

THE AMERICAN
JOURNAL OF OBSTETRICS
AND
DISEASES OF WOMEN AND CHILDREN.

VOL. XXXV. FEBRUARY, 1897.

No. 2.

ORIGINAL COMMUNICATIONS.

CONGENITAL PROLAPSUS UTERI,
WITH TWO ILLUSTRATIVE CASES.

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(With two illustrations.)

CASES of true congenital prolapse of the uterus are so rare that no apology is required for putting upon record what are probably the seventh and eighth known examples of the anomaly. Our attention was drawn to the first case by Dr. Alexander Macdonald, of Edinburgh; while for the details of the second and for the opportunity of inspecting the specimen we are indebted to Dr. C. McVicar, of Dundee, in whose practice it occurred. To these gentlemen our thanks are due for their courtesy in enabling us to investigate two instances of so rare an anomaly.

CASE I. *Clinical Notes.*—The patient, a girl, was 6 days old when first seen by us. She was the youngest of five children, the others being strong and normal. During pregnancy

the mother had suffered from no illness or accident. The child was born at full term on December 15th, 1896, and, with the exception of the spina bifida and double clubfoot, appeared healthy. The urine was passed freely and the bowels were regular, although the digestion seemed very feeble. On December 17th the spina bifida burst, and on the next day prolapse of the uterus was seen for the first time and seemed to cause continual pain and straining. After it appeared it remained constantly down. On December 21st we saw the child for the first time, when we found the following noteworthy conditions :

1. In the lumbar region was a large spina bifida which had burst ; its base measured about $1\frac{1}{2}$ inches in diameter.

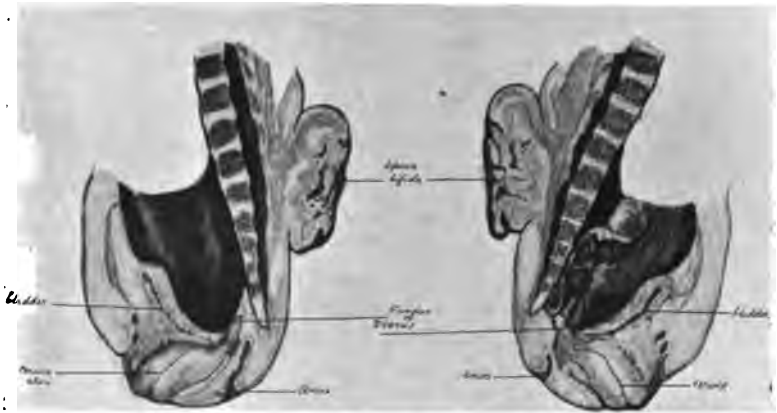


FIG. 1.—Vertical mesial section of pelvis of infant with congenital prolapsus uteri. Right and left sides shown.

2. Protruding for about $\frac{3}{4}$ inch from the vulva was a red mass closely resembling prolapsed bowel. This, on closer examination, was found to be the hypertrophied cervix uteri and the adjacent part of the vaginal wall. A quantity of clear, gelatinous secretion exuded from the os uteri. A sound was passed within the os and entered easily for $1\frac{1}{2}$ inches ; it could also be passed into the vagina at the side of the prolapse for about one inch all round. The prolapse went back readily on slight pressure, but came down again very soon unless the surrounding parts were held together.

3. The anus projected unusually and its orifice was somewhat patent ; a finger passed within it was not grasped at all.

4. There was extreme talipes varus on both sides. The patella was absent on the right side, but present on the left.

No abnormality of the head or of the thoracic and abdominal organs was found, but the infant was evidently extremely weak. The prolapse was returned and the buttocks kept in close apposition by means of plaster and a pad of cotton wool. The child seemed in less pain after this, but she got gradually weaker and died the next afternoon at 5:30.

Morbid Anatomy.—At the post-mortem examination, which took place next day (December 23d) at 1 o'clock, the heart,

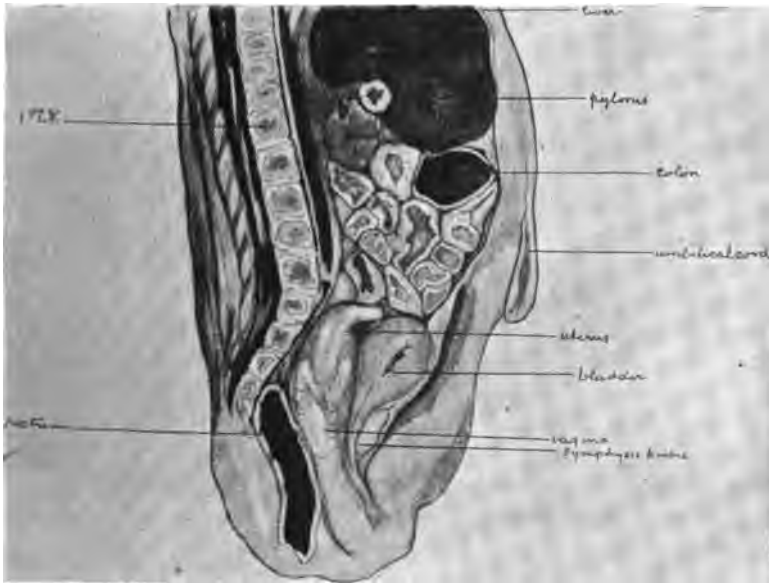


FIG. 2.—Vertical mesial section of infant's pelvis, showing normal relations of viscera. Left side shown.

lungs, liver, spleen, kidneys, stomach, and bowels were found to be normal. The pelvis and the lower third of the spine were removed for further examination. The lower end of the trunk of the infant was placed in freezing mixture, the prolapse having been previously reproduced. A vertical mesial section was then made in the usual way, the parts were traced upon gelatin, and water-color drawings, photographs of which are seen in Fig. 1, were executed. The investigation was carried out in the College of Physicians' Laboratory, Edinburgh. For comparison the appearances in a section of a normal pelvis of a new-born infant are represented in Fig. 2.

A reference to the two illustrations makes it at once evident that the uterus is really prolapsed, for in the one instance the fundus uteri lies at the level of the coccyx (in the plane of the pelvic *outlet*), whilst in the other it is situated 0.5 centimetre above the pelvic *brim* (its normal height at this time of life). The cervix uteri (Fig. 1) distends the vulva and protrudes slightly from it, but the degree of protrusion is much less than during life; normally (Fig. 2) the cervix is at the level of the third or fourth sacral vertebra. In the prolapse specimen the cervix and lower part of the corpus uteri have an upward and backward direction—that, in fact, of the normal vaginal axis—but the upper part of the body lies nearly vertically in the pelvis. The uterine axis contrasts markedly with the normal as shown in Fig. 2. The bladder, whose cavity has a Y-shape, is situated lower in the pelvis than is usual, and there is also a certain degree of prolapse of the vaginal walls. The rest of the pelvic cavity is occupied by the rectum and intestinal coils (not represented in the illustration). The sacrum shows no indication of a promontory, and the lower part of the spinal column is perfectly straight except for a slight bending *backward* of the tip of the coccyx. This contrasts markedly with the normal disposition of parts represented in Fig. 2, in which there is a lumbo-sacral and a sacro-coccygeal curve and the tip of the coccyx is turned *forward*. The empty condition of the rectum in the prolapse case is noteworthy and contrasts with its distended state in the normal infant. The defect in the posterior wall of the spinal canal affects the last lumbar and the first two or three sacral vertebræ, and the cauda equina is seen spread out over the inner surface of the spina bifida sac. A distinct perineal body of a triangular shape exists, the vaginal rugæ are well marked, and the distended vulvar orifice shows an unruptured annular hymen.

Dissection of the pelvic contents revealed the ovaries and Fallopian tubes lying slightly above the level of the fundus uteri at the sides of the pelvic cavity. The broad and round ligaments were greatly stretched and thinned. The connective tissue in the pelvis seemed to be smaller in amount than normal, but the infant herself was not at all plump. The urethra was patent.

The following measurements were made. With regard to the pelvic diameters, it may be convenient to place them alongside of the averages in normal new-born infants.¹

¹ Vide Ballantyne's "Introduction to the Diseases of Infancy," p. 96, Edinburgh, 1891.

Diameters.	Normal.	Prolapse case.
Interspinous.....	5.5 centimetres.	4.6 centimetres.
Intercristal.....	6.0 " "	5.0 " "
Conjugata superior.....	8.8 " "	4.0 " "
Conjugata inferior.....	2.5 " "	8.5 " "
Transverse at brim.....	2.8 " "	8.0 " "
Antero-posterior at outlet.....	1.8 " "	8.5 " "

This table proves conclusively that in the infant with prolapsus uteri the diameters of the false pelvis were below the normal, whilst those of the true pelvis, both at the brim and outlet, were distinctly above the average.

The total length of the uterus was 3.2 centimetres, of which 2 centimetres belonged to the cervix and 1.2 centimetres to the body. The transverse diameter of the uterine fundus was 1.5 centimetres and the antero-posterior only 0.5 centimetre. The cervix had an antero-posterior measurement of 1.2 centimetres and a transverse of 1.0 centimetre. Save for a certain but not a great degree of cervical enlargement, these diameters do not differ greatly from those in normal infants.¹ The distance between the anal and vulvar apertures was 1.0 centimetre.

CASE II. *Clinical Notes.*—The patient, a full-time female infant, was born on July 17th, 1896. Her mother, a Ipara 24 years of age, had been married for nine years to a man now 43 years old. The child was born with the lower limbs on the abdomen, the knees extended, and the soles of the feet apposed. In the lumbo-sacral region was a collapsed spina bifida, which had probably burst during birth, and from which clear fluid was oozing. It was sessile, and its base, almost circular, had a circumference of five inches. Its wall was composed of tough membrane, and around the base the skin, of a bright-red color, faded into the membrane. In the middle line of the cyst was a vertical groove, beneath which could be felt a cord-like body, pressure upon which always made the child cry. No patella could be felt on either side, and the extended legs were now forcibly flexed. Double talipes varus existed, and there was a deep groove at the junction of the first metatarsal and the internal cuneiform bones. No hydrocephalus, no cleft palate.

On the next day (July 18th) Dr. McVicar, in whose practice the case occurred, first noticed a red, rounded mass of uniform thickness protruding for fully half an inch from the vagina.

¹ Ballantyne, op. cit., p. 105.

This, which was not present at birth, was the prolapsed uterus. The vaginal portion was rounded and the os externum was transverse with furrows at each end. A probe passed up between the vaginal walls and the protruding cervix uteri. The prolapse could be easily returned, but came down again when the child cried. The vagina was roomy and its entrance admitted the middle finger. There was a circular hymen. There were no gluteal folds; the buttocks formed a pyramid with the anus at the apex. There was slight eversion of the rectal mucosa; the skin was wrinkled round the anus, into which the little finger could be easily passed and was not grasped. Meconium and urine were passed at intervals. No movements were noticed now (or afterward) at any of the joints from the knees downward, and pinching the muscles of the leg or foot caused neither movement nor sign of pain. Tickling the skin of the front of the leg caused slight flexion of the thigh. A pad of cotton wool was placed over the spina bifida, which was filling again, and the vagina was plugged, the plug being kept in position by a napkin.

From this date till July 23d the child lived on; but the uterine prolapse was constantly coming down, and the cervix was much congested, whilst the spina bifida sac showed a slough. On the 23d the infant cried constantly, became cyanosed at intervals, and on the morning of the 24th was found dead in bed.

Morbid Anatomy.—At the post-mortem examination (July 24th) the body was found of medium size and weight. The lips, ears, and finger tips were markedly cyanosed. The pelvis and lumbar vertebræ were removed for special examination.

The total length of the uterus was 2 inches (5 centimetres), body and cervix each measuring 1 inch. The vaginal portion was rounded, with a transverse opening. A probe passed in $1\frac{1}{2}$ inches. The distance of the fundus uteri above the bottom of the pouch of Douglas was $1\frac{1}{2}$ inches, above that of the uterovesical pouch $\frac{1}{2}$ inch. The length of the vagina was 1 inch. The anterior lip of the cervix was club-shaped; it was thicker and longer than the posterior, its thickness being $\frac{3}{4}$ inch, that of the posterior $\frac{1}{2}$ inch. A triangular perineal body was present, the distance from the anus to the vulva being $\frac{1}{2}$ inch.

The pelvic diameters were: conjugate at brim, 1 inch; in the cavity, $1\frac{1}{2}$ inches; at the outlet, $1\frac{1}{2}$ inches. The transverse and the obliques at the brim were $\frac{3}{4}$ inch.

The ovaries and tubes were normal. The uterine ligaments

were present, but allowed the descent of the organ, the body of which lay nearly vertically in the pelvic cavity. The uterine artery was well marked on both sides.

The spina bifida was a meningo-myelocele extending from the junction of the fourth and fifth lumbar vertebræ to that of the third and fourth sacral. The tumor really formed the end of the spinal canal; the cauda equina, covered with pia mater, ended at about the centre of the posterior wall, and from it nerves radiated to the intervertebral foramina. The kidneys were large, each measuring 3 inches by $1\frac{1}{2}$ inches; in their interior were numerous pinhead-sized cysts. Spleen, liver, and heart normal. The fundus of the bladder lay above that of the uterus. Urethra patent.

Such were the records of the two cases of congenital prolapsus uteri which came under our observation, and before we proceed to discuss the mode of origin of the anomaly it may be well to refer to the instances recorded by other observers.

PREVIOUSLY RECORDED CASES.—It would seem that, including the two instances above described, eight cases of true congenital prolapsus uteri have been put on record. The full references to these may here be given:

1. SCHULTZ: "Prolapsus uteri congenitus." *Verhandl. d. Ver. pfälz. Aerzte* 1536, Kaiserslautern, p. 48, 1857.

2. QVISTLING (N.): "Prolapsus uteri completa hos et nyfodt Barn." *Norsk Mag. f. Lægevidensk.*, 4 R., iv., p. 265, Christiania, 1889. Also, "Prolapsus uteri completa bei einem neugeborenen Kinde," *Arch. f. Kinderh.* xii., p. 81, Stuttgart, 1890-91.

3. SCHAEFFER (O.): "Bildungs Anomalien weiblicher Geschlechtsorgane aus dem fötalen Lebensalter mit besonderer Berücksichtigung der Entwicklung des Hymen," *Arch. f. Gynäk.*, xxxvii., p. 244, 1890. Also in F von Winckel's "Die Königliche Universitäts-Frauenklinik in München in den Jahren 1884-90," p. 537, 1892.

4. HEIL (K.): "Ein Fall von angeborenem Prolapsus uteri et vaginæ incompletus," *Arch. f. Gynäk.*, xlviii., p. 155, 1894.

5. REMY (S.): "Spina bifida—Ulcerations peri-anales—Prolapsus complet des organes génitaux internes," *Arch. de Tocol.*, xxii., p. 904, 1895

6. KRAUSE: Case reported and figured by F. L. NEUGEBAUER in his "Kilka slow o mezkiem owlosieniu u Kobiet," *Gaz. lekarska*, xvi., p. 1223, Warszawa, 1896.

7. BALLANTYNE and THOMSON: Vide supra.

8. MCVICAR (C.): Vide supra.

These cases will now be referred to by the numbers attached to them, and it may be stated that all the references have been consulted in the original. With regard to Schultz's paper, we were unable to see the journal in which it appeared, but

through the kindness of Deputy Surgeon-General Huntington, of the Washington Library, we were favored with a typewritten copy of it. To Dr. Neugebauer, of Warsaw, we are indebted for a letter containing fuller details of Krause's case than those given in the *Gazeta lekarska*. Schaeffer (3) refers to a case published by Munro¹ in 1735; but had he been able to consult the original he would have seen that the prolapsus uteri was not congenital in the true sense, for the patient was 3 years old before it occurred. Nevertheless Munro's case is of interest, for it bridges across the gap between truly congenital prolapse and that met with in nulliparous women. The patient described by Villaume² as suffering from complete congenital inversion of the uterus has been supposed by some writers to have been really the subject of prolapsus; but the details of the case, although they do not altogether clear up the nature of the anomaly, are sufficient to prove that it was not true congenital uterine prolapse.

GENERAL CONSIDERATIONS. *Definition.*—Congenital uterine prolapse may be defined as an evident and real downward displacement of the uterus occurring at or immediately after birth, and associated frequently, if not constantly, with spina bifida of the lumbo-sacral region. It must, therefore, be differentiated from so-called congenital hypertrophic elongation of the cervix—an anomaly which appears at or near the time of puberty; at the same time a certain degree of cervical enlargement may be associated with true congenital prolapsus.

Clinical History.—In the reported cases, notes concerning the history of the pregnancy ending in the birth of an infant with congenital uterine prolapse were not always forthcoming; no information whatever is given in No. 3, although Schaeffer states that Winckel is to describe the case in full later, and in No. 6 scarcely any facts are given.

The mother of the infant was a Ipara in Nos. 5 and 8, a IIpara in No. 4, a IIIpara in No. 1, a IVpara in No. 2, and a Vpara in No. 7. In No. 5 she was young (17 years) and very nervous; in No. 1 she was delicate and had suffered in a previous pregnancy from weak pelvic ligaments; and in No. 8 she had been married nine years before conception occurred. The gestation ending in the birth of an infant with prolapsus was

¹ Munro (A.): "An Account of a Procidentia Uteri," *Med. Essays and Obst. Soc. Edinb.*, iii., p. 303, 1735.

² Villaume: "Observation d'un vice de conformation des organes sexuels de la femme," *Bull. Acad. de Méd.*, viii., p. 1256, Paris, 1842-43.

probably generally uneventful; but in No. 2 there was a history of a maternal impression (fright) between the fourth and fifth months and again at the eighth month, and weakness of the fetal movements was noted. In Nos. 2, 4, 5, 7, and 8 the pregnancy went to the full term, but in Nos. 1, 3, and 6 information on this point is not forthcoming. The head presented and the infant was born without interference in Nos. 4 and 7, and probably also in Nos. 5, 6, and 8; but in No. 2 there was a breech presentation, not, however, requiring instrumental aid. In the multiparous mothers the previous children had all been normal, and in No. 2 it was specially noted that the three older girls were all well formed. In no case was there a history of malformations on the maternal or paternal side; but in No. 2 both the mother and her child had a nevus on the neck.

Symptomatology.—In every case, with the possible exception of No. 3, the infant was born alive, and in every case death resulted not long thereafter—in seven days in Nos. 7 and 8, in ten days in No. 5, in twelve days in No. 4, in about a fortnight in No. 6, in little more than six weeks in No. 2, and in three or four months in No. 1. In no case, save possibly in Nos. 3 and 6, was the prolapse present at the moment of birth; in No. 8 it appeared next day, in No. 4 in thirty-two hours, in No. 7 in three days, in No. 5 in six days, in No. 2 in seven days, and in No. 1 in ten weeks.

In No. 2 the first appearance of the prolapsus uteri was preceded by diarrhea, crying, and peculiar intense straining; in No. 5 the infant cried much the night before the prolapse was noticed; and in Nos. 7 and 8 the uterine displacement occurred after the rupture of the sac of the concomitant spina bifida. In all the cases the prolapse was easily replaced, but generally came down again with the slightest straining. Various means—*e.g.*, vaginal plugs—were employed to insure retention, not always with success; but since in no case did the infant survive, it is impossible to say what might have been the ultimate result of treatment. In no instance does the prolapse seem to have been the cause of death; probably the accompanying condition of spina bifida was a more potent factor. Generally a gradual weakening of the infant's powers occurred, with or without diarrhea and convulsive attacks, and the fatal issue was not long delayed. In some cases the infants were puny and weakly at birth; but in No. 2 the child was strong and well developed, and it was in this instance that death did not occur for five weeks.

Physical Signs.—The leading physical signs of this anomaly were the uterine prolapse itself, associated with some ectropion of the rectal mucosa and inversion of the urethra, and with spina bifida and deformed lower limbs.

The uterine prolapse was sometimes complete (Nos. 2, 5, and 6), the whole organ being external and the vagina showing inversion; but in Nos. 1, 3, 4, 7, and 8 the displacement was incomplete. The swollen and livid condition of the protruded cervix was specially referred to, and the os externum uteri was described as a transverse slit from which viscid mucus exuded. There could scarcely be any doubt as to the diagnosis, but if such existed the use of the sound enabled the recognition of the anomaly to be complete. In No. 1 the replacement of the uterus was followed by the escape of urine from the bladder, but in the other instances micturition was not apparently impeded by the prolapse.

In Nos. 2, 4, 6, 7, and 8 there was some degree of eversion of the rectal mucosa, and in No. 5 there was a stellate ulceration, such as is produced by tearing, at the level of the anal orifice. In No. 6 there was some displacement downward of the urethra along with the vaginal inversion; but this does not seem to have been specially noticeable in the other cases.

It is a very striking fact that, in all the instances save No. 1, it is distinctly stated that there existed a spina bifida of the lumbar or of the sacral region, or of both; and even in the exception (No. 1) there is nothing in the very incomplete history to exclude the possibility of its existence there also. But if we leave out of account Schultz's case (No. 1) there remain seven cases in which uterine prolapse occurred within a week of birth, and in all of them there was concomitant spina bifida of the lumbar or sacral region. This constant association shows that *congenital prolapsus uteri is to be regarded as an occasional symptom of lumbo-sacral spina bifida.*

It is also noteworthy that in Nos. 2, 4, 7, and 8 there was talipes, bilateral equino-varus in No. 2, bilateral varus in Nos. 7 and 8, and left-sided varus and right-sided planus in No. 4. In the other cases (Nos. 1, 3, 5, and 6) no mention is made of the state of the feet.

In Krause's case (No. 6) there was an additional anomaly, for there existed general hypertrichosis along with the presence of two tufts of black hair in the middle line of the back below the level of the spina bifida, and a heterochronous excessive development of the scalp hair.

In one or two of the cases allusion was made to defective muscular action. In No. 6 paresis of the muscles of the perineum and vulva is spoken of; and in No. 4 the nervous phenomena in the lower limbs were fully investigated, with the result that sensibility was seen to be bilaterally disturbed, the patellar reflex was absent on both sides, ankle clonus was absent on the left side but increased on the right, and the electrical reactions of the leg muscles were defective on the left side. In No. 7, also, pinching or tickling the lower limbs caused either no movement or only a slight flexion of the thighs.

Pathology.—No autopsy was performed in No. 1, but in all the remaining cases some anatomical details were given. Some of these details have been already referred to under the physical signs, but others were only observed during the post-mortem examination.

With regard to the region of the head, in one instance (No. 4) the cranium was opened and a moderate degree of hydrocephalus was found: the sutures and fontanelles were wide, the ventricles were distended, and the choroid plexuses were infiltrated with pus. In No. 2, also, there were external signs of hydrocephalus—large head, wide sutures, but no softness of the cranial bones. The thoracic viscera were fairly normal, but in No. 2 there were signs of bronchitis, and in No. 4 the ductus Botalli was still open on the twelfth day of life. With regard to the abdominal organs, it may be gathered that they were generally healthy, although in No. 8 the kidneys were enlarged and showed on section numerous pinhead-sized cysts.

In the seven cases of which we possess post-mortem notes there was spina bifida. In Nos. 3, 5, and 6 it was situated in the lumbar region, and in the last instance it was a myelomeningocele whose contents did not communicate with the spinal canal, and below it was a cutaneous depression over the sacrum, with a bluish cicatrix from which a tuft of hair sprang. In No. 2 there was a hydro-meningocele with thick walls; it measured 5 centimetres in length by 7 centimetres in breadth and 3 centimetres in height, and it was due to a defect in the arches of the fifth lumbar and first and second sacral vertebræ. In Nos. 7 and 8 the characters of the spinal malformation were similar, but in No. 4 its sac was larger and it was situated at a slightly higher level, affecting, as it did, the last dorsal and all the lumbar vertebræ, and a complete spinal cord was found in a depression below it. In these cases it was a myelo-meningocele.

The upper limbs seem to have been normal in all the recorded cases, but the lower extremities were contorted in Nos. 2, 4, 7, and 8. In No. 4 there was imperfect movement at the hip and knee joints, and in No. 8 the extended lower limbs had to be forcibly flexed. In both Nos. 7 and 8 there was absence of the patella—bilateral in No. 8, unilateral in No. 7.

It was in the pelvis, however, that the most interesting pathological changes were found. In our own case (7) and in No. 4 the pelvic diameters were greater than normal, but this does not seem to have been the case in No. 8, and in the remaining records the measurements were not given. The uterus, instead of lying at the level of the pelvic inlet in the axis of the brim, was situated at the pelvic outlet in the axis of the vaginal canal; the long diameter of the uterus, therefore, was directed downward and forward instead of downward and backward—retroversion in place of anteversion. With regard to the size of the uterus, if it be conceded that the normal length is about 3 centimetres, then in two (4 and 8) out of four instances (2, 4, 7, and 8) this measurement was distinctly exceeded; in No. 4 the length was 4 centimetres, and in No. 8 5 centimetres. In no case, however, was the uterine hypertrophy so great as of itself to cause the protrusion of the cervix from the vagina; in other words, there was a real displacement downward, as well as a hyperplasia of the organ. The os uteri was generally described as wide and gaping, but it possesses this character at birth in cases where there is no prolapse at all.¹ The cervix was relatively large when compared with the body of the uterus, but this also can scarcely be regarded as pathological in the new-born infant.

The uterine ligaments (round, broad, and utero-sacral) showed thinning and extension in No. 4, and in this case also a ligamentum recto-uterinum existed. In No. 2 the ligamenta lata and rotunda were lax, and in the two instances related in this paper (7 and 8) they were markedly stretched. In No. 4 reference was made to the small size of the psoas muscles and to the poor development of the pelvic connective tissue, but this is a matter difficult to estimate accurately. The distance from anal to vulvar aperture—*i.e.*, the length of the perineal body—varied from 3 centimetres in No. 2 to 1.6 centimetres in No. 4, 1 centimetre in No. 7, and 5 centimetres in No. 8. In some cases reference was made to the existence of the hymen

¹ Vide Ballantyne's "Introduction to the Diseases of Infancy," p. 105, 1891.

as a distinct ring embracing the prolapsed uterine cervix, and it would appear that the external genitals showed no anomalies.

Pathogenesis.—It is probable that congenital prolapsus uteri, like the same displacement in the adult, has a complex origin. Just as several factors (increased uterine weight and abdominal pressure and diminished pelvic floor resistance) commonly combine to produce uterine prolapse in later life, so in the infant at birth it is reasonable to look for an association of predisposing and exciting causes. It is quite probable, also, that some conditions, such as the enlargement of the pelvic outlet by backward displacement of the coccyx and hyperplasia of the uterus, which might be regarded as causes of the prolapse, may more truly be looked upon as results of it.

From what has been said of the pathology of the cases it is inevitable that we should first think of a nervous factor in the etiology of congenital prolapsus uteri, for in practically all the records there was mention made of the coexisting lumbo-sacral spina bifida, and in some of them there was also evidence of muscular paresis in the lower limbs and pelvis. Heil (4) and Remy (5) both lay great stress upon a nervous mode of origin, and look to the lesions of the spinal cord (from the spina bifida) as the principal cause of the prolapse. The former believes that these produce developmental and nutritive disturbances in the pelvic organs, such as poor development of the connective tissue, laxity of the ligaments, weakness of the muscles, and possibly also hypertrophy of the cervix; the spina bifida, then, is the indirect, and the consequent imperfect formation of the pelvic contents the direct, cause of the prolapsus uteri. Remy's views were similar, but were not so fully stated.

Qvisling (2), on the other hand, emphasizes increased abdominal pressure as the chief cause of the anomaly, and regards laxity of the pelvic ligaments and enlargement of the uterus as results of the displacement. He does not think that the spina bifida stood in any causal relationship to the prolapse at all.

Neugebauer (6) was of opinion that in Krause's case the crying of the child was one factor, and the parietic relaxation of the muscles of the perineum and vulva another cause, in the production of the prolapse.

That the spina bifida does stand in an etiological relationship to congenital prolapsus uteri we think there can be no doubt. The constant association of the two states cannot be passed over, and the fact that all the fully reported cases of prolapse showed this association is most noteworthy. On the other hand, lum-

bar or lumbo-sacral spina bifida is comparatively a common anomaly, whilst congenital uterine prolapse is one of the rarest of occurrences. There must, therefore, be other circumstances which determine when a lumbar spina bifida is to be complicated with or accompanied by a congenital descent of the uterus. These circumstances, we believe, are not always the same: in one instance, as in our own (No. 7), there was apparently an increase in the capacity of the true pelvis with some diminution in the diameters of the false pelvis; in another case there was prolonged crying and intense straining; and in yet another the increased size of the uterus was most evident. Possibly, then, the association of spina bifida with a large uterus in a wide pelvis resting upon relaxed supports and ligaments and accompanied by increased abdominal pressure will account for the rare occurrence of neonatal prolapsus uteri. The same causes would tend also to produce the eversion of the rectal mucosa which so constantly occurs along with the uterine displacement. It might be worth while to inquire whether in the rare cases of uterine prolapse in nulliparous adults and in young girls there is any evidence of a similar nervous origin in, for example, the presence of spina bifida occulta.

GENERAL CONCLUSIONS.—1. A real downward displacement of the uterus present at birth or appearing during the first week of life is a well-established anomaly, but one of the greatest rarity, only eight instances having been recorded.

2. It is to be distinguished from the so-called congenital hypertrophic elongation of the cervix, but may be accompanied by a certain degree of cervical hypertrophy.

3. It is practically constantly associated with lumbo-sacral spina bifida and rectal ectropion, and very often with clubbing of the feet; less common complications are hydrocephalus and hypertrichosis.

4. All the patients thus affected died soon after birth; but it is reasonable to attribute the fatal issue to changes in the spina bifida rather than to the uterine prolapse.

5. The prolapse may be complete or incomplete, and an edematous swelling of the prolapsed part commonly exists; but the anomaly does not give rise to a well-marked train of symptoms, for in some instances even the bladder and rectal functions have been normally performed.

6. Probably the chief causal factors are the results of disturbance of the innervation of the parts in consequence of the spina bifida, which seems generally to have been a myelo-

meningocele ; but other etiological circumstances doubtless exist, such as increased abdominal pressure, the abnormally large size of the pelvic canal, and enlargement of the uterine cervix or body, or both.

24 MELVILLE STREET.