

adherent to the abdominal wall, and here there was a large shallow ulcer exposing the muscular coat which presented no peculiar appearances. It was perforated in the centre, the opening communicating with the abscess. There were three small openings with yellow softened edges by which the abscess communicated with the bladder. The body was extremely emaciated, but beyond marked amyloid disease of the liver and spleen it presented no other abnormal appearances.

In the last two cases the mischief occurred in one in the face and in the other in the neck.

CASE 14.—A woman, aged 27 years, a patient of Dr. D. A. Davies, who was sent to me by Dr. J. Mitchell Bruce, was admitted to the hospital in December, 1894. She came of a highly tuberculous family and had tuberculous disease at the apex of the left lung. A year previously the teeth had been stopped and at that time there was great swelling of the face. She thought that she went to the dentist because of a slight toothache and not because of any ulcer of the gums. The swelling of the face was present before she went to the dentist, but it increased very much afterwards. The stoppings were therefore removed and the nerve was killed, and ultimately, six weeks before I saw her, the left canine, two bicusps, and the first molar of the upper jaw were removed. The swelling broke on the surface of the cheek and discharged from time to time and when she came to London there were two or three openings in the indurated tissue of the left cheek from which exuded pus in which Dr. Bruce at once detected the characteristic yellow masses of actinomycosis. The patient lived outside Swansea and was very fond of chewing corn and straw. I scraped the cheek with great thoroughness on Dec. 17th. The only place that gave any trouble from hæmorrhage was the outside of the upper jaw above the place whence the teeth had been removed, and this very soon stopped. The wounds were plugged with lint soaked in pure carbolic acid. She was at once put on iodide of potassium, being given five grains three times a day, and the wounds rapidly healed. The ominous note was made when she left that there were tubercle bacilli but no actinomycetes in the expectoration. She died from pulmonary tuberculosis and rectal fistula some months afterwards; there was no return of mischief in the cheek.

CASE 15.—A woman, aged 33 years, was brought to me on June 18th, 1898, with a swelling near the angle of the jaw, apparently involving the sterno-mastoid. It was very hard, red on the surface, and it involved the skin. She had first noticed pain in the autumn of 1897, which gradually got worse, and the swelling appeared in February, 1898. She had had all the teeth of the upper jaw removed, but I discovered no evidence that they could have had anything to do with the disease. She had had no sore-throat. She had lived on a farm and was very fond of chewing grass and corn. The swelling did not look exactly like a tuberculous gland, but I thought it probable that it was one. It was opened on June 18th and I was much astonished to find that it had all the appearance of a gumma involving the sterno-mastoid, so I cut and scraped away as much as I could and made a careful microscopical examination of a part of the tissue removed. It showed simply inflammatory tissue and on examining the section now I can find no trace of the fungus. I accordingly put her on a course of iodide of potassium and, as I expected, the wound slowly but soundly healed. After stopping the iodide, however, two small nodules appeared at the lower part of the scar and a minute opening occurred at the extreme lower part, after which these nodules disappeared. Another nodule, however, appeared soon afterwards in the middle of the scar and, now being on the look-out, I carefully examined what came away and at once detected some yellow granules which showed typically the fungus of actinomycetes.

This is perhaps the most instructive case of the whole series because the true nature of the disease was not recognised for a long time, but the treatment was appropriate though founded on an incorrect diagnosis.

I may point out that of these 15 cases 10 of the patients were males and five were females. Their ages were respectively nine years, 14 years, 15 years, 17 years, 17 years, 18 years, 22 years, 25 years, 26 years, 27 years, about 30 years, 33 years, 38 years, and 45 years. In four cases the lungs and pleura were principally affected; in six cases the liver and pleura were principally affected; in two cases the cæcum or appendix was principally affected; in one case the rectum was principally affected; in one case the jaw was affected;

and in one case the neck was affected. The occupations of the males were as follows: one was the son of a dairyman, two were clerks, one was a florist, one was a butcher, one was an errand boy, one was a gentleman, one was a cellar-boy, one was a bricklayer, and one was a railway porter. Of the females there is nothing to be said about the occupation. Four of the 15 recovered, although one died subsequently from pulmonary consumption, and one has had a relapse but is now well. The others all died although several of them were treated vigorously with iodide of potassium. Three had embolic abscesses in the brain or in other parts of the body.

With regard to treatment I would again emphasise the necessity of carrying out active surgical treatment as well as of administering iodide of potassium. How active this treatment should be must be decided according to the merits of each case. I have not yet met with a case in which such an extensive operation as removal of the cæcum offered any chance of success—except, indeed, in one who recovered after the adoption of milder measures. But the inveteracy of the disease and the fact that this operation has once at all events been successfully performed would, I think, warrant its performance under favourable circumstances. The appearances seen in the lungs and liver of several of the cases that ended fatally do not encourage one to attempt much active surgery when these organs are attacked.

The special points which this paper brings out are the following. 1. The probability that this uncommon disease may be mistaken for others of everyday occurrence. 2. The possibility that for long periods and even after death no signs of the ray fungus may be present in the discharges or discoverable in the tissues. 3. The characteristic appearances of the abscess when opened. 4. The possibility of true embolic pyæmia resulting, the secondary abscesses containing the ray fungus. 5. The fact that if the liver or lungs are affected a lateral curvature of the spine is likely to occur, the concavity being towards the affected side.

I must conclude by expressing my sense of obligation to the physicians who have kindly allowed me to describe the cases which in many instances were previously, and in some instances continuously, under their care in hospitals. In the foregoing descriptions I have frequently made use of the plural "we" when the singular pronoun "I" might have been expected. This refers to occasions when questions of diagnosis were discussed between us, and I trust that I have in no case misrepresented the opinion of any of my colleagues.

I also desire to point out to anyone who may consult this paper for the sake of collating cases that some of them have been previously published, one by myself, and others by other writers. In each case, where I am aware of the fact, such previous publication is indicated in the text.

THE AFTER-RESULTS IN 40 CONSECUTIVE CASES OF VAGINAL HYSTERECTOMY PERFORMED FOR CANCER OF THE UTERUS.¹

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THE series of 40 cases recorded in this paper includes all the cases in which I have performed vaginal hysterectomy for cancer of the uterus up to the end of April, 1899, when I completed my fortieth case. Up to the year 1893 I had for the most part treated cases of cancer of the cervix that appeared suitable for operation by the supra-vaginal amputation of the cervix, and reserved total extirpation of the uterus for cases of primary cancer of the body of the uterus. Since that time, however, I have been more and more convinced that to perform the supra-vaginal amputation of the cervix in such a way as to give the patient the utmost chance that the disease will not recur is, in the majority of

¹ A paper read before the Royal Medical and Chirurgical Society on Nov. 13th, 1900. The author is much indebted to the Council for permission to publish the paper and some of the illustrations before they have appeared in the Transactions of the Society.

cases, a more difficult matter than to perform the operation of vaginal hysterectomy. I have for some time past only performed the supra-vaginal amputation of the cervix for very early cases of cancer of the vaginal portion in which there is a limited and superficial growth. Up to April, 1899, I have had 33 cases of the supra-vaginal amputation of the cervix for cancer, but I do not propose to deal with these cases in this paper.

THE CASES THAT REMAIN FREE FROM RECURRENCE.

Among the 40 cases of vaginal hysterectomy there are 14 cases in which the disease has not recurred. In two of these, Cases 3 and 4 in the series, although the clinical evidence convinced me that they were really examples of cancer, this cannot be proved by examination of the specimens. In the remaining 12 cases there can be, I think, no doubt whatever on this point. The specimens have been carefully examined and are here for inspection to-night, as also are sections of the growth in each case. This appears to me an important point.

My object in the present paper has been to inquire more especially into the *after-results* in the cases of cancer of the uterus in which I have performed vaginal hysterectomy. In such an inquiry it is essential, first of all, to prove that in those cases in which the disease has not recurred the growth was really malignant. In order to satisfy this condition I have in each case had an independent report on the growth by Mr. Targett of the Clinical Research Association, and his report will be found verbatim in the account of each of the cases. The necessity of a careful microscopical examination of the growth in each case is almost self-evident, and when the microscopical examination confirms the opinion based on the clinical features and physical examination there can, I think, be no hesitation in accepting the result as fully proved. In three cases in this series, Cases 3, 4, and 25, the microscopical examination did not confirm the diagnosis of malignancy based on the physical examination. In Cases 3 and 4, though I have excluded them as "non-proven," I feel little doubt that they were cases of cancer. I have myself met with an example of cancer of the cervix in which the appearance of the growth under the microscope would certainly not have warranted a diagnosis of cancer, but in the case in question, one treated by the supra-vaginal amputation of the cervix, the malignant nature of the growth was proved by recurrence. As regards Case 25 in this series, the clinical features and the physical examination led me to believe without any hesitation that the case was one of malignant ulcer of the cervix, but on examination of the cervix by the microscope Mr. Targett reported that the case was one of tuberculous ulceration. To make quite certain he examined two portions, each taken from a different part of the cervix. I think this case is an important one, as clinically it exactly resembled one of cancer of the cervix. Tuberculous ulceration of the cervix as a primary condition must be extremely rare. Very little is to be found about the subject in works on gynaecology, and it has not been regarded as a condition ever likely to give rise to difficulty when the diagnosis of cancer is being considered. Yet in my case (Case 25) primary tuberculous ulceration of the cervix produced a condition identical, as far as physical examination was concerned, with that resulting from malignant ulceration. I have seen a very large number of cases of cancerous ulcer of the cervix, certainly some hundreds, and I am sure that in the case in question the clinical features of the cervix were precisely similar to those produced by the ulceration of a cancerous growth. The occurrence of such a case emphasises the importance of always examining growths supposed to be cancer under the microscope before accepting them as really malignant. Again, one has occasionally heard of a case pronounced by a competent authority to be one of cancer of the cervix where after a long time the patient gradually improved and ultimately made a good recovery, to the surprise of everyone connected with the case, and no doubt to the discredit of the gynaecologist who had made the diagnosis. It seems to me, in the light of the case above referred to (Case 25), that not improbably the patients in some such cases may have really been suffering from tuberculous ulceration of the cervix, which presumably may occasionally get well spontaneously. However that may be, in Case 25, believing it to be a typical example of cancer of the cervix, I performed vaginal hysterectomy and the patient remains quite well. It is more than four years since the operation but I have,

of course, excluded the case from Table II.—the list of cases proved to be cancer of the uterus and treated by vaginal hysterectomy which remain free from recurrence at the present time.

To return to the question of the after-history of patients suffering from cancer of the uterus and treated by vaginal hysterectomy, in addition to proving the malignancy of the growth in each case there is the necessity of ascertaining the state of the patient after the operation. It is not an easy thing to do. To have any real value inquiries have to be made from time to time over long periods; for instance, two cases in this paper have been kept under observation for more than seven years. The evidence of non-recurrence may be obtained either by actual vaginal examination or by seeing the patient at intervals and observing that she continues in good health, or by hearing at intervals from her medical attendant that she continues well, or in some cases by hearing from the patient herself at intervals that she continues well. No doubt the most satisfactory thing is to examine the patient; in eight out of the 12 cases in Table II. I have myself examined the patients from time to time. In some cases, however, when the patient continues well she may not be unwilling to come to see you, but she will object to be examined, as she has nothing the matter. Two cases (Cases 7 and 24, Table I.) are in this category. In some cases one can only hear by letter from the patient or from her medical attendant from time to time. This evidence is not so unsatisfactory as it might appear, and for this reason; in those cases in which recurrence takes place the downward progress to a fatal issue is generally fairly rapid—a matter of months, so that if inquiries made at long intervals—once a year, for instance—result in a favourable report there can be no reasonable doubt that the disease has not recurred.

Numerous cases of vaginal hysterectomy and series of cases of vaginal hysterectomy for cancer have been published from time to time; but I am not aware of any considerable series of such cases in which the proof both of the malignancy of the growth, and especially of the condition of the patients many years after the operation, has been given so rigorously and in such detail as in the present series of cases. As regards the after-histories especially, it will be seen that I have given the date on which I either examined the patient or saw her without examining her, or heard from herself by letter, or heard from her usual medical attendant by letter.

As regards the intervals that have elapsed since the operation without recurrence in the 12 cases referred to.—In Case 7 more than seven years have passed and the patient is known to be well, and in Case 8 seven years have also passed without recurrence. Both of these cases were examples of primary carcinoma of the body of the uterus. In Case 15 six years passed without recurrence; in Case 19 five and a half years; in Case 23 five years; in Case 24 nearly five years; in Case 26 nearly four years; in Case 29 more than three years; in Case 32 two years and 10 months; in Case 33 two and three-quarter years; in Case 36 more than two years; and in Case 39 more than one year. Omitting Case 39 it will be seen, therefore, that there are 11 cases out of the 40 remaining free from recurrence from two to seven years after the operation—that is, 27·5 per cent. This result appears deserving of close attention, since at the present time some gynaecologists have been so much discouraged by their experiences as to doubt if it is worth while to operate on cases of cancer of the uterus at all.

The comparatively high percentage of patients remaining free from recurrence in my series is, I believe, largely due to the careful selection of cases. My practice has been generally to examine the cases carefully under anaesthesia and only to operate when the disease has appeared, so far as physical examination can decide, to be limited to the uterus.

As regards the cases in which recurrence is known to have taken place.—The disease is known to have recurred in 18 cases. In 12 of them recurrence took place during the first year; in two during the second year; in two during the third year; and in two during the fourth year. The 40 cases may be divided into groups as follows. In 12 cases there has been no recurrence; in 18 cases there has been recurrence; four patients died; in two cases the nature of the disease cannot be proved by examination of the specimens; in three cases I have no definite information as to whether the disease recurred or not; and in one case the disease proved to be primary tuberculous ulceration of the cervix and not

TABLE I.—40 CONSECUTIVE CASES OF VAGINAL HYSTERECTOMY PERFORMED FOR CANCER OF THE UTERUS.

Case.	Disease.	Date of operation.	Immediate result.	Remarks.	Years of age.	Remote result.
1	Cancer of body.	March 1st, 1886.	Recovered.	Ligatures only used to secure broad ligaments.	58	Recurrence early in 1887. Died July 7th, 1887, 15 months after operation. Recurrence during the first year.
2	Cancer of cervix.	Oct. 4th, 1886.	Died 48 hours after operation.	Pus set free in the operation (pyometra). Wall of right ventricle very thin and heart fatty. Died from oedema of lungs and heart failure. Ligatures only to broad ligaments.	62	—
3	Cancer of body.	Nov. 7th, 1889.	Recovered.	Large soft "cauliflower" mass protruding through widely dilated os on admission. This was removed immediately and vaginal hysterectomy performed on a subsequent occasion.	42	Seen and examined Oct. 5th, 1893—i.e., nearly four years after operation—when there was no recurrence. Not seen since.
4	Cancer of cervix.	Oct. 23rd, 1890.	Recovered.	Definite "cauliflower" growth on posterior lip of cervix. Hæmaturia soon after the operation, lasting five days. Blood casts present. Pressure forceps used to broad ligaments. Clinical signs and symptoms seemed conclusive as to malignancy, but the microscopical examination not so.	41	This patient has been regularly seen up to and including the present year 1900. There has been no sign of recurrence.
5	Cancer of body.	March 17th, 1892.	Recovered.	Soft papillary growth projecting in cavity of body of uterus.	44	Free from recurrence for more than two and a half years after operation. Case fully recorded in the Transactions of the Obstetrical Society of London, vol. xxxvi, p. 374. Recurrence during the third year.
6	Cancer of cervix.	June 16th, 1892.	Recovered.	Little of the growth to be seen at the os uteri. The whole of the cervical canal up to the internal os was affected by the malignant growth. The cervix, in fact, converted into a thin shell lined with the growth.	59	Good health for two and a half years after operation, then recurrence took place in the scar. Recurrence during the third year.
	Cancer of body.	[Feb. 1st, 1893.	Recovered.	An example of "hard" cancer of the body of the uterus—the rarer variety.	53	Still quite well—more than seven years since the operation.
8	Cancer of body.	June 8th, 1893.	Recovered.	An example of "hard" cancer of the body of the uterus.	57	Still remains quite well. Last examined at the London Hospital July 19th, 1900. No sign of recurrence.
9	Cancer of cervix.	July 20th, 1893.	Recovered.	—	35	Recurrence during the second year.
10	Cancer of cervix.	August 4th, 1893.	Recovered.	—	38	Died. Recurrence during the second year.
11	Cancer of body.	August 21st, 1893.	Recovered.	Soft papillary growth. Perineum had to be incised. After one side of uterus freed it was brought into the vagina by forceps like small midwifery forceps.	54	Came up to the hospital and was examined November, 1893, three months after operation. Quite well and no sign of recurrence. All efforts to trace her since failed as she had left the former address.
12	Cancer of cervix.	August 28th, 1893.	Recovered.	Soft mushroom-like growth affecting both lips. I thought at the time of operation that the left broad ligament and left utero-sacral ligament were somewhat infiltrated and that probably, therefore, removal of the uterus had not removed all the diseased tissue.	42	She was seen and examined on Nov. 30th, 1893, when there was distinct evidence of recurrence in the top of the vagina. I think most probably that the whole of the cancerous tissue had not been removed by the hysterectomy. Recurrence during the first year.
13	Cancer of cervix.	Feb. 1st, 1894.	Died.	Deep laceration of cervix left side. Fatal amount of blood lost at operation.	48	—
14	Cancer of cervix.	Feb. 22nd, 1894.	Recovered.	A case of large "cauliflower" growth.	52	Recurrence took place in August, 1894. Recurrence during the first year.
15	Cancer of cervix.	Feb. 27th, 1894.	Recovered.	An extensive "cauliflower" growth. It was not till the patient was under an anæsthetic that the operation seemed worth trying.	57	This patient remained free from any sign of recurrence till she died in February, 1900. Mr. Howse, Barking-road, E., saw her several times in her last illness. She died from phthisis.
16	Cancer of cervix.	August 13th, 1894.	Recovered.	"Cauliflower" growth of the cervix. Round nodule of the size of a cobnut in left broad ligament. As the uterus could be easily drawn down it seemed worth trying whether removal of the uterus and also of the nodule would be effectual.	43	I believe recurrence took place not very long after the operation, but I had not the opportunity of examining the patient after she left London. Recurrence during the first year.
17	Cancer of cervix.	August 16th, 1894.	Recovered.	An example of the nodular and infiltrating form of the disease, the whole cervix being much thickened by it. Little or no growth projecting from the vaginal portion.	32	Recurrence during the first year.
18	Cancer of cervix.	August 30th, 1894.	Died on seventh day from peritonitis.	A large "cauliflower" growth. Patient doing well till pressure forceps were removed at the end of the second day, when she complained of pain, and within a few hours symptoms of peritonitis appeared. In removing forceps the general cavity of the peritoneum must have been reopened. Since this case I leave on forceps at least three days.	39	—

TABLE I.—40 CONSECUTIVE CASES OF VAGINAL HYSTERECTOMY PERFORMED FOR CANCER OF THE UTERUS—(Continued).

Case.	Disease.	Date of operation.	Immediate result.	Remarks.	Years of age.	Remote result.
19	Cancer of cervix.	Oct. 13th, 1894.	Recovered.	Cancer involving the substance of the cervix; little projecting growth. Patient had been told at another hospital that the case was too far advanced for operation.	52	Has been seen at frequent intervals at London Hospital since operation and has remained quite well; last examined March 15th, 1900.
20	Cancer of cervix.	December, 1894.	Recovered.	The removal of the uterus probably did not remove all the tissue infiltrated by the malignant growth.	45	Recurrence during the first year.
21	Cancer of cervix.	Feb. 14th, 1895.	Recovered.	Large "cauliflower" growth.	26	Recurrence during the first year.
22	Cancer of cervix.	April 25th, 1895.	Recovered.	Large "cauliflower" growth especially affecting the posterior lip of cervix. Was doubtful at time of operation if all infiltrated tissue was removed.	35	Seen and examined on several occasions, the last time on June 16th, 1898, when the scar was quite healthy. Heard that she went to America and died either at the end of 1898 or early in 1899; no information as to cause. As there was no sign of recurrence on June 16th, 1898, it seems at least equally likely that she may have died from some independent cause.
23	Cancer of cervix.	June 1st, 1895.	Recovered.	Large "cauliflower" growth, the part of the growth in the cervical canal just reaching internal os. There was a very large pyometra, the pus being horribly offensive.	55	She has remained well since the operation. She has gone to Australia, but writes to me on each anniversary of her operation. The last letter, dated June 11th, 1900—five years after the operation—says she was then quite well.
24	Cancer of body.	August 30th, 1895.	Recovered.	A large papillary growth projected into the cavity of the endometrium.	48	Well May 18th, 1897; also heard from her in May, 1900, that she was quite well.
25	Primary tuberculous ulceration of cervix.	Jan. 30th, 1896.	Recovered.	At time of operation growth was believed to be cancer of cervix.	36	Quite well in November, 1899.
26	Cancer of cervix.	April 16th, 1896.	Recovered.	Large "cauliflower" growths of cervix.	35	Examined Jan. 11th, 1899; a granular mass, size of raisin, at upper part of vagina. Seen recently, mass just the same, and evidently not malignant. Quite well March 15th, 1900.
27	Cancer of cervix.	Sept. 7th, 1896.	Recovered.	Nodule of malignant growth; size cob-nut or thereabouts, posterior lip. Anterior lip appeared quite healthy. Supra-vaginal amputation done first, then on slitting up cervix the growth found to extend up to internal os, so body of uterus was then also removed.	45	Well up till three years after operation. Then came to London hospital in February, 1900, with moveable mass size of foetal head in hypogastric region. Evident recurrence in scar and under vaginal walls. The glands in right groin enlarged. Cachectic; no projection growth in region of scar, and only slight bleeding on examination. Recurrence during the fourth year.
28	Cancer of body.	Nov. 12th, 1896.	Recovered.	Secondary hæmorrhage in third week after operation requiring application of Wells's forceps. Ureteral fistula persisting for some three or four months, then healed spontaneously.	49	Recurrence in the recto-vaginal septum during the first half of 1900. Recurrence during the fourth year.
29	Sarcoma of body.	Feb. 11th, 1897.	Recovered.	See Transactions of the Obstetrical Society of London for full report of case.	24	Quite well March 24th, 1900.
30	Cancer of cervix.	June, 1897.	Recovered.	—	About 60	Recurrence took place about a year after the operation. Recurrence during the first year.
31	Cancer of cervix.	August, 1897.	Recovered.	—	60	Recurrence took place and she died May 19th, 1898. Recurrence during the first year.
32	Cancer of body.	Sept. 4th, 1897.	Recovered.	There were some mucous polypi attached to the lower part of cervix. The malignant growth was in the body.	61	Last examined July 7th, 1900. No sign of recurrence.
33	Cancer of cervix.	Sept. 6th, 1897.	Recovered.	—	38	Well June 21st, 1900.
34	Cancer of cervix.	Sept. 23rd, 1897.	Died three weeks after the operation from pneumonia.	The only case I have had in which cancer of the cervix affected a pro-cident uterus. This patient was mentally feeble and very difficult to manage after the operation. At the post-mortem examination the pneumonia was said to be not septic and the parts in the neighbourhood of Douglas's pouch were looking healthy.	53	—
35	Cancer of cervix.	Oct. 5th, 1897.	Recovered.	A rather advanced case.	52	Died from recurrence July, 1898, the scar remaining unaffected to the last. Recurrence during the first year.
36	Cancer of cervix.	Dec. 2nd, 1897.	Recovered.	—	46	Examined and found quite well March 22nd, 1900, more than two years since the operation.
37	Cancer of cervix.	May 12th, 1898.	Recovered.	A rather advanced case, with large conical ulcer.	38	Recurrence took place March, 1899. She became much worse June 5th, 1899, and died soon after. Recurrence during the first year.

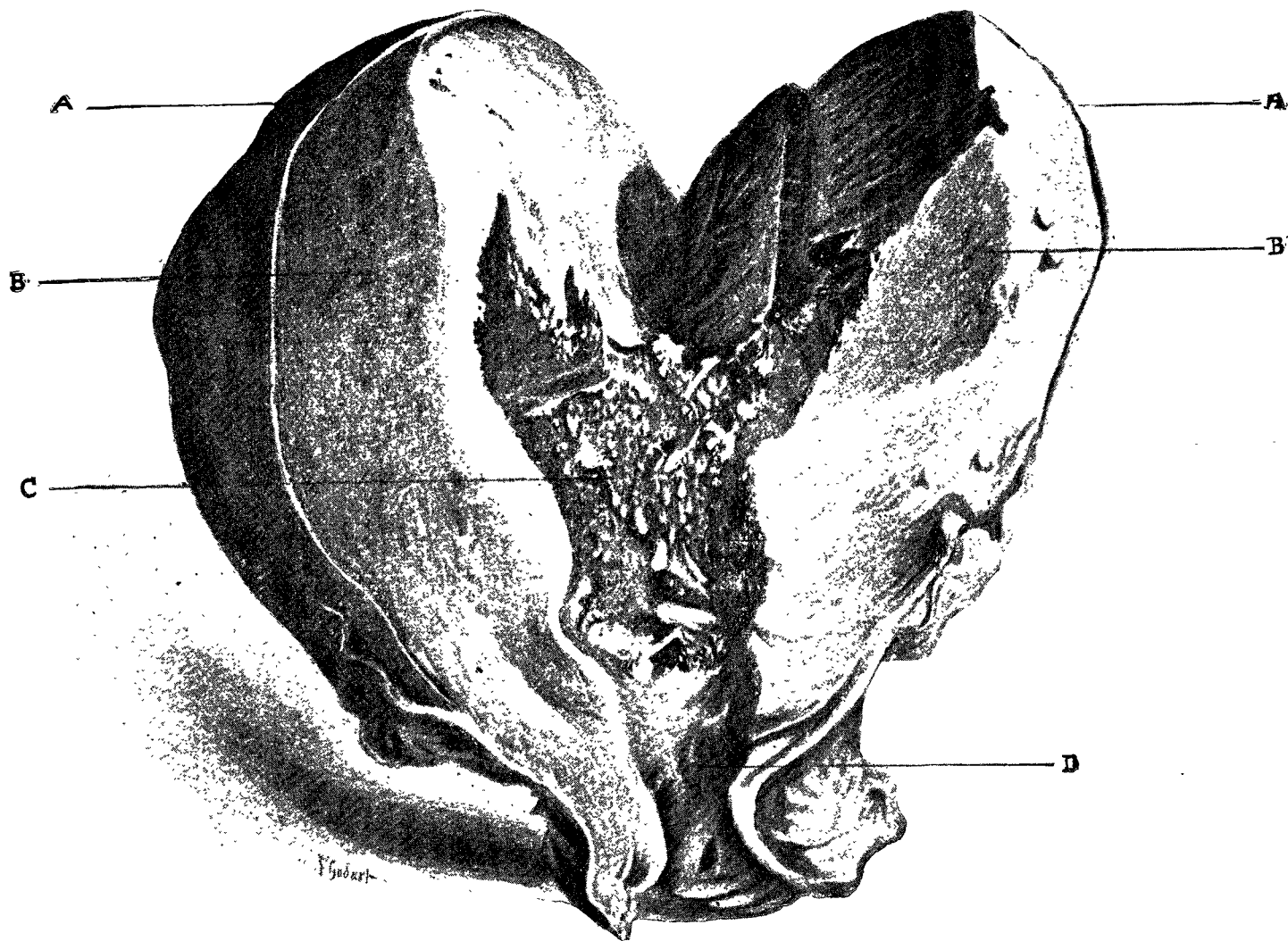
TABLE I.—40 CONSECUTIVE CASES OF VAGINAL HYSTERECTOMY PERFORMED FOR CANCER OF THE UTERUS—(Continued).

Case.	Disease.	Date of operation.	Immediate result.	Remarks.	Years of age.	Remote result.
38	Cancer of body.	May 14th, 1898.	Recovered.	—	About 50	—
39	Cancer of cervix.	Feb. 16th, 1899.	Recovered.	Bleeding on taking off forceps, requiring application of one pair more for another two days.	36	Quite well July 26th, 1900.
40	Cancer of cervix.	April 27th, 1899.	Recovered.	The disease affected both the vaginal and supra-vaginal portions of the cervix.	36	Recurrence early in 1900. Recurrence during first year.

TABLE II.—12 CASES OF VAGINAL HYSTERECTOMY FOR CANCER OF THE UTERUS IN WHICH THE DISEASE IS KNOWN NOT TO HAVE RECURRED.

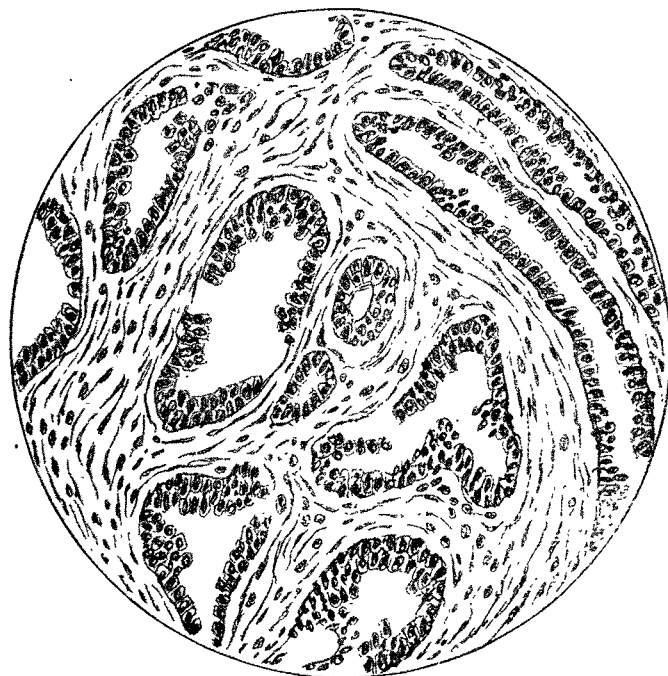
Case.	No. of case in Table I.	Disease.	Date of operation.	Place of operation.	Interval since operation without recurrence.	Microscopical characters of growth.
1	7	Cancer of body.	Feb. 1st, 1893.	Private; with Mr. Stott, of Highgate-road, and Dr. C. Godson.	Seven years and four months. I saw her on June 18th, 1900.	Extract from Clinical Research Association's Report (Mr. Targett): "The growth may be described as a villous carcinoma."
2	8	Cancer of body.	June 8th, 1893.	London Hospital; sent to me by Mr. Best of Dover.	Seven years. Examined July 19th, 1900, at the London Hospital. No recurrence.	Extract from Clinical Research Association's Report (Mr. Targett): "A soft columnar-celled carcinoma."
3	15	Cancer of cervix, large "cauliflower."	Feb. 27th, 1894.	Private; with Mr. Howse, then of Barking-road, E., now of Reading.	Six years.	Extract from Clinical Research Association's Report (Mr. Targett): "The nature of the growth is undoubtedly squamous-celled epithelioma."
4	19	Cancer of cervix.	Oct. 13th, 1894.	London Hospital. Sent to me by Mr. Howse of Reading.	Five and a half years (up to March 15th, 1900, when the patient was last examined).	Extract from Clinical Research Association's Report (Mr. Targett): "The substance of the cervix is infiltrated with branching processes of squamous-celled epithelioma."
5	23	Cancer of cervix; large "cauliflower." Pyometra.	June 1st, 1895.	Private; sent to me by Mr. Garry Simpson of Acton.	Five years. Heard from her in letter dated June 11th, 1900, that she was quite well.	Extract from Clinical Research Association's Report (Mr. Targett): "Solid branching columns of squamous-celled epithelioma are shown infiltrating the substance of the cervix uteri."
6	24	Cancer of body.	August 30th, 1895.	London Hospital.	Four and three-quarter years (up to May, 1900, when I heard from her that she was quite well).	Extract from Clinical Research Association's Report (Mr. Targett): "The growth from the body of the uterus is a soft, glandular-celled carcinoma, which has extensively infiltrated the muscular substance."
7	26	Cancer of cervix.	April 16th, 1896.	London Hospital; sent to me by Dr. Dunlop of Purfleet.	Nearly four years. I saw her on March 15th, 1900, and she was quite well.	Extract from Clinical Research Association's Report (Mr. Targett): "This portion of the cervix uteri is thickly infiltrated with a soft squamous-celled epithelioma."
8	29	Sarcoma of body, "deciduoma malignum."	Feb. 11th, 1897.	London Hospital.	More than three years (up to March 24th, 1900, when I last examined her).	For full report of this case see the Transactions of the Obstetrical Society of London, vol. xxxix., for 1897, p. 246.
9	32	Carcinoma of body.	Sept. 4th, 1897.	Private; with Dr. Pope of Kingston, Hereford.	Two years and 10 months (up to July 7th, 1900, when I last examined her).	Extract from Clinical Research Association's Report (Mr. Targett): "The tissue from the body of the uterus is extensively infiltrated with a soft columnar-celled carcinoma."
10	33	Cancer of cervix.	Sept. 6th, 1897.	London Hospital.	Two years and nine months (up to June 21st, 1900, when I last examined her).	Extract from Clinical Research Association's Report (Mr. Targett): "The substance of the cervix uteri is extensively invaded with thick branching processes of squamous-celled epithelioma."
11	36	Cancer of cervix.	Dec. 2nd, 1897.	London Hospital.	Two years and nearly four months (up to March 22nd, 1900, when I last saw her).	Extract from Clinical Research Association's Report (Mr. Targett): "The growth in the cervix uteri is a malignant adenoma—that is, a columnar-celled carcinoma in which the cells preserve their tubular arrangement."
12	39	Cancer of cervix.	Feb. 16th, 1899.	London Hospital.	One year and five months (up to July 26th, 1900, when I last examined her).	Extract from Clinical Research Association's Report (Mr. Targett): "The cervix is very extensively invaded with squamous-celled epithelioma. Some of the epithelial processes are large and the central cells have undergone granular degeneration. In others there are small cell-nests."

FIG. 1 (CASE 8, TABLE I).



Vaginal hysterectomy, June 8th, 1893. The patient was seen and examined at the London Hospital on July 19th, 1900, and found to have no sign of recurrence. A, Peritoneum. B, Cut surface of uterine wall. C, Growth in endometrium, "a soft columnar-celled carcinoma." D, Cervical canal.

FIG. 2 (CASE 8, TABLE I).



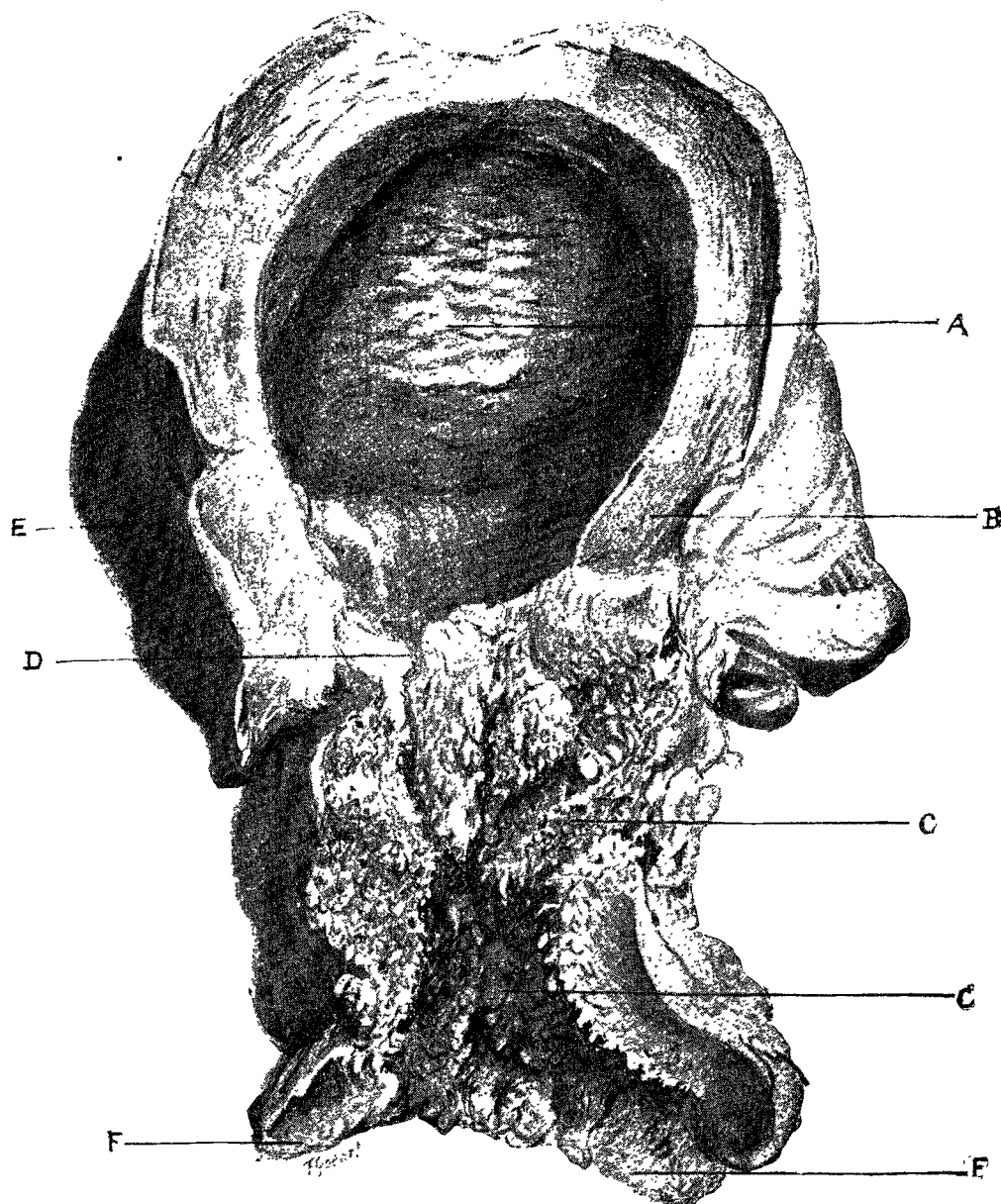
High power. In this figure the columnar character of the cells is shown, and although the tubules and alveoli everywhere exhibit a central cavity or lumen, yet there are abundant signs of epithelial proliferation, and the cells encroach on the central space. In the well-marked tubular structure of the growth this specimen resembles the so-called malignant adenoma. (Mr. Targett's description.)

FIG. 3 (CASE 8, TABLE I).



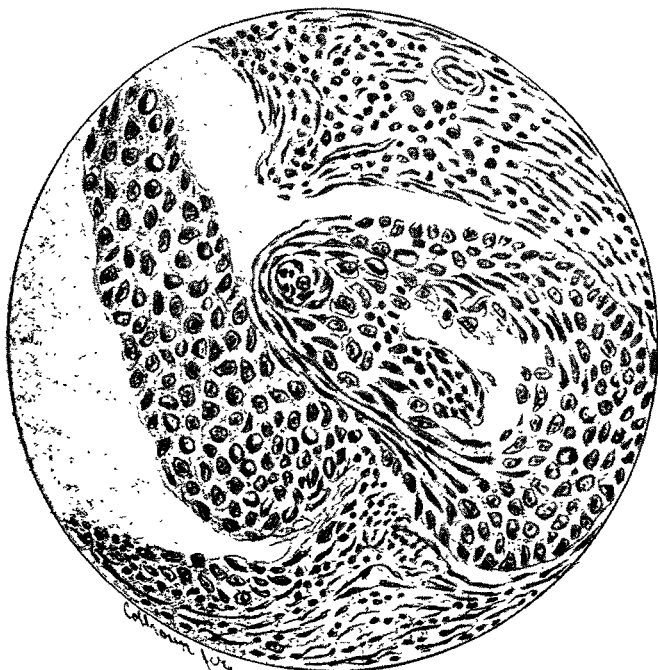
Low power. The figure represents a portion of uterine wall composed of interlacing bundles of muscular tissue and extensively invaded by a soft columnar-celled carcinoma. The cells are arranged in tubules and elongated spaces which have a definite lumen, and the stroma consisting of uterine muscle is very scanty. (Mr. Targett's description.)

FIG. 4 (CASE 23, TABLE I.).



Vaginal hysterectomy, June 1st, 1895. I heard from the patient (who is in Australia) in a letter dated June 11th, 1900, that she is quite well. A, Cavity of the body of the uterus enormously dilated; it contained foetid pus (pyometra), which escaped during the operation. B, Cut surface of the wall of the body of the uterus. C, Growth in the cervix, "squamous-celled epithelioma." D, Internal os. E, Peritoneal surface of the uterus. F, External os.

FIG. 5 (CASE 23 TABLE I.).



High power. The squamous character of the epithelial cells is here represented, and in the centre keratoid and other degenerative changes have taken place. The cells have separated from the stroma by shrinkage. (Mr. Targett's description.)

FIG. 6 (CASE 23, TABLE I.).



Low power. Solid branching columns of squamous-celled epithelioma are shown infiltrating the substance of the cervix uteri. Large cell-nests are present as well as areas of granular degeneration in the centres of the epithelial processes. (Mr. Targett's description.)

malignant disease. It will be seen that there were no recurrences later than during the fourth year after operation, so that when a patient has passed through four complete years without recurrence there seems to be some probability that she may remain perfectly well.

[Dr. Lewers here referred to the mortality of the operation and discussed some points in the technique. He believed it to be a good plan when operating for cancer of the cervix, after the cervix has been freed, to apply Paquelin's cautery to the cut surfaces adjacent to the growth. He then discussed some complications of vaginal hysterectomy—secondary hæmorrhage and injuries of the bladder and ureters.]

CASES SUITABLE FOR VAGINAL HYSTERECTOMY.

When there is evidence that the disease has spread beyond the anatomical limit of the uterus in any direction it is, I believe, hopeless to expect any permanent benefit from vaginal hysterectomy, even if it is possible to perform the operation. In many cases it is at once evident on examination that the growth has spread far beyond the uterus. No difficulty arises in coming to a conclusion in such cases. In other cases where on an ordinary examination the mobility of the uterus appears to be unimpaired it is not so easy to decide. The uterus may be freely moveable, yet the base of the bladder may be involved. Again, the mobility at an ordinary examination may seem normal, yet when an attempt is made to draw the cervix down to the vulva a check is felt at one side or the other in the region of the broad ligaments or of the utero-sacral ligaments due to the extension of the malignant growth in the corresponding direction. This extension can generally be best appreciated by examining per rectum while the cervix is being drawn down with a volsella. Cases of this kind are certainly unsuitable for radical operation. It may be possible to remove the uterus, but that is of little use if a portion of broad ligament or utero-sacral ligament infiltrated with the malignant growth is left behind. In most of these doubtful cases the best plan is to make a careful examination under anæsthesia before deciding as to operation. For my own part, I have never felt it to be justifiable to perform an operation like vaginal hysterectomy as a palliative operation—in other words, to perform it where one feels certain that the patient has not even a chance of obtaining any permanent benefit. On the other hand, there may be a very extensive growth and yet, if it does not seem to have extended beyond the uterus, operation is advisable. One must not be too ready to reject cases as hopeless. Case 22 in this series is a good example of this. The growth from the cervix was a very large one of the "cauliflower" type and yet the patient certainly remained well for more than three years after the removal of the uterus. I am not even certain that she had recurrence, as, though she is dead, she died in America a comparatively short time after I last examined her and there was then no sign of recurrence. Again, in Case 19 the patient had been told at another hospital that her case was too advanced for operation, yet she remains well more than five years after the operation. In Case 15 also, though the growth is obviously a large one, the patient remained free from recurrence for six years, when she died from phthisis. Case 23 is another instance in point; the growth is a large one, but the patient remains well five years after operation. These cases, then (Cases 15, 22, and 23), go to show that the size of the growth from the cervix is relatively of small importance and that the essential point is whether there is any extension to the tissues outside the uterus itself.

Table I. is a list of the 40 vaginal hysterectomies for cancer which I had performed up to April, 1899, with some of the more important details of the cases. Table II. is a list of the 12 cases in which the disease is known not to have recurred.

CONCLUSIONS FROM THE TABLES.

The conclusions that appear to follow from a consideration of the facts in this paper are: (1) that in a certain proportion of cases patients suffering from cancer of the uterus may be relieved by operation for periods of many years—in some cases for so long a time, seven years and upwards, that there seems some probability that the relief may be permanent; (2) that the proportion of cases in which this result can be expected must remain very small so long as patients generally only seek advice at a late stage of the disease; and (3) that consequently the great desideratum is early diagnosis. Improvement in this direction depends

to some extent on a better appreciation on the part of women themselves of the early symptoms of the disease, and especially of the significance of bleeding after the menopause, or of bleeding occurring at an earlier time of life between the menstrual periods. Early diagnosis, of course, also depends partly on the profession. Especially important is the general recognition of the gravity of the symptom just mentioned. It is equally important also to bear in mind that patients suffering from cancer of the uterus may, and generally do for a relatively long period, look quite well. They may be well nourished, or not infrequently even excessively fat; and, as regards the aspect of the face, they may appear to be in perfect health.

NOTES OF THE 12 CASES (TABLE II.) IN WHICH THE DISEASE HAS NOT RECURRENT.

CASE 7.—The patient was 53 years of age. She had been married 21 years; she had had no children, but two miscarriages, each at about three months, the last 13 years before I saw her. I was asked to see her in consultation with Dr. Clement Godson and Mr. T. S. Stott of Highgate-road. The symptoms were continued hæmorrhage for seven or eight months, with occasional profuse losses of blood and severe pain in the hypogastric region. On examination the uterus was found to be moderately enlarged and freely moveable. The vaginal portion of the cervix was normal. The sound occasioned very free bleeding. It was agreed that the best course would be to dilate the cervix and to examine the endometrium. This was accordingly done. Two specially prepared laminaria tents were inserted, and on the next afternoon the dilatation of the cervix was completed with Hegar's dilators under anæsthesia. There was a hard, irregular condition of the inside of the body of the uterus. Nothing could be detached either with the finger or with a curette. The diagnosis rested on the symptoms, and on the fact that the condition of the endometrium could not be classified as belonging to any non-malignant state. I advised that vaginal hysterectomy should be performed, and I carried out the operation on Feb. 1st, 1893, assisted by Dr. Godson, Mr. Stott, and Dr. J. H. Sequeira, the last of whom was resident accoucheur at the London Hospital at that time. Mr. F. W. Braine gave the anæsthetic. The patient made a good recovery.

A section from the uterus was made by the Clinical Research Association and reported on by Mr. Targett as follows: "The growth of the uterus is a columnar-celled carcinoma of the body of the villous type. It has deeply invaded the muscular substance."

The patient came to see me on June 8th, 1900, to show me that she was quite well. The interval in this case without recurrence is, therefore, seven years and four months. Her present medical attendant is Dr. Andrew Brown of Lancaster-road, Belsize-park.

CASE 8 (see Figs. 1, 2, and 3).—A married woman, aged 57 years, was admitted under my care into the London Hospital on May 1st, 1893. She was sent up to me by Mr. W. G. Best of Dover.

Previous history.—She was born at Blackburn in Lancashire. During her infancy her family removed to Crayford, in Kent. Her circumstances had always been comfortable. She had scarlet fever in childhood and cholera in 1849.

Menstruation.—The catamenia began when the patient was between 14 and 15 years of age. There was some irregularity for the first 10 months, but after that she was very regular every four weeks, and did not lose very much. She always suffered a great deal of pain after the periods. She was married at the age of 33 years and had six children, but no miscarriages. The last confinement was 14 years ago.

Present illness.—About two years ago the periods began to be irregular. She would "see nothing" for two or three months, and then a period would come on with an excessive loss, containing clots. During the last 18 months she had been losing blood constantly, and for the same time had suffered a good deal of pain, more severe at night, in the lower part of the abdomen. She was closely questioned as to the time when the various symptoms arose, and it became clear that as long ago as two years there was a red discharge between the periods, and that for the greater part of the last two years she had had a good deal of pain in the back and lower part of the hips. She said, also, that she always had suffered a great deal of pain during her periods from the time they began. As she grew older the pain at the periods was not so severe until

about two years ago, when it re-commenced. The pain during these two years had been constantly present, and had increased in severity. Her state on May 1st, 1893, was as follows. She was a stout, heavy woman and as regards the appearance of the face she did not look very ill. There was no cachexia. Her weight on admission was 12 st. 13½ lb. Nothing abnormal could be felt on examination of the abdomen. On vaginal examination there was a considerable descent of the anterior vaginal wall, which protruded from the vulva. There was an extensive rupture of the perineum, reaching back to the edge of the sphincter. There was also slight prolapse of the rectal mucous membrane. Through the speculum the vaginal portion of the cervix appeared to be healthy. The uterus was fairly moveable and in the normal position. The body of it was somewhat enlarged and the sound passed three and a quarter inches, causing rather free bleeding. She was kept under observation in the hospital during the whole of May, and during that time there was a constant red vaginal discharge, and she complained of pain about the lower part of the abdomen, more severe at night. On May 31st, at 5 P.M., two specially prepared laminaria tents were inserted into the uterus with strict antiseptic precautions, and on the following day (June 1st), at 2 P.M., she was anaesthetised with ether. The tents were removed, and it was found that the cervix admitted the index finger easily. The uterus was drawn down to the outlet with a volsella. The finger when passed into the uterus detected a hard, irregular condition of the endometrium; this was particularly marked at the upper part and to the right. I could not classify the condition as resembling any non-malignant pathological state, and I came to the conclusion that the case was one of primary carcinoma of the body of the uterus. I should have mentioned that nothing could be scraped away from the endometrium with a curette.

Operation.—On June 8th, 1893, the patient was anaesthetised with ether and placed in the lithotomy position. The vulva and vagina were thoroughly disinfected with perchloride lotion 1 in 1000. Having drawn down the cervix the anterior fornix was incised first and the bladder was separated from the cervix as high as the internal os. The posterior fornix was then similarly incised, and Douglas's pouch was opened. The cervix was cleared laterally as high as the level of the internal os, pressure forceps being used to control the bleeding where necessary. The utero-vesical pouch of the peritoneum was then opened. The remaining lateral attachments were clamped piece by piece, the left broad ligament being first secured and divided. The uterus was then, as it were, delivered, the left side of it first, so that at this stage it was hanging by the right broad ligament. The latter was then secured with pressure forceps and divided. The uterus was then removed. The vagina was filled with iodoform gauze, the upper part of the plug projecting for an inch or so into Douglas's pouch. The patient's progress after the operation was very satisfactory. The highest temperature in the first week was 100·8° F. on the evening of June 11th. On one occasion in the second week (June 16th) it reached 101·4°. After June 20th the temperature was practically normal, only once after that date reaching 100°. The pressure forceps were removed on the afternoon of June 10th. The patient went home on July 21st, 1893. I have seen her every summer since the operation and have examined her. The last time the patient was examined was on July 19th, 1900, at the London Hospital. So far she has remained free from any sign of recurrence and appears to be in perfect health.

Sections for examination under the microscope were prepared by the Clinical Research Association, and reported on by Mr. Targett as follows: "This growth from the body of the uterus is a columnar-celled carcinoma, in which the tubular arrangement of the cells is well preserved. The tissues have shrunk in hardening, but the sections are sufficiently good for microscopic drawings."

CASE 15.—A married woman, aged 57 years, was seen by me in consultation with Mr. P. W. M. Howse, then of Barking-road, E., but now of Reading, in February, 1894. She had had 13 children, the last 15 years ago, and two miscarriages some time before the last confinement. The complaint when I saw her was that she had been losing blood from the vagina for the last eight weeks. Before this appeared there had been a yellow vaginal discharge for nine months. She had had no pain. She thought that she had lost flesh and said that her appetite was bad. The menopause occurred at 51 years of age. On examination there was found a

large "cauliflower"-like growth springing from the vaginal portion of the cervix, forming a ring of soft projecting growth round the os uteri, and bleeding readily on examination.

It was decided to make a thorough examination under anaesthesia, with the understanding that if the conditions were found favourable the uterus should be removed. Accordingly, on Feb. 27th, 1894, the patient was anaesthetised. It was then found that the uterus could be drawn easily down to the vulva and that the growth did not seem to have spread beyond the limits of the cervix. There was a ring of apparently healthy vaginal portion outside the malignant growth all the way round it. This can be well seen even now in the specimen. The uterus was accordingly removed, the steps of the operation being much the same as in the preceding case, except that Paquelin's cautery was very freely applied to the cut edges of the vaginal fornices and neighbouring tissue from which the cervix had been detached. The patient made a very good recovery. I heard of her from time to time from Mr. Howse. She remained free from recurrence. Mr. Howse saw her several times in the course of her last illness (phthisis) and there was no return of the cancer up to the time of her death, which occurred in February, 1900, and was due to phthisis. Mr. Howse had attended her many times in former years for lung trouble. The interval since the operation without recurrence is, therefore, in this case six years.

Sections of the growth for the microscope were prepared by the Clinical Research Association and reported on by Mr. Targett as follows: "The second portion of this growth has been examined, but the tissue is so necrotic that the sections are not worth drawing. The nature of the growth is undoubtedly squamous-celled epithelioma, but owing to decomposition the cells are much vacuolated and the tissue has, therefore, an unnatural spongy appearance. It is not worth the expense of a drawing." I may add that the uterus had been more than five years in spirit before Mr. Targett had a piece of the growth for sections.

CASE 19.—The patient, a married woman, 52 years old, was admitted under my care into the London Hospital on Oct. 9th, 1894. She had had two children, the last one 26 years ago, but had never had any miscarriages. For the last eight years she had been a monthly nurse. She had always enjoyed good health and there was no history of any previous illness. She had always had a comfortable home. She had been a teetotaler all her life and had always lived in or near the East-end of London. Her two children were born within three and a half years of her marriage.

Menstrual history.—The catamenia appeared when she was 13 years old and she was always regular every four weeks except when she was pregnant. She always suffered very much from headache at the menstrual periods. The menopause occurred five years previously—i.e., in 1889. After the menopause she "saw nothing" till the end of June, 1894, when on awaking one morning she found that she had lost a considerable quantity of blood during the night. Throughout the whole of July, 1894, she continued to have a series of losses which occurred irregularly, the discharge being blood-stained and offensive. Occasionally it ceased altogether for two or three days. In August there was much less discharge, but since then it had continued more or less. She had been able to continue at her work. She consulted Mr. Howse in September, 1894, and afterwards was an in-patient at the Samaritan Hospital for four days. She said that she was told there that the disease was too far advanced for any operation to be advisable.

A month before her admission to the London Hospital—i.e., October, 1894—she first noticed a pain in the left iliac and in the hypogastric regions. It was of a burning character, not relieved by lying down, and not worse at night. The pain had gradually become more severe. A week before her admission she began to feel a pricking and shooting sensation in the left breast. She said that she had not been getting thinner.

On admission she was fairly well nourished but rather anæmic. On Oct. 11th (1894) she was examined under anaesthesia. On vaginal examination there was no obvious projecting growth, the only suggestive point on gentle examination being that the external os was unusually patulous. On pressing the finger firmly into the os a soft friable growth could be felt occupying the cervical canal. The uterus was drawn down to the vulva with a volsella and came down easily. The vaginal fornices seemed to be free from any infiltration. On examining bimanually no

extension of the disease into the broad or utero-sacral ligaments could be made out.

Operation.—On Oct. 13th, 1894, the patient was anaesthetised with ether and placed in the lithotomy position. Vaginal hysterectomy was then performed. Wells's forceps were used for securing the vessels. The vagina was packed with iodoform gauze and the upper part of the gauze plug was pushed into the pouch of Douglas. The gauze and forceps were removed 96 hours after the operation, but no vaginal douches were given till the 24th, when she was ordered vaginal douches of weak iodine water twice daily. The temperature after the operation did not rise above 100.4° F. and the patient made an uninterrupted recovery.

Examination of the uterus after removal.—The body of the uterus was not appreciably enlarged, and, so far as could be judged by the naked eye, the disease had not extended into it. An interesting point, however, was that at one part of the fundus there was a white nodule of circular shape of the size of a pea in the thickness of the uterine wall. Microscopical examination of this nodule subsequently showed that it was a small fibro-myoma.

Sections of the cervix were prepared by the Clinical Research Association and were reported on by Mr. Targett as follows: "The substance of the cervix uteri is infiltrated with branching processes of squamous-celled epithelioma. There are a few cell-nests and some of the larger processes show granular degeneration of the central cells. The section is suitable for drawing."

I saw this patient last on March 15th, 1900, at the London Hospital, and examined her. The scar was quite healthy and she was herself perfectly well. The interval since the operation in this case is, therefore, five and a half years.

CASE 23 (see Figs. 4, 5, and 6).—The patient, who was 55 years of age, was brought to see me by Mr. Garry Simpson of East Acton on May 17th, 1895. She had had six children, the last 17 years previously, and two miscarriages, both before the date of the last confinement. The menopause occurred at the age of 50 years. Since then she had "seen nothing" till August, 1894. Since that time there had been a constant red discharge from the vagina and for the last two or three weeks the discharge had been offensive. She felt ill and worn out at the time when the vaginal discharge commenced. For some time she had suffered from continuous pain in the lower abdomen; the date of its commencement could not be fixed. Of late she had been getting rapidly thinner. On examination of the abdomen nothing abnormal could be felt. On vaginal examination a large "cauliflower" growth was felt springing from the vaginal portion of the cervix. The uterus seemed freely moveable and the body of the uterus seemed considerably larger than normal in a woman past the menopause. She went into Fitzroy House for the purpose of having the uterus removed and during the time—a few days—she was there before the operation the temperature at night was 100° F. or thereabouts as a rule.

Operation (June 1st, 1895).—Vaginal hysterectomy was performed in a manner similar to that already described in the preceding cases. At one stage of the operation the whole field became suddenly inundated with horribly foetid pus. This came from the body of the uterus and had been let out by a laceration about the junction of the cervix and body caused by traction with the volsella. The pus had previously been pent up in the body of the uterus by occlusion of the os internum, constituting the condition known as "pyometra." In spite of the fact that the whole region of the wound was fouled with this foetid pus the convalescence was quite uninterrupted.

A portion of the cervix was sent to the Clinical Research Association for microscopical examination and Mr. Targett reported on it as follows: "The growth from the cervix uteri is a squamous-celled epithelioma of the papillary type. There is a considerable amount of keratoid change in the epithelial processes."

A drawing of the uterus and two drawings of the section accompany this paper.

This patient writes to me every year on the anniversary of her operation. As she is now living in Australia I do not actually get the letter for some weeks afterwards. I have had a letter from her this year (1900) dated June 11th, and in it she says that she still continues quite well. The uterus shows well the enormous distension of the cavity of the body by the pus referred to above and it also shows an extensive cauliflower-like growth from the cervix extending up the cervical canal to the internal os.

CASE 24.—A married woman, aged 48 years, was admitted under my care into the London Hospital on August 21st, 1895, at the request of Dr. W. H. G. Aspland.

Previous history.—She had been married 21 years but had been a widow for 15 years. She had never been pregnant. The catamenia appeared when she was about 15 years old. She had dysmenorrhœa when she was single but suffered much less from this after her marriage. The menopause occurred about three years previously.

Present illness.—She had not been well for some time. For the last seven or eight months she had had a yellow vaginal discharge mixed with blood more often than not. She had no pain when the discharge began, but for the last two months she had pain in the left iliac region occasionally. It gradually became more severe and was also felt at times across the lower abdomen and in the lower part of the back. It was clear, however, that a blood-stained discharge and a feeling of not being in good health were for some months the only symptoms. She said on admission that she felt weaker than formerly but did not think that she had lost flesh. Her appetite latterly had not been good.

On admission nothing abnormal was detected on examination of the abdomen. On vaginal examination some blood-stained discharge was seen about the vaginal orifice and in the vagina. It was not offensive. The uterus was found to be strongly retroverted; the vaginal portion of the cervix was rather soft but otherwise normal. The uterus was easily replaced with the sound, which passed three and a quarter inches. On bimanual examination the uterus was found to be freely moveable and the body of it uniformly enlarged. On August 23rd two small laminaria tents were put into the cervix, and on the next day the dilatation of the cervix was completed under anaesthesia with Hegar's dilators up to No. 19. On passing the finger into the uterus a growth of about the size of a walnut was found projecting from the posterior wall. It had a papillary surface and was very friable, portions being easily broken off with the finger.

Operation.—Vaginal hysterectomy was performed on August 30th, 1895, the steps of the operation being similar to those adopted in the preceding cases. The pressure forceps and gauze were removed on the fourth day, and the patient made an uninterrupted recovery, leaving the hospital on Sept. 23rd.

A portion of the growth was sent to the Clinical Research Association for microscopical examination and Mr. Targett reported on it as follows: "The growth from the body of the uterus is a soft glandular-celled carcinoma which has extensively infiltrated the muscular substance. The growth is of the columnar-celled type, though the tubular arrangement of the cells is not recognisable in the section."

I had a letter from this patient in May, 1900, to say that she was still quite well. The interval since the operation is, therefore, nearly five years.

CASE 26.—A married woman, aged 35 years, was admitted into the London Hospital under my care on April 6th, 1896. She was sent to me by Dr. J. Dunlop of Purfleet. She had been married 16 years and had had eight children; the last was eight months old. She had had one miscarriage five years previously. Menstruation had always been natural.

History of the present illness.—She had found herself getting thinner lately and had had a bad appetite. About three months previously she consulted a medical man on account of a yellow vaginal discharge which she had had for some months. During the last two months the discharge had increased in quantity and had been sometimes blood-stained. She had sometimes felt a pain in the lower abdomen and back, but pain did not seem to have been a marked feature in her present illness. On April 10th she was examined under anaesthesia. On vaginal examination a "cauliflower-like" growth was seen springing from the vaginal portion of the cervix. The cervix could be easily drawn down to the outlet of the vulva with a volsella, and there was a good margin of apparently healthy tissue round the growth. The body of the uterus was not enlarged. The case seemed a suitable one for radical operation.

Operation (April 16th, 1896).—The patient was anaesthetised with the A.C.E. mixture. Vaginal hysterectomy was then performed, the method adopted being similar to that described in the preceding cases. The cut margin of the vaginal wall round the cervix was thoroughly seared with Paquelin's cautery. The patient made an uneventful recovery and went home on May 23rd, 1896.

A portion of the growth was sent to the Clinical Research Association for microscopical examination and Mr. Targett

reported on it as follows: "This portion of the cervix uteri is thickly infiltrated with a soft squamous-celled epithelioma. There are no typical cell-nests but a considerable number of cell-inclusions." I have seen this patient several times since the operation; the last time I examined her was on Oct. 12th, 1899, when there was no evidence of recurrence. I have also seen her on March 15th, 1900, when she said that she was quite well, but I did not examine her on that occasion. The interval since the operation in this case is, therefore, nearly four years.

CASE 29.—This was the case of primary sarcoma of the body of the uterus which formed the subject of a communication read before the Obstetrical Society of London, and which was published in Vol. xxxix., p. 246, of the Transactions of the Society. I only refer to it here for the purpose of recording the patient's subsequent progress. I have seen her this year (March 24th, 1900), more than three years since the date of her operation, and she remains free from any sign of recurrence.

CASE 32.—The patient, aged 61 years, was sent to me by Dr. H. B. Pope of Kington, Herefordshire. She had been married many years and had had two children, the last 28 years previously. I saw her on August 19th, 1897. She gave a history that nine years previously she had a fall and that there had been more or less discharge, occasionally blood-stained, from the vagina since. For the last two months there had been a constant discharge of blood every day. About a week before I saw her she had had a flooding and was said to have lost about a pint of blood. The menopause was said not to have occurred. She had not been getting thinner. On August 20th she was examined under anæsthesia. There were several mucous polypi hanging from the cervix. The uterus was considerably enlarged and was freely moveable. As I did not think the mucous polypi could have accounted for the flooding mentioned above I dilated the cervix and found a growth in the endometrium, a portion of which was detached for examination and sent to the Clinical Research Association. Mr. Targett reported on it as follows: "The tissue from the body of the uterus is extensively infiltrated with a soft columnar-celled carcinoma. The tubular arrangement of the cells is generally well preserved, but in certain parts of the section the growth has undergone caseation." The patient was accordingly advised to have the uterus removed.

Operation (Sept. 4th, 1897).—Vaginal hysterectomy was performed as in the preceding cases; the patient made a good recovery. I examined her last on July 7th, 1900. She was quite well and there was no sign of recurrence. The interval since the operation is, therefore, two years and 10 months.

CASE 33.—A married woman, aged 38 years, was admitted under my care into the London Hospital on Sept. 4th, 1897. She had been married 19 years and had had six children, the last three years previously, and two miscarriages, the last nine years previously. The catamenia appeared when she was 16 years old. The periods lasted four days and were preceded by severe pain for three days, which was relieved on the appearance of the flow. She was never regular every four weeks till the last four years, but since the last confinement she had been fairly regular till recently.

Present illness.—This began nine weeks previously, when bleeding occurred and continued for nearly five weeks. After an interval of three or four days she had a flooding and the loss of blood continued for eight days. She had had no pain but had been getting thinner the last six weeks, and her appetite during that time had been poor.

On examination (Sept. 5th, 1897) there was seen some blood about the external genitals. There was slight prolapse of both vaginal walls. There was marked enlargement of the anterior lip of the cervix, which was three or four times as thick from before backwards as the posterior lip. The growth on the anterior lip was raised and in shape like a horseshoe with the convexity forwards. The growth bled easily on examination and the sound pressed against it readily penetrated its substance. The body of the uterus was of normal size and the uterus was freely moveable.

Operation (Sept. 6th, 1897).—Vaginal hysterectomy was performed as in the preceding cases. She made a good recovery and left the hospital on Oct. 1st, 1897. Sections of the growth were prepared by the Clinical Research Association and reported on by Mr. Targett as follows: "The substance of the cervix uteri is extensively invaded with thick branching processes of squamous-celled epithelioma."

I last examined this patient on June 21st, 1900, at the London Hospital. She was then quite well and there was no sign of recurrence. The interval since the operation without recurrence is, therefore, two years and nine months.

CASE 36.—A married woman, aged 46 years, was admitted into the London Hospital under my care on Nov. 27th, 1897. She was sent to me by Mr. A. O. Honnywill of Sutton, Surrey. She had been married 27 years and had had four children, the last 19 years previously. She had a flooding in the last week of August, 1897; the loss of blood continued for three weeks; there was then an interval of three weeks without any loss. The bleeding then began again, and since then she had been losing blood almost constantly. She thought that she had been getting stouter.

On examination it was found that the anterior lip was the seat of a growth about equal to half-a-crown in area. The growth was raised and had an overhanging margin. The whole anterior lip from before backwards measured one inch and three eighths, the posterior lip similarly only three-eighths of an inch. The sound pressed against the growth readily penetrated its substance. Two small hard nodules were felt under the mucous membrane, one to the right of and the other above the growth. The uterus was freely moveable and there was no evidence of extension of the disease to the broad ligaments or utero-sacral ligaments.

Operation (Dec. 2nd, 1897).—Vaginal hysterectomy was performed, the method adopted being the same as in the preceding cases. Paquelin's cautery was used to sear the cut edges of the vaginal walls. There was slight pyrexia for the first fortnight after the operation, the highest point reached being 101° F. on the evenings of Dec. 6th and 7th. After the 7th the temperature was normal. The patient did well and went home on the 29th.

A portion of the cervix was sent to the Clinical Research Association for examination and Mr. Targett reported on it as follows: "The growth in the cervix uteri is a malignant adenoma, that is, a columnar-celled carcinoma in which the cells preserve their tubular arrangement. The tissues are deeply invaded and there is much small-celled growth around the proliferating tubules." I last examined the patient on March 22nd, 1900, at the London Hospital. There was no sign of recurrence and she expressed herself as feeling quite well. The interval since the operation is therefore two years and nearly four months.

CASE 39.—The patient, a married woman, aged 36 years, was admitted under my care into the London Hospital on Feb. 4th, 1899. She had had eight children, the last 11 months prior to her admission. She had also had two miscarriages. Her chief symptom had been a red vaginal discharge which had been present for 15 months. At times the bleeding had been severe. She had also had pain in the left iliac region for 10 months. She was suckling at the time of her admission. On Feb. 9th, 1899, the following note was made: "On the vaginal portion of the cervix is a raised and slightly irregular crescentic growth. It involves chiefly the left side of the vaginal portion immediately adjacent to the external os and about two-thirds of the posterior lip. It has an overhanging margin. About the middle of the anterior lip a little nodule, the size of a shot, is felt under the mucous membrane, the surface of which over the nodule is healthy. There is another similar nodule to the left of the first. There are also two nodules to the right under the mucous membrane of a similar character. The sound pressed against the crescentic growth enters its substance to the depth of an inch. The uterus is freely moveable, retroverted, and its body not enlarged. There is no evidence that the growth has extended beyond the limits of the cervix."

Operation.—On Feb. 16th, 1899, vaginal hysterectomy was performed in the same way as in the preceding cases, Paquelin's cautery being used to sear the cut edges of the vaginal wall. The forceps were removed on the 20th. Slight bleeding occurred, so that the region of the wound was exposed with Sims's speculum. A pair of Wells's small pressure forceps was used to secure the bleeding point. This pair was left on for two days and then removed. No further bleeding occurred. The temperature only rose above 99.5° F. on two occasions; one was on the evening of the 20th and the other was on the evening of the 22nd, when the temperature was 100.2° and 100° respectively. The patient went home on March 15th.

A portion of the growth was sent to the Clinical Research Association for microscopical examination and Mr. Targett reported on it as follows: "The cervix is very extensively

invaded with squamous-celled epithelioma. Some of the epithelial processes are large, and the central cells have undergone granular degeneration. In others there are small cell-nests."

I examined this patient on July 26th, 1900, and found no sign of recurrence. The interval since the operation in this case is therefore one year and five months.

Harley-street, W.

A CASE OF DEFORMITY OF THE SKULL SIMULATING LEONTIASIS OSSEA, ASSOCIATED WITH A CONDITION OF SYRINGOMYELIA; NO PHYSICAL SIGNS OF SYRINGOMYELIA PRESENT.

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THE following case is of peculiar interest as it exemplifies (1) the presence of syringomyelia in the absence of all the usual signs of that condition, and (2) a close simulation both in signs and symptoms of leontiasis ossea by a thin, deformed skull and meningeal ossification. I am indebted to Sir William Gowers and to Mr. Victor Horsley for permission to publish the notes, and to Dr. F. E. Batten for the pathological report.

A man, aged 36 years, was admitted into the National Hospital for the Paralysed and Epileptic, under the care of Sir William Gowers and Mr. Horsley, on March 7th, 1899, complaining of paralysis of the right arm, of fits commencing in the right arm, and of gradually increasing deafness. He was the youngest of a family of 13 and there was no history of hereditary disease. When four years of age he fell from a window, a distance of 20 feet, upon his head. He was unconscious for some days and was ill for two years after the accident, and from the time of its occurrence his head was noticed slowly to become deformed. The deformity of the head, which I shall subsequently describe, was plainly visible in a photograph of the patient at the age of five years. In childhood he broke each femur on separate occasions, and since the right femur was broken he had always walked with a limp. He learned the trade of a carpenter and earned a good wage for many years. At the age of 26 years he began to suffer with occasional fits, commencing in the right hand and these occurred at long intervals till the time of his admission into the hospital. Ten years before admission progressive deafness came on, and six years before admission his right shoulder became stiff and later the elbow and wrist became similarly affected and the muscles of the right arm wasted. After three years the right arm had become so useless as to necessitate his giving up work. At this time he was a patient at Guy's Hospital under the care of Dr. Hale White, who published a full account of his case.¹ Two years before admission he had entirely lost the use of the right upper limb and the left upper limb became slightly weak. When admitted into the hospital the patient was seen to be a man of very small stature, his height being 56½ inches. He was very intelligent and had no speech defect. He occasionally had fits, commencing in the right hand, in which consciousness was lost late, the convulsion becoming general, with biting of the tongue and enuresis. He was extremely deaf to both aerial and perosteal conduction, but otherwise the special senses and cranial nerves were normal. The pupils were equal and reacted normally. There were slight nystagmus and slight weakness of conjugate deviation of the eyes on looking to the left. There was no optic neuritis, headache, or vomiting.

Cranium.—The head was much flattened vertically and it was very broad, there being a roll-like projection which commenced in the upper and posterior part of the temporal fossa on each side and ran backwards, overhanging the ears and becoming more and more prominent until it involved the whole occipital region. This projected backwards and

downwards, forming a sharp angle with the neck, which did not disappear when the head was fully flexed on the neck. It was as if the posterior two-thirds of the vertex of the skull had been telescoped on to the base by pressure from above, leaving this remarkable calvarial fold along the line of bending. With the face vertical the posterior part of the skull projected backwards 7.5 centimetres from the posterior mid-line of the neck. The upper part of each pinna was pushed down almost to the horizontal, and the lumen of each external auditory meatus was much reduced in size. The deformity of the skull was symmetrical. There was neither deformity nor asymmetry of the face (Figs. 1 and 2).

The patient's height was 4 feet 8½ inches. The body was well formed and symmetrical, there were no lateral curvature of the spine and no pes cavus. There was slight weakness of the right lower face. The right upper extremity was very rigid, the elbow being pressed into the side and flexed at a right angle, and the fingers were rigidly flexed into the palm. The rigidity was chiefly muscular, but there were adhesions with grating on passive movement in the shoulder and elbow joints. There was marked wasting of all the muscles with no change in electrical reaction. There was complete paralysis of the fingers and wrist, but the patient could flex and extend the elbow and could move the shoulder feebly and slowly. The left upper extremity presented no abnormality. Power in the lower extremities was good, the muscles were well developed, and there was no ataxy. The man walked with a slight limp and had done so ever since the fracture of the right femur in childhood. He complained of no pain. Sensibility to touch, to pin-pricks, and to heat and cold was carefully tested over the right upper limb, and the rest of the body was roughly tested with touches and pin-pricks, but no abnormality was found. There were no sphincter trouble and no vaso-motor or trophic disturbance. The knee-jerks were brisk, the right arm jerks were exaggerated, and the left were present. There was no foot clonus. The plantar reflexes were extensor responses.

On April 10th Mr. Horsley opened the skull over the right arm centre. The bone was found to be very thin and tough and there were apparently several separate bony masses in connexion with the inner surface of the dura mater, which showed white through it. Enough of the calvarium was taken away to allow of the removal of the bony masses at a subsequent operation. The wound was then closed without the dura mater having been opened. The patient was under the anæsthetic (chloroform) for 35 minutes. He recovered well from the anæsthetic, but three hours later his respiration suddenly became embarrassed and he became cyanosed. Stimulants and artificial respiration were at once resorted to and the wound was opened, but no hæmorrhage had occurred. He rapidly became unconscious and he died about ten minutes after the respiratory failure had set in.

Post-mortem examination.—Permission to examine the thorax and abdomen was not obtained. The right shoulder-joint and inter-phalangeal joints of the right index finger were examined and no adhesions or other abnormalities were found. The spine was normal. On removing the spinal cord and dividing it below the medulla a large central cavity was seen lined by a smooth membrane. On opening the skull the dura mater, which was not adherent to the convolutions, was found to be much thickened, especially at its junction with the tentorium, and was of a dark colour. Over the whole of the left parietal region it was hard and contained several eggshell-like bony plates, the largest of which measured 8 centimetres by 6 centimetres, and was situated over the central convolutions. The brain, of a similar peculiar shape to the skull, was soft, and after hardening in formalin it showed no other abnormality than slight dilatations of the lateral ventricles, especially at the anterior horns.

Microscopical examination.—The cavity in the medulla and spinal cord was first noticeable in transverse sections, immediately below the inferior olive on the left side. Traced downwards it became rapidly larger, and in the upper cervical region it measured 10 millimetres in the transverse and 2 millimetres in the antero-posterior direction. It attained its maximum size at the fifth cervical segment, below which level it became smaller and occupied the posterior horn on the left side and disappeared at the level of the eighth cervical segment to reappear at the fourth dorsal segment in the left posterior horn. It disappeared at the sixth dorsal segment. From the medulla to the sixth dorsal segment the cord was much flattened, but below this level it was of normal appearance. The large cavity in the cervical region

¹ Brit. Med. Jour., 1896, vol. i., p. 1377.