient's

inability to lie on the right side) shows a large, not tender, mass in the right iliac fossa, extending towards the left, gradually diminishing in extent as far as the left pubic bone. Cervix uteri posteriorly and to the right, fixed, and consisting of several projecting, evidently malignant, masses.

This case has not been included among those marked with an asterisk in the table, having been inserted after the paper was written.

I have no special explanation to offer with regard to the retraction of the limb or the perversion of sensation.

In the former case (29) the disease was almost confined to the left side of the pelvis, the pain and twitching attacking the left leg. The attacks were not periodical, and their duration was variable.

The second case was more remarkable. In addition to pain there was violent motion, and probably vaso-motor disturbance, all being paroxysmal. While under observation the second leg became affected like the first. Advanced disease prevented any minute pelvic examination.

The pain in both cases passed down along the back of the thigh, but no farther than the ham, the muscles of the whole leg being affected in the second case.

It is hard to give an anatomical explanation of these cases. Pain ceasing at the ham would make us think of the small sciatic nerve, but the motor phenomena are not thus accounted for. Nor will any one nerve account for the elaborate flexion of all the joints described in the second case, on which subject the patient was repeatedly cross-examined.

The movements were consentaneous, pointing to the action of a nerve centre. Was the spinal cord affected by the disease? This could hardly have been, not only because there was no affection of sensation (such a selection of the motor tracts by cancer being quite inconceivable), but also because the affection was intermittent with large intervals.

Were the phenomena due to peripheral irritation reflected from the cord in the form of motor and vaso-motor disturb-

ance? This seems most probable, especially when we remember that the response was at first unilateral, and became afterwards bilaterally symmetrical, illustrating Pflüger's laws of reflex response.

I should feel inclined to connect the nocturnal spasm with the remarks above made with regard to the vascular state and nocturnal pain, and to suggest that, although intermittent phenomena cannot be accounted for by actual cancerous invasion of these motor nerves, they might be due to hyperæmia extending beyond the disease in their neighbourhood.

The only case resembling these in any respect is one related by Cornil ('Gaz. Med. de Paris,' 1863, p. 461). "Cancroïde de la portion vaginal du col utérin et du vagin, altération consécutive de même nature des nerfs sciatique et crural du côté gauche." This was a case of Charcot's. There was œdema of the left lower limb, great pain therein, which began in the great toe, then came in the calf and thigh, and then in the gluteal region. The pain preceded the œdema five weeks. The pain was at first paroxysmal and intense, making her call out, and was compared by the patient to pinching, it followed the course of the external saphenous nerve. The thigh became flexed on the pelvis, the leg on the thigh at an obtuse angle, the foot strongly extended, toes flexed on the foot, sensibility of skin and power of motion not lost, but the latter impaired. Post-mortem examination showed thrombosis of the whole crural vein, which was invaded with cancer. Anterior crural nerve cancerous, and around it in its whole course dissecting suppuration; sacral, lumbo-sacral, and sciatic nerves cancerous; femoral artery sound. Ulcerated cancer of cervix uteri and vagina, the former destroyed.

The flexion in this case was apparently permanent, and differed from that in ours.

Weir Mitchell ('Injuries of Nerves,' p. 123) mentions chorea in limbs after injury to the nerves as dependent on changes in the nerves, but gives no case which resembles mine.

Cornil, in an excellent paper, "Sur la production de tumeurs épithéliales dans les nerfs" ('Journ. de l'Anat. et de Phys.,' Robin, 1864, vol. i, p. 185), says:

"La littérature médicale est pauvre sur ce sujet, et cependant les douleurs si intenses ressenties par les malades au siége de tumeurs de nature épithéliale et dans leur voisinage, parfois sur le trajet des nerfs, comme une douleur névralgique, appartiennent presque toujours, ainsi que le demontrent les autopsies, à une lésion matérielle des nerfs." And p. 196, "La douleur, s'irradiant plus ou moins régulièrement dans la diréction du bout péripherique du nerf, très-vive, mais ne possédant pas de foyers qui en soient spécialement le siége, est le seul caractère de ces altérations des nerfs. . . . . Pour les tumeurs internes designées sous le nom commun de cancer, toutes les fois q'une femme avait pendant la nuit souffert d'une façon continue et violente dans les cuisses, les jambes et la région fessière, nous avons presque toujours trouvé après la mort, soit une néoplasie épithéliale, soit une hypertrophie et hypergenèse du tissu cellulaire de névrolème des nerfs sciatique ou crureaux, généralement d'un seul côté."

I had no opportunity of verifying these remarks by an autopsy; the early or late onset of the pain in some cases, and its absence in others, probably depends on the early or late invasion of the nerves. The multiplicity of the pains shows that any or all of the pelvic nerves may be involved, the aching of the thighs probably indicating the invasion of the anterior crural nerve.

Frequent micturition was complained of in seven cases. This includes all those mentioned in Table 4, as suffering from painful micturition, and two others; one of which has been mentioned before as having a large pelvic and abdominal tumour with ascites, the whole of the pelvic brim being a solid mass; the other was a very advanced case, with obstruction of the rectum, retention of fæces, and recto-vesical fistula.

Frequent defæcation (not painful) was complained of in one case of advanced ulcerating cancer with recto-vesical fistula.

Frequent micturition and defæcation were complained of in one case of advanced cancer with recto-vesical fistula.

Difficult defæcation with retention of fæces was noticed in two cases, one mentioned above. In both cases distinct obstruction could be felt.

Fistula of some sort was observed in six cases; recto-vesical in three, vesico-vaginal in two, recto-vaginal in one.

Incontinence of urine was observed in one case of ordinary epithelioma of the cervix, uterus movable.

We come now to the second half of the subject, namely, the efficacy of morphia as administered in various methods.

The quantities employed were, subcutaneously, gr. $\frac{1}{6}$, per rectum gr. $\frac{1}{2}$, per os gr. $\frac{1}{12}$ (hydrochlorate). The ordinary doses in use at the hospital.

Of two cases I am unable to give the results.

In seventeen cases there was either no pain, or the pain so improved beforehand with rest in bed, that it gave no fair test of the efficacy of morphia.

The remaining cases had morphia, and the results were noted.

In ten cases the order of efficacy was as follows:—(1) Injection, (2) draught, (3) suppository.

In four additional cases the injection relieved most.

In three cases the order of efficacy was:—(1) Draught, (2) injection, (3) suppository; but in one of these cases it was doubtful whether the injection did not relieve as much as the draught, though it caused vomiting.

In two cases the suppository was said to have produced most relief, but both these results were doubtful; in one case the injection, which relieved as much otherwise, produced vomiting.

In one case the draught and suppository are said to have produced equal relief, and more than the injection.

In four cases the suppository was useless.

In one case the draught was useless.

In five cases the result was uncertain.

In five cases all methods are said to have given equal relief, but one of these is doubtful.

In one case the patient denied that any method gave her relief, but she was dissatisfied with an absence of alcohol from her diet list, which drug she preferred to morphia.

If we add up these cases, we shall find the cases in which the injection gave most relief to amount to fourteen ; those in which the draught relieved more than the injection to amount to four (one doubtful) ; those in which the suppository gave more relief than the injection to amount to three (two doubtful).

Relief was gained without sleep in six cases ; in two after the injection (one of them with vomiting, which may account for the sleeplessness) ; in two after the suppository (one with slight relief only to pain) ; in two with each of the three methods, one of them with giddiness. In the remaining case the relief was unsatisfactory.

Relief to difficult, frequent, or painful micturition.—In two cases of frequent micturition, and one of frequent micturition and defæcation, the effect was marked. In one of these cases the patient had to rise every ten or fifteen minutes, but with the hypodermic injection the frequency was reduced to two or three times in the night. In another all the methods relieved the pain, diminished the frequency of micturition, entirely banished the pain of micturition, and relieved the pain of defæcation. This was an advanced case with obstruction of the rectum, retention of fæces, and recto-vesical fistula. Of course, the disease itself was made worse by increasing retention of fæces.

This superiority of the injection consisted in its quicker, more thorough, and more enduring effect ; in most cases the patients had no hesitation in preferring it, and that in spite of the puncture.

At one period of the inquiry it was proposed to press each method to its physiological effects, but in consequence of the complications thus introduced, this was afterwards abandoned, the above doses being mutually compared.

Untoward results of morphia.—Nausea was produced in six cases; in four with the use of the hypodermic injection only, in two after the use of all the three methods; in one case nausea was accompanied by dizziness, in another by faintness.

Vomiting was produced in seven cases; in three with the use of the hypodermic injection only; in one after the injection and suppository; in one after the injection and draught; in one by all the methods. This last case was relieved by the addition of Atropiæ Sulph. gr. $\frac{1}{120}$ to Morph. Acet. Hypoderm. gr. $\frac{1}{6}$, which stopped the vomiting and increased the sedative action of the morphia. I regret that it was not tried oftener. In one case vomiting was accompanied by giddiness, in another by headache.

Giddiness was produced in two cases. The injection is seen to be rather more apt than the other methods to produce these discomforts.

It has not entered into my programme to compare morphia with any other drug for the relief of the pain of cancer. I have so far taken it for granted that,—the question whether in any particular case one is justified in running the risk of demoralising a fellow creature for the sake of relieving her pain being duly weighed and settled,—morphia is the only drug on which we can rely with confidence for that relief.

There can be no doubt that the hypodermic injection did this most effectually, but as it cannot be safely entrusted to the patient, the other methods can be tried and the injection kept in reserve.

In spite of the fact that the morphia suppository is applied to the very neighbourhood of the disease, it was decidedly less effective than morphia given by the mouth, and very much less so than morphia injected subcutaneously.