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THE CORD; OPERATION;  
RECOVERY.

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TWO CASES OF CONGENITAL UMBILICAL  
HERNIA INTO THE CORD; OPERATION;  
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Boston, Mass.

THE two following cases are reported not only on account of their great rarity, but also to illustrate how conditions which in former times would have been considered almost hopeless, can now be dealt with successfully.

CASE I.—*Hernia of the Liver*.—The parents of the father, as well as the father himself, are living and in good health. The mother is well but not robust. Her mother is living, but father died of consumption. She was married five years ago. Her first child was born three years ago, but died at the age of four months of cholera infantum. It had no deformity and was in previous good health.

The second child was born November 14, 1892. Labor began at 6 P.M. of the 13th, and was completed at 10 A.M., and was normal in every respect. Dr. G. W. Nickerson, of Stoneham, Mass., who was her physician, states that he was surprised to see, after birth of head and shoulders, a tense, bladder-like tumor come popping out, after

which followed the lower extremities. He states, "was puzzled at first to make out what it was, but seeing that it was covered by an expansion of the umbilical cord, concluded it must be a hernia." The child was sent that afternoon to the hospital and was operated upon by me the next morning when it was about twenty-four hours old. On inspection the child was otherwise well formed,



FIG. 1.

but thin and with a somewhat wrinkled face. It did not look strong. At the umbilicus was seen the cord, which was greatly distended at its point of insertion into the abdomen, forming a tumor about 6 1-2 cm. in diameter. The coverings of the cord were inserted into a raised rim of skin and were opaque, so that the contents of the hernia could not be determined. (Fig. 1.)

There was also a moderately sized R inguinal hernia.

The child was etherized, and a hasty attempt having been made to render the field of operation aseptic, the sac was opened and was found to contain the liver, which seemed to be situated wholly external to the abdominal cavity. It was with some difficulty that the myxomatous tissue of the cord was separated from the surface of the liver, as it appeared to be adherent in several places. The umbilical vein and the two hypogastric arteries having been tied and cut, the cord was removed. The umbilical ring was slightly enlarged by an incision, and with some manipulation the liver was finally pushed through the opening into the abdominal cavity. A small amount of ascitic fluid escaped when the sac was first opened. The separation of adhesions from the liver caused a slight hæmorrhage, which was checked by pressure. The wound was brought together by four or five strong silk stitches. The infant suffered somewhat from shock. There was, however, no sign of peritonitis after the operation, and it took its nourishment well during convalescence. The food consisted of a mixture of cream and water.

The stitches ulcerated somewhat, and were removed during the first week, in consequence of which the edges of the wound separated at one point and the liver could be seen. The edges were, however, approximated by crêpe lisse and collodion, and the wound had healed at the end of two weeks when the baby was taken home to be nursed by its mother.

The child has done well since, and at the time the second photograph was taken it was about four months old. (Fig. 2.)

There is evidently an umbilical hernia, which is supported by an umbilical pad. The child is a sufferer from eczema, but otherwise enjoys excellent health, and has developed rapidly.

CASE II.—*Hernia of the Intestines.*—The parents of this child are both healthy, and there is no family history of congenital deformity. The mother was a primipara, but had had one miscarriage. The labor was normal, lasting about seven hours. I was called immediately to see the case by Dr. W. L. Richardson. On inspection the child appeared to be well developed in other respects and

weighed about eight pounds. The cord was enormously distended for about five inches from the navel and formed a large pear-like swelling. The tissue was perfectly transparent, and it was at once seen that the contents consisted of the greater portion of the intestinal canal. Near the apex of the hernial enlargement of the cord several loops of intestines had apparently pushed their way



FIG. 2.

through the coverings of the hernia and were directly exposed to the air.

An operation was performed for the reduction of the hernia when the baby was three hours old. The cord had, in the mean time, been protected by a towel wet in a weak sublimate solution. The myxomatous tissue was dissected off from the intestines with considerable difficulty, as it

was everywhere adherent, and at one or two points the outer coat of the intestine was torn so that there was considerable oozing during these manipulations. The intestines from the neighborhood of the duodenum to the descending colon were finally replaced within the abdomen. A hasty examination showed the mesentery to be much elongated. Fortunately the coils of intestines were not distended. To my surprise the abdomen seemed capable of containing them without undue distention. The skin of the abdominal wall was reflected on to the neck of the hernia for some little distance by a tube-like prolongation. The upper margin of the ring was incised for some distance, as the original opening hardly admitted the forefinger. Eventually a portion of the redundant skin was cut away. The abdominal walls were brought together by six silk sutures, and an aseptic dressing was applied. During the next few days the child fared badly. No nourishment could be taken, and there was vomiting of a greenish colored material. The temperature rose steadily until the evening of the fourth day, when it reached 102.4 degrees. Some meconium was found in the liquor and about one drachm was passed after birth.

On the second day 1-40 grain of calomel was given every hour for five hours, when a small movement occurred accompanied by a flow of urine, and on the third day 1-40 grain of calomel was given hourly for four hours, when the child passed meconium a second time. The child cried constantly during that night, and in the early evening had an attack of coughing during which he seemed to strangle. He did not sleep more than a few minutes at a time. At 5 A.M., a hæmorrhage took place from the wound, which stained freely the inner dressings. Later in the morning there were two good movements. Five drops of paregoric were given every two hours during the day until thirty drops had been given. Five drops of brandy were also given every two hours. A small amount of cream and water had been given up to this time, but the whole amount hardly exceeded one ounce. The child looked pale and pinched, but it slept well the following night. The next morning vomiting had ceased; it had passed gas several times, and the hæmorrhages did not recur. On the fifth day the child took the breast for the first time. During the next two weeks it suffered greatly from colic and indigestion, but gained steadily in weight, and now (four weeks) weighs eleven pounds. The stitches were not removed

until the fourteenth day to avoid a hernia. There is, however, a slight impulse at one spot, over an area about the size of a pea. The baby wears a gauze pad and a firmly pinned band of flannel.

This affection is termed by Steiner "Hernia Funiculi Umbilicalis."

Chadwick\* explains the existence of this form of hernia as due partly to deficient development of the abdominal plates. He says: "If, however, the volume of the abdominal organs be too great to be easily embraced by the under-sized abdominal walls at the period when the latter should be nominally close, the intra-abdominal pressure prevents the retreat within the abdominal walls of a certain portion of those intestinal convolutions which have, until that time lain normally in the umbilical cord." In the omphalo-mesenteric duct which connects the alimentary canal with the umbilical vesicle, we find a cause for the extra-abdominal position of some of the coils of intestine. If the umbilical vesicle persists until a later period than usual, that portion of the intestinal tube to which it is attached is anchored outside the umbilical ring.

Chadwick describes several museum specimens in which not only the intestines and the liver, but the heart and stomach, formed a part of the hernial contents.

Howard Marsh says: † "It is a familiar anatomical fact that from about the sixth to the twelfth week of intra-uterine life the cæcum and neighboring portion of the ilium are contained in the part of the umbilical cord which is next the body of the embryo, and that they should subsequently retire into the cavity of the abdomen. In some cases, however, this recession fails to take place, and the intestine remains, even up to the time of birth, still lodged in the commencement of the cord, which is dilated in the form of a membranous sac."

I find in literature a number of examples of this malformation in children who were born and lived for a short period.

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\* Gynæcological Transactions. Vol. i.

† St. Barth. Hosp. Rep., No. x., 1874, p. 205.



Tyler\* reports the case of a full-grown child with a protrusion of the entire intestinal tube. His proposal to enlarge the orifice of the opening was refused by the parents. The child lived thirty hours, the hernia apparently becoming gangrenous (?). The mother stated that she was thrown from a horse about four months before, striking with great violence on the abdomen.

Lécorché-Columbe † reports the case of a female child in which the hernial contents consisted of the left lobe of the liver and the fundus of the gall bladder. They could be distinctly seen through the semi-transparent tissue of the cord. Attempts at compression with bandages and pad were made for a week, during which time the child did well. Taxis was then made, as the membrane was becoming decomposed, and brought on peritonitis, from which the child died on the twelfth day.

Meredith ‡ reports the case of a male in which the tumor involved about three inches of the cord. Compresses were applied, but the child died on the ninth day. The tumor when removed was about the size of a hen's egg and contained meconium. There was a narrow opening communicating with the bowel.

Thompson § alludes to a case in which the expansion of the umbilical cord contained the whole of the small intestines and the ascending colon. The child lived four days.

Colla || operated upon a case in which the contents of the hernia were a portion of the liver and the gall bladder. The operation was performed fifteen hours after birth, and the child, which was well developed, died seven hours later. In his article Colla refers to a similar case of Olshausen in which the hernia appeared to be undergoing a spontaneous reduction. The child lived five weeks. Several cases are reported that have recovered without treatment, and a few have been operated upon successfully.

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\* American Medical Record, 1821.

† Gazette Medicale de Paris, 1836, p. 191.

‡ British Med. Journal, Nov. 17, 1877.

§ British Med. Journal, Dec. 1, 1877.

|| Centralblatt für Gynäkologie, No. 21, 1890.

Howard Marsh\* reports six cases of this deformity; in two of these cases strangulation had taken place. Three of the children died and three recovered.

Case II. is related by Cooper Foster. A boy eighteen days old, born of syphilitic parents, was brought to him at Guy's Hospital. The hernia was about the size of the patient's head. The coverings are described as "a green slough." The umbilical ring was over two inches in diameter. "The contents of the swelling were, as far as possible, returned; a bandage was placed around the abdomen and good nourishment given to both mother and child. To my surprise the slough separated, the swelling became smaller, healthy granulations arose from the surface of the sore, the child improved in health, and at the age of six weeks the whole had cicatrized."

Case III. is reported by Visick, who tells us that he was called to see the new-born infant of a poor Spanish woman at Malaga, who believed that the nurse in dividing the cord had opened the cavity of the abdomen. He found the child enveloped in a firmly applied bandage from the shoulder to the hips, but he could see coils of intestines protruding beyond both its upper and lower borders. On unrolling the child a large sac was discovered at the umbilicus, which had burst, or perhaps been opened when the cord was divided, and from which almost all the small intestines and the ascending colon had escaped. The intestines were bleeding from several points and covered with "fluff" from the bandage. Considerable difficulty was experienced in returning the prolapsed intestine, but this was accomplished within an hour and the child made a good recovery.

Case V., described by Pochkammer, was a case of hernia of the liver and gall bladder. As the tumor was said to be the size of a hen's egg only, it is probable that only a portion of the liver protruded.

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\* Cf. Cit.

The coverings were dissected off from the liver, which was reduced. At the end of a year after the operation the umbilical ring remained dilated to the size of a crown piece, but the viscera were easily kept in situ by a simple bandage.

Masurel \* describes the contents of the hernia of a child that lived ninety-five hours. The tumor contained the omentum and the intestine from the duodenum to the sigmoid flexure; also the kidneys, which had no ureter. He also states that the liver, spleen, bladder and kidneys were normal. Perhaps that organ found in the hernial sac may have been a supernumerary kidney.

Goyraud † reports the case of enormous congenital umbilical eventration which was untreated, the child living  $2\frac{1}{2}$  months. The coverings gradually melted away and were replaced by granulations; the wound at the time of death had healed to the size of a two-franc piece. The child apparently died of peritonitis.

Ronaldson ‡ successfully reduced such a hernia in a female child. A tube of skin projected downward and forward from the region of the navel. At the end of this tube sprang the umbilical cord, which was much distended and contained a portion of the liver and numerous coils of intestine which were distinctly visible "through the transparent peritoneal sac and amniotic covering." The edges of the tube were refreshed and stitched together. The child recovered with an ordinary umbilical hernia.

In Lawson Tait's translation of Steiner there are a few cases that were allowed to heal by granulation and recovered.

Quite a number of cases are reported by Thudichum ~~Mudichum~~ in an article written in 1854. §

\* Bulletin Med. du Nord. 2863. Vol. 4.

† Annales de la Chirurgie Francaise et étrangère, 1844. Vol. 10.

‡ Trans. Edinburgh Obstet. Society, Vol. viii., 1883.

§ Illustrite Med. Zeit. Munchen, Vol. ii.





