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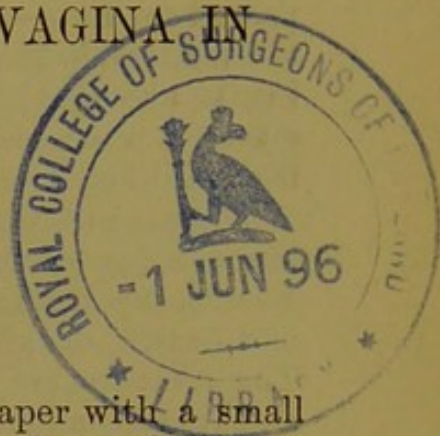
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PRIMARY SARCOMA OF THE VAGINA IN CHILDREN.

BY

D'ARCY POWER.



I propose to deal briefly in the following paper with a small and rare subdivision of a large and common form of disease. Cancer of the generative organs in women is so frequent, and has been so thoroughly studied, that it would be difficult to say anything new about it until its cause is discovered; but cancer is not the only form of malignant disease to which these organs are liable. Sarcoma may and does affect them, and of sarcoma we know but little in this country. Dr. Gow contributed a useful paper upon the subject to the twenty-seventh volume of these Reports, but he dealt with it only as it occurs in the adult. I have recently had under my care a child who died from the effects of a primary sarcoma of the vagina. The case was an interesting one, and it led me to look at the literature of the subject, with the results which are here given.

D. M., aged 2 years and 4 months, was admitted into the Victoria Hospital for Children under my care in May 1895 with a tense swelling in the vagina, causing retention of urine. Fourteen months previously she had an attack of measles, followed by a purulent vaginal discharge. The discharge lasted for some months and then ceased. It was noticed again at Christmas, when it was accompanied by severe bearing-down pains. The practitioner who attended her, observing that the vagina contained polypi, applied a curette to the mucous membrane upon more than one occasion, a proceeding which, the mother says, was very beneficial to the child. The discharge however continued to be purulent.

The patient appeared to be in her ordinary health, and was running about until May 20, when she began to strain and retch. She passed water on the morning of that day, but not afterwards. The retching continued throughout May 21, and

it was especially severe when any attempt was made to feed her. There was much abdominal pain, which the child endeavoured to relieve by lying upon her belly. The pain and straining continued throughout the day of the 22nd inst., and the abdomen was then found to be full and hard. No water had been passed for forty-eight hours, and as a catheter would not enter the bladder, half a pint of clear urine was drawn off by puncturing it above the pubes. There was no trouble in defæcation, either now or at a later period; indeed throughout its illness the child had a tendency to diarrhœa.

The patient was received into the Victoria Hospital late in the evening of May 22nd, and a note made by Dr. Channing Pearce, my House-Surgeon, states that "the patient is plump and healthy-looking. She lies sleepily with her legs drawn up. The temperature is 99.2° F. The abdomen contains a large and tense tumour, shaped like a pear. It is dull on percussion, and it extends upwards midway between the ensiform cartilage and the umbilicus. It is quite symmetrical, and is almost certainly bladder. The point of suprapubic puncture is clearly visible about an inch above the pubes. The labia are large and thickened. The entrance to the vagina is blocked by greyish masses resembling œdematous granulation-tissue. These masses feel hard and bleed slightly when they are touched. There is a little purulent discharge from the ostium vaginæ. Digital examination reveals the presence of a new growth in the vagina. It is attached to the right side and to the posterior wall of the canal. The small polypoid masses at the entrance to the vagina are wholly distinct from this larger tumour. The large tumour is firmly adherent to the vaginal wall, and it extends upwards as high as the finger can reach. It is cylindrical, and it is densely hard. The vagina is very capacious, and it is so long that the os uteri can only be touched with difficulty. The mass felt through the rectum is diffuse, and it clearly infiltrates the recto-vaginal septum. It is so thick at its highest point that the rectum is flattened between it and the promontory of the sacrum. A mass of scybala lying in the left iliac fossa can be felt through the abdominal walls.

"The orifice of the urethra is situated high up on the anterior wall of the vagina. A catheter was passed into it easily whilst the child was under chloroform, and six ounces of normal urine were drawn off. The pear-shaped swelling still remained in the abdomen even after the urine had ceased to flow. It was dull and resistant, but it was much less tense." The bladder was again found to be distended early in the morning of May 23rd. Ten ounces of urine were therefore drawn off, but the bladder

was paralysed, for pressure had to be exerted upon the abdominal walls before any urine would flow. When all the urine possible had been withdrawn, a soft mass which hardly fluctuated remained behind and extended as high as the navel. The catheter was tied into the bladder, and urine continued to dribble away for the rest of the day.

I saw the child for the first time at 3 P.M. on this day—23rd May—and satisfied myself that she was suffering from a sarcoma of the vagina, though I thought the growth had probably extended into the bladder. The patient seemed to be exhausted, and I therefore postponed any detailed examination or operative interference until she should have rallied. Dr. Channing Pearce observed, however, that she got steadily worse, and at midnight I was summoned to find her moribund with uræmic symptoms. She died about 3 A.M. on May 24.

I made a careful post-mortem examination thirty-three hours after death. The bladder filled nearly the whole of the peritoneal cavity, its upper border extending an inch and a half above the umbilicus. Its total length was six inches, and its greatest breadth was three inches and three-quarters. It was uniformly oval in shape, and was filled with clear urine. The walls were thickened in spite of their distension, but they were not congested, and the mucous membrane appeared to be perfectly healthy. The urethra was patent, and measured two inches in length.

The vagina was greatly dilated and much elongated. It measured along the posterior wall $3\frac{1}{2}$ inches in length, and it was $2\frac{1}{2}$ inches in its transverse diameter. Its mucous membrane was much congested. The middle and lower portions of the posterior wall were covered with a thick mass of pedunculated growths, some simple and gelatinous, whilst others formed solid and rounded masses possessing the characters of an ordinary sarcoma. Many of these denser masses were wattled like a cock's comb, and they were of about the same consistence. All the growths were covered with vaginal mucous membrane, and there was no ulceration except on the surface of those nearest the ostium vaginae. The largest mass of new growth lay upon the right side of the vagina and almost entirely blocked the canal. It was sessile, and appeared to be continuous with the tissue forming the posterior vaginal wall. The posterior *cul-de-sac* was entirely free from new growth, and it was of considerable size. The uterus and its appendages were much congested. The uterus measured an inch and a half vertically. Its external os was so greatly dilated that it admitted a No. 9 catheter, which passed readily through the cer-

vix. The lips of the external os were represented by a thin membrane. A large mass of new growth, left untouched until the specimen was hardened, had displaced the rectum towards the left side.

The kidneys were congested, but I could not find any evidence of disease in them. The ureters were not dilated, and all the other organs appeared to be healthy. There were no secondary growths in any of the tissues, and the lymphatic glands were unaffected.

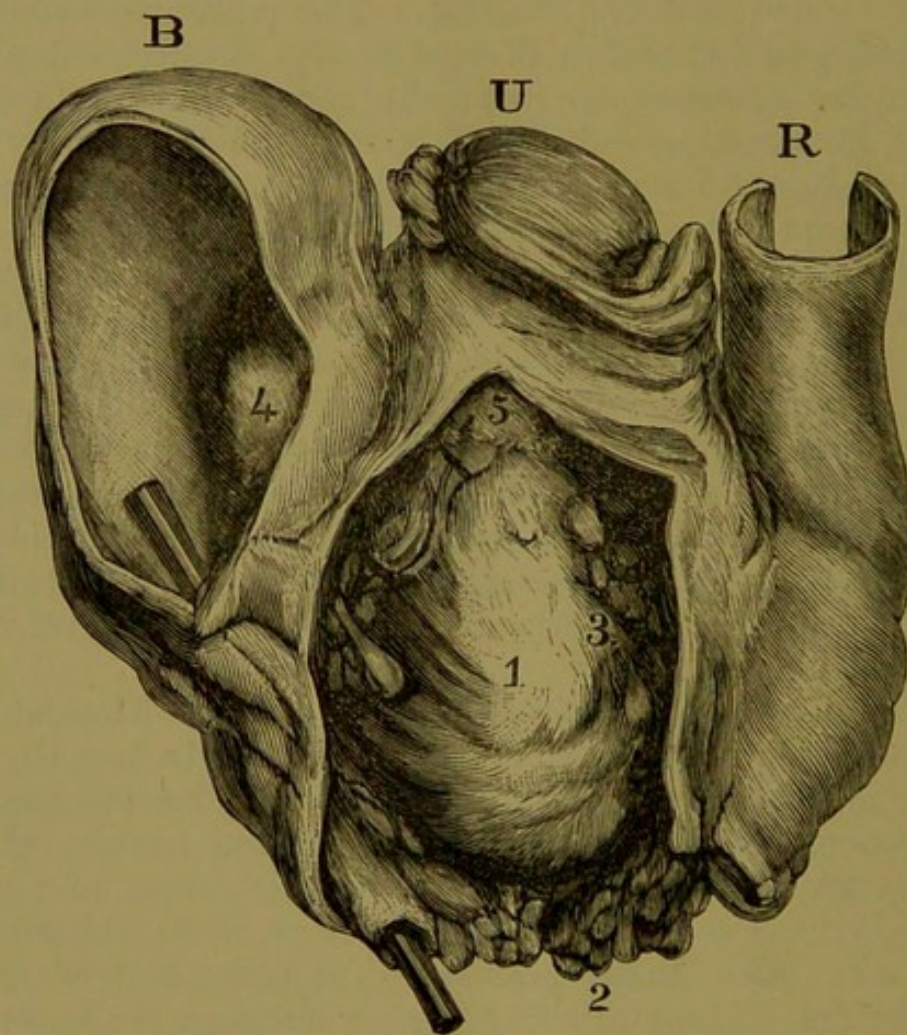


FIG. 1.—The pelvic organs of a child affected with primary sarcoma of the vagina. The dilated vagina is exposed by the removal of its left wall. A rod has been passed through the urethra. B. The dilated bladder. U. The uterus and its appendages. R. The rectum. In the vagina, 1 is placed upon the projection of the right wall caused by the mass of new growth seen in Fig. 2. This mass terminates at 5 as a lobulated growth situated just below the os uteri. 2. The polypoid masses at the ostium vaginae. 3. The pedunculated growths at the upper part of the vagina. 4. The projection of the anterior cul-de-sac into the bladder.

The following account of the specimen is taken from the forty-seventh volume of the Transactions of the Pathological Society of London:—An examination of the specimen, hardened in Foa's solution and preserved in alcohol, shows that the bladder is enlarged, and that its walls are thickened by the hypertrophy of its muscular coats. The dilated vagina has projected

into the bladder just above the left side of the trigone (Fig. 1, 4). The vesical mucous membrane is perfectly healthy. The urethra is also healthy, though it is much elongated. It opens upon the anterior wall of the vagina somewhat higher than usual, and well above the point at which the vagina has been cut in removing the organs from the body.

The uterus is enlarged, but it does not seem to be diseased. The ovaries and the broad ligaments are healthy.

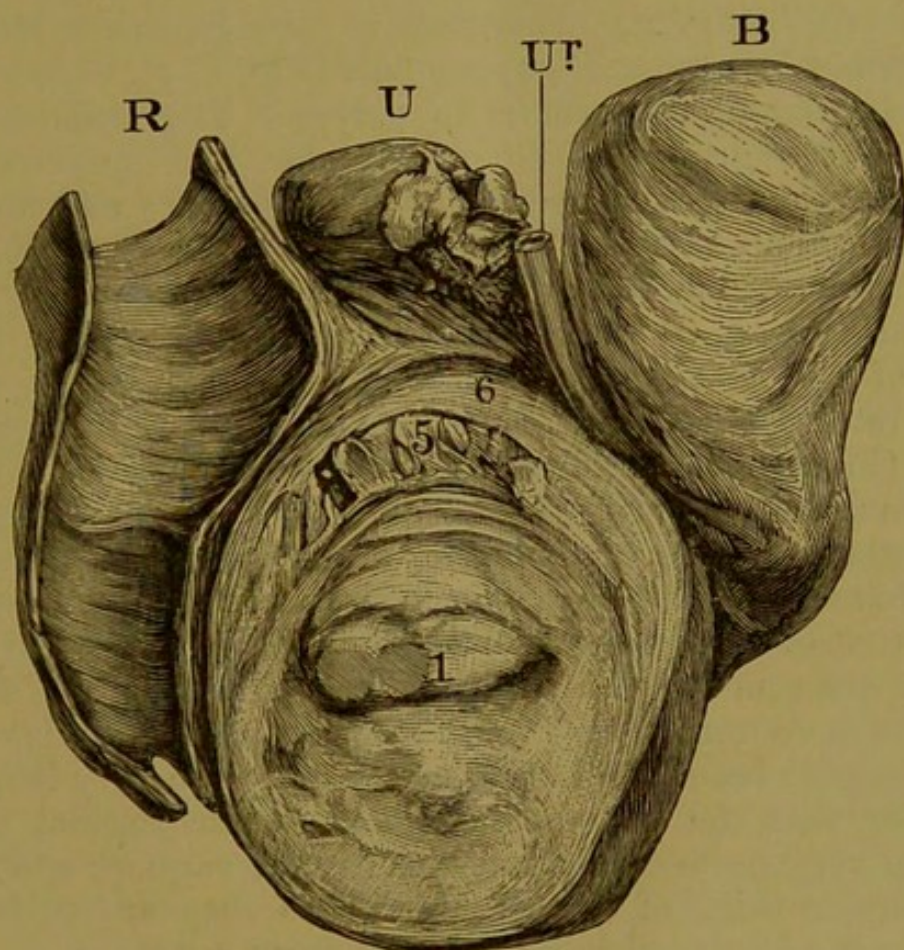


FIG. 2.—Sections through the right side of the pelvic organs from the same case as Fig. 1. R. The rectum. U. The uterus and its appendages of the right side. Ur. The right ureter embedded between the vaginal wall and the bladder. B. The bladder. 1. The circular mass of new growth projecting upwards at 5 to form a coronet of polypoid tumours which project freely into the upper part of the vagina. 6. The vaginal wall bounding the posterior *cul-de-sac*, which has been laid open in making the section, and is represented by the space between the rounded top of the new growth and the line marked by 6. The space is filled with the polypoid growth.

The vagina (Fig. 1) has been laid open by cutting away its left wall, which was covered with warty growths. The whole vaginal canal is enormously dilated, but its walls are not proportionately thickened. It is so pouched in its upper third that it projects into the bladder anteriorly, and into the recto-vaginal space posteriorly. It is divided vertically by a mass of new growth covered with normal mucous membrane. This mass projects from the right wall, and is more prominent at

the upper than at the lower part of the vagina. It is most prominent below the anterior lip of the os uteri, where it stands out as a lobulated mass like the wattles on a cock's comb. A longitudinal section taken through the preparation to the right of the vagina shows that this projection (Fig. 1, 1), which appears to be cylindrical in the vagina, is in reality the side of a circular mass of new growth (Fig. 2, 1) developed in the connective tissue on the right side of the vagina. It has grown until it has compressed the rectum on one side and the bladder upon the other (Fig. 2). This mass of new growth is still well circumscribed, except at its upper part (Fig. 2, 5), where it has become lobulated, to form rude polypi. The circumscribed portion of the growth is almost circular, and measures two inches across. It consists of more dense masses embedded in a soft gelatinous tissue. The right side of the posterior *cul-de-sac* of the vagina has been so greatly distended that a part of its wall (Fig. 2, 6) has been cut away in making the lateral section of the specimen, and it is thus seen how the polypi project into the cavity of the vagina. The right ureter is wedged (Fig. 2) into a narrow channel between the top of the growth and the base of the bladder.

The whole mucous membrane of the vagina is studded with hundreds of polypi, varying in size from the smallest pin's head to that of a large pea. The polypi (Fig. 1) are obviously of two kinds, some less numerous (Fig. 1, 2), sessile, and denser, the others more numerous (Fig. 1, 5), pedunculated, and gelatinous. The pedicles of the latter variety are often very long, and so slender that the polypi float freely in the vaginal cavity. They are very numerous about the ostium vaginae, and again in the upper third of the vagina, where they are packed so tightly in the hardened specimen as to form a mosaic.

A microscopical examination of the vaginal wall shows that its serous and muscular coats are healthy. The submucous connective tissue is very soft and gelatinous. It is increased in quantity, and the thickening is not uniform. The submucous tissue is infiltrated with numerous small round cells, and aggregations of these cells covered with vaginal epithelium have grown into the lumen of the vagina to form the soft gelatinous polypi, which are so conspicuous a feature in the specimen. Even the most rudimentary of the polypi thus formed have a constriction at the level of the vaginal mucous membrane, showing that they would eventually have become pedunculated. They must be classed as myxo-sarcomata. The denser polypi, and the circumscribed mass of growth springing from the side of the vagina are small round-celled sarcomata,

containing a great deal of fibrous tissue. These denser masses are therefore rather of the type of fibro-sarcomata than of myxo-sarcomata. None of the growths examined contained striped muscle fibres in their substance, other than those which could be accounted for as belonging to the normal tissue of the parts involved.

I have been at some trouble to ascertain what other cases of primary sarcoma of the vagina in children have been recorded in England, in Germany, and in America. The following is a short abstract of such cases. I cannot hope that the list is in any way exhaustive, for many other cases must be buried in the files of the medical journals. I have been unable to discover any reference by French surgeons to primary sarcoma of the vagina in children, yet they must occur, and the condition is such a striking one that most of the cases should have been recorded.

Case 1. Our Museum contains (No. 3030) the earliest specimen of this interesting condition which I have been able to trace. It is described as "a large cluster of polypoid growths from the nymphæ and walls of the vagina of a child. The largest growth is of an oval shape, and measures nearly three inches in its chief diameter; the others are various in size and shape. Some are spheroidal, many are pyriform, and the smallest are not more than one or two lines in length. They are grouped without order. The largest is attached to the upper wall of the vagina and to the nymphæ, and its upper part is traversed by the urethra. The others were attached to different parts of the vagina. In minute structure all appeared to be composed of very fine fibro-cellular connective tissue: the largest was soft, elastic, and opaque white, the others were more like gelatinous polypi of the nose." At birth a growth like "a bunch of small grapes" was observed projecting from the vulva. It appeared to be connected with the right wall of the vagina, and was removed by ligature when the child was six weeks old. It was probably soon reproduced, but the next growth was confined to the vagina, and did not protrude until the child was three years old. A ligature was placed round its base, and it was allowed to slough away, but a fresh growth quickly appeared in its place. The mass preserved in the Museum specimen was removed six months after the second operation. The whole of the disease could not be removed, as some had to be left where it surrounded the urethra. A rapid increase took place at this point, and in about three months destroyed the child's life by exhaustion. The speci-

man has recently been examined microscopically, and it proves to be a sarcoma undergoing myxomatous degeneration.

CASE 2.—The first recent case which I have found occurred in a girl aged fifteen years,¹ who was admitted into the Trier'schen Institute in Leipzig, under the care of Ahlfeld, in the year 1865. The patient had been ill a little more than a year, and the tumour had been noticed for a fortnight. The growth was removed in November, and the patient made a good recovery. It recurred, and was again removed in January 1896. The patient died of septic complications after the second operation.

CASE 3.—Mr. Heckford² showed at a meeting of the Obstetrical Society the pelvic organs of a child aged two months. There was a great villous-looking tumour, apparently attached to the vulva. The growth extended inwards, and lined a large sac, which represented the enormously dilated vagina. Death took place shortly after the first appearance of the tumour. Microscopical examination "proved the growths to be medullary in their character."

CASE 4.—A girl aged 18 months³ was brought to Billroth's clinic on 22nd February 1873. Her mother had noticed a small tumour projecting from the vulva a month before she took her child for advice, but the tumour did not seem to have caused the patient any inconvenience, as she did not become really ill until a fortnight before Billroth saw her. The tumour was removed and the vagina was scraped with a spoon on 26th February 1875. Small nodules appeared at the orifice of the urethra on March 14th, and on the 15th there was retention of urine. The child died of peritonitis on the 18th. Dr. Kundrat, who was acting as Rokitansky's assistant, conducted the post-mortem examination. The mucous membranes of the bladder and of the vagina were found to be covered with warty papillæ, whilst the vesico-vaginal septum was infiltrated with a dense new growth. The new growth was a fibro-sarcoma.

The rapidity with which sarcomatous tissue is formed was well shown in this case, for the vagina had been thoroughly scraped with a sharp spoon a little more than a fortnight before the child died, yet at the post-mortem examination its mucous membrane was covered with polypoid masses.

¹ Archiv f. Heilkunde, 1867, vol. viii. p. 560.

² Trans. Obstet. Soc., vol. x. 1868, p. 224.

³ Wiener Klin. Woch., 1889, No. 8, p. 159.

CASE 5.—Mr. Howard Marsh¹ recorded a case of polypoid growths of the bladder and vagina in a child aged two years, who had been under his care at the Great Ormond Street Hospital for Sick Children. The child's mother had noticed that a fleshy-looking substance as large as a grape projected from the vagina when the patient was a year old. There was neither bleeding, pain, nor difficulty in micturition. The growth was removed by ligature. Similar growths appeared in the course of few months, and were also ligatured. There was eventually complete incontinence of urine, much straining, pain, and an offensive vaginal discharge. The child lost flesh and strength, the attacks of pain and straining became more frequent, and death took place sixteen months after the commencement of the disease. All the organs were found at the post-mortem examination to be healthy, except the bladder and the vagina.

The preparation excited considerable interest, and a report upon it was prepared and submitted to the Society by the Morbid Growths Committee. This report stated that the growths in the bladder "are limited to the base and neck, whilst those in the vagina are almost confined to the anterior surface, where it is in contact with the bladder. Between the bladder and the vagina is a dense and solid mass . . . which is nowhere sharply defined." Microscopical examination showed that the growth consisted of small round cells, with a basis of connective tissue. It was obviously a small round-celled sarcoma, but for some reason which is no longer apparent the Committee concluded its report with the singular statement that "there is no tissue present in any part of the specimen which may not result from a simple overgrowth of the normal tissues of the part."

CASE 6.—Dr. Gaillard Thomas² had under his care a girl aged eighteen months, who appeared to have been in perfect health until three or four months previously, when a small tumour appeared on the left labium majus. The tumour, when he first saw it, was "as large as a hen's egg bisected lengthwise." The base of the tumour extended along the labium majus, and its highest point was attached to the edge of the urinary meatus. The growth was removed by the galvano-cautery. It grew again almost to its original size, and was removed a second time five months after the first operation. It recurred again,

¹ Trans. Path. Soc., vol. xxv. 1874, p. 178.

² American Journal of Obstetrics, vol. vii. p. 51.

sloughed, and the child died. Microscopic examination showed that it was a sarcoma.

CASE 7.—Dr. Thomas C. Smith, of Washington, D.C., published¹ an account of a peculiarly interesting case, in which both the uterus and the vagina were stuffed with multiple mucous polypi and with sarcomatous growths. The child was aged three years and eight months. A tumour which appeared between her labia at the age of eight months was snipped off, and many similar growths were afterwards removed. The child died of exhaustion . . . months after the first tumour was seen. She had so much œdema that towards the last it was only possible for her to breathe whilst she rested on her hands and knees.

The post-mortem examination showed that the vagina was four inches long. Its walls were greatly thickened, and its mucous surface presented nodular elevations of various breadths, and polypoid growths of various sizes. The uterus measured $4\frac{1}{2}$ inches in length and $3\frac{1}{2}$ in breadth at the fundus. Its walls were firm, and apparently homogeneous in structure. The mucous membrane presented irregular nodules and a few small polypoid growths. Many subperitoneal masses were attached to its outer surface. Four months after its removal the uterus and its appendages weighed 31 ounces. Dr. Smith² in a subsequent communication adduced skilled evidence to show that the growths in this case were myxo-sarcomatous.

CASE 8.—Hauser³ saw a child, from the anterior wall of whose vagina sarcomatous tumours were first noticed at the age of six months. The growths occurred rapidly after they had been removed, and death took place about eighteen months later. The tumours consisted of round and spindle cells, and they contained smooth and striped muscle fibres, with islands of epithelium. The growth appeared to have begun in the anterior wall of the vagina.

CASE 9.—Demme⁴ records the case of a child aged $5\frac{1}{2}$ years, in whom the growths sprang from the posterior third of the right side of the vagina. The polypoid masses were excised, but they recurred five months afterwards. They were again removed, and returned four months later. The patient died, after numerous operations, when she was seven years old. The

¹ American Journal of Obstetrics, 1883, vol. xvi. pp. 555 and 668.

² Ibid., 1893, vol. xxvii. p. 577.

³ Virchow's Archiv, Bd. lxxxviii. p. 168.

⁴ 19te Jahresbericht d. Jenner'schen Kinderspitals zu Bern, p. 95, quoted by Pick, Archiv f. Gynäkol., vol. xlv. p. 218.

primary and the recurrent tumours were fibro-sarcomata, which seemed to have originated in the right side of the vagina. They were first noticed soon after birth.

CASE 10.—Steinthal¹ saw a child aged two years, from the anterior wall of whose vagina a tumour had been growing for eight months. The growth was removed, and recurred eight weeks later. It had then grown as large as a walnut, and it was again removed. Death took place from uræmia six months afterwards. The growth was a myxo-sarcoma.

CASE 11.—Sänger² reports the case of a child who was aged two years and eight months when it was first seen to be suffering from a primary sarcoma of the vagina. There were numerous polypoid masses with broad bases of attachment to the anterior vaginal wall. The inguinal glands were affected. The tumours recurred very soon after they had been removed, and the child died at the age of three years and six months. It was then found that the bladder, the broad ligaments, and the deep lumbar glands were infiltrated by the new growth, which was a round-celled sarcoma containing a few spindle cells. The growth had an epithelial covering.

CASE 12.—Ahlfeld³ (*cf.* Case 1) saw a second case of sarcoma in a girl aged $3\frac{1}{2}$ years, whose vagina was filled with polypoid growths. The inguinal glands were greatly enlarged, and death took place on August 20, the child having been seen for the first time on July 26, 1876. The growth was a fibro-sarcoma filling the whole pelvis. It grew from the anterior wall of the vagina, and had so infiltrated its substance that the whole wall was greatly thickened.

CASE 13.—A child aged $2\frac{1}{2}$ years was brought to Soltmann.⁴ Her vagina contained racemose tumours, springing from the anterior wall and involving the bladder. Death was due to uræmia. The growth was of a year's duration. It was a round-celled sarcoma in the vagina, a spindle-celled sarcoma in the bladder.

CASE 14.—Schuchardt⁵ records the case of a child aged

¹ Virchow's Archiv, Bd. cxi. p. 449.

² Archiv f. Gynäkol., Bd. xvi. p. 58.

³ Ibid., Bd. xvi. p. 135. An excellent bibliography of the whole subject of malignant growths as they occur in children is appended to this paper.

⁴ Jahrb. f. Kinderheilk., Bd. xvi. p. 418.

⁵ Verhandl. der Deutsch. Gesellsch. f. Gynäkol., 1888, Bd. ii. p. 239.

seven months, in whom a tumour grew from the right wall of the vagina. The growth was removed, but it recurred in the labia a fortnight later. The patient died five months afterwards, and the tumour was found to be a mixed-celled sarcoma of an angiomatous nature.

CASE 15.—Schuchardt¹ has also seen a second case of primary sarcoma of the vagina with polypoid masses springing from the mucous membrane. It occurred in a child aged $2\frac{1}{2}$ years, and the growth sprang from the posterior wall of the vagina. It protruded from the vulva when the child coughed. It was removed, and it recurred $6\frac{1}{2}$ months later. It was again removed, and Schuchardt returns the case as cured, for he showed the girl, fat and healthy, at the Halle Congress in 1888, two years after the last operation. The growth was a mixed-celled sarcoma, the isolated excrescences consisting of epithelium.

CASE 16.—Volkman² saw a sarcoma occurring primarily in the vagina of a child aged seven years. Recurrence took place two months after the first operation.

CASE 17.—The same surgeon records³ a similar case in a child aged five years. The swelling protruded from the vagina on coughing. The growth, with a piece of the vaginal wall, was removed in September 1885. Recurrence took place six weeks later, and for the third time, a fortnight after its second removal. The tumour was again removed, and with it more than half the posterior wall of the vagina. There had been no farther recurrence when the case was reported in May 1888. The new growth in both these cases was papillomatous; histologically they were both round-celled sarcomata. [The cases Nos. 16 and 17 seem to be the same as Nos. 14 and 15.]

CASE 18.—Dr. Lewis Marshall of Nottingham⁴ saw a child aged two years and seven months in whom the growth originated from the posterior wall of the vagina. It was removed, but soon recurred. The growth was again removed on May 16, 1881, the child died on May 24 of general peritonitis, which appeared to be quite unconnected with the operation. The autopsy showed that there was some suppuration round the left ovary for which no cause could be discovered.

¹ Loc. cit.

² Brit. Med. Journ., 1888, ii. p. 626.

³ Loc. cit.

⁴ Brit. Med. Journ., 1889, i. p. 127.

CASE 19.—Schustler¹ records a case occurring in a child aged four years, who had enjoyed good health until four months before she was first seen. She then began to suffer from a purulent vaginal discharge, and two months later several small round tumours projected from her vulva when she cried or strained. These growths were removed, and digital examination of the vagina during the operation revealed the presence of a tumour on the anterior wall springing from the vesico-vaginal septum. This tumour afterwards ulcerated. It was removed, and proved to be a myxo-sarcoma. There was some dysuria, but no cystitis or retention of urine. Defæcation was performed normally.

CASE 20.—Professor Weinlechner² had a child aged eighteen months brought to him at the St. Anna Children's Hospital in Vienna with a polypoid sarcoma of the vagina. The child died a fortnight after its admission to the hospital, but unfortunately the notes of the case are lost. The post-mortem examination showed that an ulcerating sarcoma had infiltrated the vagina, the urethra, the base of the bladder, and the uterine cervix. It had caused cystitis, pyometra, and pyelitis. The growth was papillomatous, and was a myo-fibro-sarcoma.

CASE 21.—Professor Weinlechner³ also records a second case of primary sarcoma of the vagina in a child aged one year. The tumour was first seen to project from the vulva a week before the patient was brought for advice. Examination revealed the presence of multiple vaginal polypi, some of which were removed, and the vaginal wall was scraped. The operation was repeated, and the child died 3rd February 1886, having been admitted into the hospital on the 29th September in the previous year. The vagina was found at the post-mortem examination to be crammed with polypi, which grew more especially from the left side and upper part of the vaginal wall.

CASE 22.—Körner⁴ met with a case in a child aged two years. Death occurred a few months after he first saw the patient. The growth was a fibro-sarcoma springing from the posterior wall of the vagina, but infiltrating the vesico-vaginal septum. There were numerous polypoid masses in the vagina.

¹ Wiener Klin. Woch., 1888, pp. 148, 225.

² Ibid., 1889, p. 109.

³ Op. cit., p. 130.

⁴ Quoted by Pick, Archiv f. Gynäkol., Bd. xlvi. 1894, p. 220.

CASE 23.—Pick¹ has recently published an important paper upon "Sarcoma of the Uterus and Vagina in Children." His attention was drawn to the subject in much the same way as my own. A child aged two years was brought to him complaining of abdominal pain. A tumour projected from her vulva when she strained, as she was obliged to do, in passing water. The pain soon became worse, and the child had a stinking vaginal discharge. She was first seen in March 1892, and she died in the following September. The growth was a spindle-celled sarcoma which had infiltrated the pelvic organs. There was no evidence of secondary deposits in the other organs. The kidneys were congested, but were not otherwise diseased.

CASE 24.—Ganghofner² had a girl aged eight years under his care for a tumour growing from the anterior wall of the vagina. It was lobulated, and of the size of a hazel-nut. Professor Chiari removed a piece for diagnostic purposes, and found that it was "a medullary cancer of the mucous glands of the cervix uteri." The growth extended between the bladder and the uterus, but the uterine mucous membrane was not ulcerated.

CASE 25.—Weinlechner³ records a case which is in some respects similar to the foregoing. He had under his care a girl aged $2\frac{3}{4}$ years for recurrent tumours, each as large as a cherry, which grew from the urethra. There were similar masses in the bladder. Dr. Weinlechner said that he had seen an identical condition in the bladder of a boy.

Kolisko, too, watched Weinlechner's cases of primary sarcoma of the vagina in children, and he has written a valuable paper upon the subject, which is published in the *Wiener Klin. Woch.*, 1889, pp. 109, 130, 159, 182, 202, 222.

It appears from a consideration of the foregoing cases that primary sarcoma of the vagina is only a specialised form of malignant disease which may affect any or all of those connective tissues which are involved in the complicated developmental processes associated with the formation of the cloaca. The sarcoma grows in the connective tissue of the pelvic organs, and extends into the bladder, the urethra, the uterus, or the vagina. It is either well circumscribed, as it was in my own case, or it is diffuse, as it was in the second case reported by Dr. Ahlfeld (No. 12, p. 130); but whether it is circumscribed or whether it

¹ Archiv f. Gynäkol., Bd. xlvi. p. 192.

² Quoted by Pick, op. cit., p. 209.

³ Med. Press and Circular, 1888, i. p. 616.

is diffuse, whether it affects the vagina alone, or whether it infiltrates all the neighbouring organs, this form of sarcoma shows an almost constant tendency to become polypoid and multiple, a characteristic which is well recognised by German pathologists, who have applied the term racemose sarcoma (*Traubensarcom*) to this variety of new growth which affects the female generative organs.

Primary sarcoma as it occurs in children does not, in the majority of cases, run a very rapid course. It does not ulcerate very readily. It does not usually affect the lymphatic glands. It does not disseminate, but its prognosis is very grave. It recurs quickly after removal, and it kills by interfering with the action of the pelvic organs, by retention of urine more often than by obstruction of the bowels. The diagnosis is easy, but the polypi are often looked upon as innocent growths, and their true nature remains unrecognised until the presence of a tumour in the pelvis shows that it is too late for surgical interference. Yet this need not be, for multiple polypi of the rectum and of the genito-urinary tract in young people are so rare, and are so often associated with malignant disease, that their presence should always lead to a suspicion of such a condition. It is insufficient to remove such polypi; it is insufficient even to determine by microscopical examination that some of them are innocent, for it may be that only "a tab" of skin or mucous membrane has been examined. Our Museum contains examples of multiple and innocent polypi of the rectum in a boy which were associated with a cancerous stricture of the bowel. Malignant growths may lurk behind such polypi either in the present or in the very near future, and in examining such a patient it should be borne in mind that the growth may be diffuse from the beginning. The vesico-vaginal and the recto-vaginal septa in girls and the recto-vesical space in boys should therefore be explored as thoroughly as possible, and the surgeon should satisfy himself that neither is thickened before he ventures upon a diagnosis.

The complete cure which has been effected in one or two cases of primary sarcoma of the vagina in children shows that the early and complete removal of the growth may be as effectual in this as in other forms of malignant disease. An early and sufficient operation should therefore be advocated in these cases, and the surgeon should not content himself with scraping away the polypoid masses, for Billroth's case (No. 4. p. 127) shows how rapidly such growths may be reproduced.

The specimen upon which this paper is based was shown at the Pathological Society of London. It is preserved in the Museum, No. 3030A.

