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ONE CASE OF OVARIOTOMY DURING PREGNANCY NEAR TERM.

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TWO CASES OF PREGNANCY AND PARTURITION SHORTLY AFTER SINGLE OVARIOTOMY AND CAUTERIZATION OF CYSTIC FOLLICLES IN THE REMAINING OVARY; AND ONE CASE OF OVARIOTOMY DURING PREGNANCY NEAR TERM.

BY

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CASE I.—Lovisa Simoinen, a farmer's wife from Vütasaavi (63° lat.) in Finland, was, on the 4th of July, 1877, removed from the general medical department of the hospital in Helsingfors, to the gynecological division of the same. In the former department, into which she had been received three weeks before, she had been tapped in the linea alba, and twenty-six litres of fluid removed.

Her history is as follows: patient's age, thirty-four years, six years married, has had two living children, the youngest three years old; had, moreover, a twin miscarriage in the sixth month of pregnancy, two years ago. Of medium size, pale complexion, emaciated but not cachectic; all functions normal, except some degree of menstrual irregularity and amenorrhea for the last three months. Appetite very good after the tapping, but circulation poor and feet cold, abdomen said to have been much enlarged after the miscarriage of two years ago; since when it has steadily increased in size until relieved, by puncture, of its superfluous fluid.

As respects condition of patient, July 5th, 1877, it may be observed that the skin navel resembles a hernia, being protruded like a sac; but, when the patient is in the dorsal position, it is not occupied by intestine. The integument in its neighborhood is wrinkled, markedly pigmentated, thickened, inelastic, and hard. Diameter of the navel 6 cm. The umbilical aperture is an open ring, of very nearly the same width, and has a hernial opening of corresponding diameter. The posterior wall of the vagina also protrudes hernia-like, is balloon-shaped, and presents outside of the external genitals; the mucous membrane having the appearance of epidermis. Distinct ascites; and within the abdominal cavity, subsequent to the tapping, there could be perceived a large lax cyst, the upper border of which lies about 9 cm. below the sternum. Within this cyst may be distinguished several rounded solid masses of rough feel.

[1] Contributed to the Gynecological Society of Boston, of which the author is an Honorary Fellow.

Transl. from the Swedish by Prof. Dr Lindberg

Tumor free above; lower down are probably some adhesions, although in various places the abdominal parietes can be separated from it and caught up in thin folds. Dullness on percussion at the navel, which is the most prominent point of the abdomen when the patient is put in the horizontal position. Measurement: from the sternum to the middle of the umbilicus, 32 cm.; symphysis pubis to umbilicus, 24 cm.; abdominal circumference at the navel, 103 cm., a little larger above. On vaginal examination, the cervix stands 2.5 cm. above the rima vulvæ; it is hyperemic, of bluish-red color, somewhat retroverted and measures 8 cm. internally.

Operation July 27th. Incision 15 cm., ascitic fluid, 9 litres. Tumor multilocular, contents viscid and colloid; contains smaller and more solid colloid cysts. The parietes were for the most part thick and firm; but in places fragile, of dirty gray color, and showing signs of incipient mortification. The pedicle attached to the left ovarian ligament exceedingly narrow and thin, and containing small blood-vessels. This was ligatured with carbolized ~~catgut~~. Tumor was chiefly nourished through its adhesions—through which ran large blood-vessels—which were attached to the mesentery, the intestines, and the anterior abdominal wall. The first-mentioned attachment was uncommonly strong and required the clamp, after which it was burnt off by the cautery, and the two larger arteries were tied with ~~catgut~~. The rest of the adhesions were more easily broken up and were severed by the galvano-caustic knife. In the right ovary were six small cysts which were destroyed by the same means. Here and there throughout the peritoneum were small encapsulated sacs containing inspissated mortar-like pus, the product of a remote peritonitis; a portion of which were emptied and cauterized, in part with concentrated carbolic acid and partly by the galvano-caustic knife, while the healthier-looking ones were left undisturbed.

With careful attention to cleansing, the incision was closed by five deep metallic sutures, and twenty superficial stitches of silk, placed close together. Main characteristics of the dressing were, entire absence of adhesive plaster and the simple use of a compress moistened with spiritus vini camphoratus, cotton and an abdominal bandage. The liquid contents of the tumor (sp. grav. 1.002) measured 6.2 litres; weight of walls and more solid parts, 2.24 kilogr.; of the entire tumor together with ascitic fluid, 16.2 kilogr.

Convalescence unattended with any disturbance whatever, and patient was able to leave her bed the 11th day after the operation; but an unimportant ulceration around one of the stitches and a limited plastic effusion above the anterior vault of the vagina retained her a week longer, before she could be safely allowed to depart for her distant home.

According to information lately received from Lovisa Simoinen, November 3d, 1878, she was delivered of a strong girl "easier than ever before," and was herself able to nurse the child.

Wears the abdominal bandage continuously and is but little troubled by the umbilical hernia. At time of the operation, I had intended to cure the hernia radically by means of suitable excision and stitches; but the discovery of the numerous encapsulated abscesses resulting from a previous peritonitis allowed nothing beyond the most necessary interference.

CASE II.—Early in April, 1878, I was visited by Mrs. A——n, sent to me by Dr. August, of Ursin in Lovisa, who had diagnosticated her disease as a probable ovarian cyst, complicated with ascites. The doctor also called attention to the interesting fact that, about Christmas, 1877, upon occasion of a complete prolapse of uterus and vagina, a fluid more or less clear in appearance,[1] and varying in quantity, had begun to be discharged from the womb; and the doctor also had a theory that one of the oviducts might have communicated with the cyst, a portion of the contents of which were thus evacuated. As he had only assisted at the consultation arranged by the patient's own physician, and consequently had not had the opportunity of properly defining the nature of the secretion, he could do no more than return the displaced womb and apply the proper supporter; at the same time advising her to make the short journey to Helsingfors and consult me about the proposed operation.

This patient, who, according to her own statement, had been treated by various physicians for abdominal dropsy—a diagnosis upon its face not improbable, when we consider the difficulties of the case, until Dr. Ursin declared the real cause of her illness—was twenty-four years old, three and a half years married, and had had two confinements, the last, one and a half years ago. During her last gestation, the abdomen had been uncommonly voluminous and troublesome, and had seemed to increase in size immediately after childbirth. She can move about the floor of the room only with difficulty, because the abdomen, when not bound up, hangs down nearly to her knees, and the prolapse of uterus and vagina is still complete, the pessary being effective only when the patient is in horizontal position. The prolapse is indeed so complete that the fundus uteri, which may be grasped by the hand, is external to the vulva. Sound indicates 8 cm.; os uteri gaping, its lips eroded; lower strait of the pelvis large, perineum entire, but greatly relaxed. Patient of fair complexion, pale, weak, emaciated, originally lymphatic. Health otherwise good; last menstruation three weeks ago. Abdominal parietes so relaxed that, in horizontal position, the abdomen falls down over the upper part of the thighs, spreading out on either side. Measurement from symphysis pubis to sternum, 69 cm.;

[1] This copious uterine flow, accompanying a complete prolapse of both uterus and vagina, ought perhaps to be considered as a catarrhal secretion, serous and abundant, occasioned by the force of the intra-abdominal pressure; this pressure being arrested by the diminution of the catarrh and by the retention of the prolapsus by means of a pessary. During her stay in Helsingfors, no watery discharge was seen.

circumference near the navel, above and below, 117–118 cm. Dulness on percussion, except in region of xyphoid cartilage and also of ascending and descending colon. Abdominal parietes can be taken up in folds, with which the walls of the cyst appear to have contracted adhesions.

A preliminary puncture was made and nearly 20 litres of fluid, cloudy, of yellowish-brown color, thin, albuminous, and containing cholesterine, were drawn off; sp. grav. 1.014; perhaps 2 to 2.6 litres were left behind. Thereafter a tight abdominal bandage was applied, with a thick layer of cotton and flannel underneath, and the patient wore this twelve weeks before the radical operation. Retention of genitalia was accomplished by use of tampons soaked in glycerine, a compress, and a T-bandage.

Medical treatment: a mixture of infusion of cinchona, bicarb. of soda, spts. nitrous ether and Peruvian syrup; later, a chalybeate and daily frictions of the abdomen with a liniment composed of soap liniment, spts. camphor, and formic spirits. Generous nourishing diet, free use of fresh milk, frequent exercise in the open air. Thereby strength and flesh increased so much that patient could, without inconvenience, walk half a mile and more. When, twelve weeks later, the abdomen had not become distended by one-half the liquid contents which had filled it prior to the tapping, I felt tempted to delay the operation for a longer time. But as the patient's home was in the far east of Finland, and she now more than ever desired the operation, I undertook it June 23d, assisted by Dr. Ursin, who came to Helsingfors on account of his interest in the case; as also by Drs. Heikell and Bückvall, recently returned from the Caucasus with the Finnish ambulance.

Upon incision we ascertained that the parietal peritoneum was for nearly five hundred centimetres so intimately adherent to the cyst that it was only with the greatest difficulty that one could be peeled off from the other. Indeed, the union was so firm, solid, and uniform that I considered it necessary, both in order to prove the presence of a cyst, and completely to exclude the possibility of an encapsulated peritoneal exudation, to pass my hand through the incision, and penetrate both the abdominal parietes and the cyst. After the evacuation of the cyst—about eight litres of serous fluid—and the separation of its anterior wall, little by little, from the parietal peritoneum, the operation became easy. Two omental adhesions were ligatured with catgut, the main pedicle was burnt off, its artery having been previously tied. The extirpated cyst was unilocular, with distinct traces of what were probably complete septa, produced at an earlier period, on its inner surface. Externally appeared the remains of the flattened left ovary, and the corresponding oviduct could be easily seen for a distance of more than fifteen centimetres, but communication between this and the interior of the cyst could not be discovered.

In the other (left) ovary I laid open and destroyed with the hot iron three small cysts, with clear serous contents. Through the carelessness of a servant, my galvano-caustic apparatus was out of

order, and so, not having at hand a pointed cautery-iron, I had to accomplish the secondary operation by the use of the corner of a large red-hot axe-shaped piece of iron. Bleeding from the tissue of the thickened parietal peritoneum was troublesome, and required much time for its dressing. But as soon as the bleeding had become sufficiently arrested, the wound was closed with seven deep ball-sutures—an advantageous modification of Koeberle's former *sutura clavata*, commonly used by myself—and by superficial stitches of silk. Bandage applied in the same way as with the former case, with the addition of a large cotton tampon soaked in glycerine, which served to maintain the uterus well up in position; this was changed daily for a period of four weeks. For more than two days, patient was annoyed with violent attacks of vomiting, result of the chloroform, for which were administered ice, cold champagne, sherry, valerianate of atropia, associated with chloral hydrate, milk whey, and beef-tea per rectum; the latter agent accomplishing the most. Superficial stitches were re-removed on the 25th and 26th of June, and the deep ones on the 26th and 27th, after the necessary evacuation of the bowels; union by first intention complete, no pus in the track of stitches, and no trace of fever throughout the entire time. The patient was able to leave her bed in the second week after operation, but was kept in bed nearly four weeks, till menstruation had taken place (July 17th–22d), in order to allow consolidation of union between the burnt surface of the pedicle and the abdominal wall. When finally the patient was allowed to leave her bed, the uterus was found high up, and not supported on the pelvic floor, and has ever since kept this position, according to information since received.

April 26th, 1879, Mrs. A——n gave birth to a living child, weighing about 4.8 kilogrammes, and had a good getting-up. Pregnancy quite normal, except for an attack of bleeding, August 13th, 1878, much like a monthly period, and another more copious, and of clear blood, for a single day, at the end of October, which hemorrhage ceased without other remedies than quiet; cause assigned, violent fright. Toward the end of pregnancy, she suffered from incessant griping pain in the right inguinal region, perhaps occasioned by the attachment of the stump of the pedicle to the abdominal wall.

Case III.—The following case was substantially reported by me in a written communication to the Finnish Medical Society, last March: Anna Lena M., a farmer's wife living in Saarijärvi, a parish in Finland, 41 years of age, first menstruated at 15; married at 18; has had ten confinements—her last child being born 2½ years ago. In March, 1877, patient noticed a tumor on the right side of the abdomen, and suffered several months from amenorrhea, without inflammatory or other disturbing symptoms. Catamenia returned the next winter; but in July, 1878, appeared for the last time. Circumference of the abdomen already at this time considerable, but in the autumn it increased to such a degree that she could only breathe in the stooping position, and the legs be-

low the knees became edematous. After removal to the hospital at Jyväskylä, the cyst was tapped, shortly before Christmas; whereupon, according to her own statement, only about two and two-thirds litres of a thick liquid could be evacuated. January 9th, of the present year (1879), she was brought to the gynecological department in Helsingfors.

Urgent dyspnea. Circumference of the abdomen, which was more developed on its right side, was, in the neighborhood of the navel, one hundred and thirty-five centimetres; fluctuation with strong wave, almost universal anasarca of the lower extremities and of the lowest part of the belly, the distended wall of which could not be caught up by the hand.

Diagnosis—probably ascites, but very surely fluctuating ovarian cyst; pregnancy, on the other hand, uncertain, because absolute objective signs are wanting, as also subjective; *e. g.*, the sensation of the fetal motion, which is doubtfully mentioned by the patient as having been perceived three weeks before Christmas.

February 11th, was tapped, and 12.5 litres of a very viscid, yellowish-gray, colloid-like liquid evacuated, which, from its increasing thickness, soon ceased to flow altogether. Again, February 28th, when the dyspnea and labor-like pains again imperilled her life, I resorted to the trocar, but could evacuate only 2⅔ litres of a viscid liquid.

March 8th, when, for the two past days an extreme orthopnea had distressed the patient, the radical operation was undertaken in a separate room of the New Maternity, before which occasion I had called the attention of the assistants to the possibility of a complicating pregnancy. The multilocular cyst, situated to the right of the abdomen, was extirpated in the usual way, the very short pedicle burnt off, and well secured by eleven ligatures of silk, partly from a fear of hemorrhage, and partly on account of the pregnancy, and the possibly imminent parturition, because ligatures alone would hold firmly. The existence of pregnancy was declared as soon as the cyst, which extended from the right side, and crossed over the nine-months gravid uterus, was emptied of its contents, which fluid was so viscid that, for the most part, I had to remove it with my hand. This secretion amounted to about 8 litres, the rest of the cyst weighed 6 kilogrammes, and 6/10 litres of ascitic fluid were evacuated. The other ovary had a rounded protuberance, probably the corpus luteum of pregnancy.

Immediately after the operation and the dressing of the wound, labor set in and soon became more and more determined; indeed, the pains had probably begun the night before, and still earlier pains had appeared and again disappeared. The work of delivery went on, and at ten o'clock in the evening (seven hours after the patient had been removed from the operating table), I was able to rupture the strong membranes, and at 10.17 o'clock, aid in the removal of the afterbirth, the fetus having been already delivered by easy manual assistance; it was dead, weighed 2.44 kilogrammes, and was about 8.5 months old. Its having been in the second vertex position, with back concealed behind the cyst,

explains sufficiently why the fetal heart could not be heard. The death of the fetus was partly produced by an early extravasation, the proof of which was a tightly applied and dark layer of coagulated blood, which had escaped along the entire periphery of the placenta, and had spread out uniformly over the chorion. Happily all ligatures within the abdominal cavity and the stitches in the wound of the incision held fast; and I have become still less desirous than before to apply strips of adhesive plaster in these cases.

The patient left the hospital April 20th, still suffering from slight ascites. But she wished to avail herself of the sleighing in the interior of the country in reaching her home, and so was unwilling to remain longer, although she had, at the lower part of the sacrum, a small, but granulating decubitus, and higher up, a phlegmon; each without danger to life. All constitutional signs indicated great torpidity. She is at present perfectly well.

Of ovariotomy performed upon the pregnant female, several cases are on record, and Olshausen records fourteen prior to 1877; but in none had the pregnancy, so far as I am aware, advanced so far as in the case just described. Had the operation been performed a fortnight earlier, the fetus would probably have been born alive, and, possibly, have been kept alive. Complicating pregnancy is, by some experienced ovariotomists, regarded as a strong argument for delaying ovariotomy, especially if the tumor can be sufficiently diminished by tapping; but it is commonly believed, and with good reason, to be dangerous to produce a premature delivery with a view to a subsequent resort to ovariotomy. The reason of this is, that a premature delivery is, under such circumstances, as perilous for the life of the mother as is the ovariotomy itself, and, of course, much more perilous for the fetus. Guided by the conviction that many perforations had been followed by unfavorable and even fatal results, palpation, etc. being practised too early and before the wound in the cyst-wall was entirely healed, I had perhaps, after the tapping of February 11th, examined the patient too late, and in this interval of delay the cyst again filled and now covered the uterus in such manner that the pregnancy could not be detected.

I had made the puncture, on both occasions, only to induce diminution of the pain, and more especially of the dyspnea, and to temporize until the room, which was occupied by another patient suffering from the same disease, could be appropriated to the operation. In other words, the tappings were per-

formed, not in order to allow delay in ovariotomy until accouchement should take place, but for a secondary purpose; on the other hand, had pregnancy been diagnosticated as a probable complication, I should have hastened the ovariotomy as much as possible, believing such intervention the best means of saving the mother, and also the most favorable method of insuring the continuance of pregnancy to full term.

As in the first case, so here also, a part of the wall of the cyst was fragile and discolored. Although, in the instance of Lovisa Simoinen, six weeks had elapsed after the puncture, by which the pressure, with its interference with the circulation and nutrition of the tumor, had been reduced; yet the beginning mortification in the cyst-wall had not been replaced by more vital tissue. This proves that the danger of rupture may be imminent under similar circumstances.

That the pedicle is shortened by advancing pregnancy is generally known, and the cause is easily understood. It is essential in such cases that the pedicle should be dropped within the peritoneal cavity; but the closely applied ligatures which in this case were employed—each one surrounding a small portion of the pedicle—seemed to me a surer resource against hemorrhage and rupture of the pedicle during the contractions of the uterus, in far advanced pregnancy; and when delivery may be looked for at any moment, then only a couple of ligatures of undoubted strength should be passed about the pedicle, near the uterus. After the operation, the patient in question felt a little pain in the region of the right horn of the uterus, but this disappeared long before her departure. This horn, with its encapsulated ligaments, remained, from the very first after the operation, attached to the anterior wall of the abdomen. Here the result was the same as in the second case, where the uterus was maintained high up in position by tampons placed permanently in the vagina; the involution of this organ proceeding but very slowly.

To these remarks I may still add a few words respecting the treatment of the remaining ovary in the first and second cases. It is quite possible, it is true, that the small cysts, or serous follicles, which are so often observed in the other ovary at an ovariotomy, might be safely left untouched in the hope that their contents will be absorbed after the removal

of the tumor; still, one can hardly escape the fear that one or another of these cysts, which seem to be so innocent, may yet be the original cause of a new growth like the cyst which was the object of the operation. That, in the treatment of these hydropic follicles, no expedient is more innocent than that of the actual cautery is proved by the cases in question, with their sequel of immediately ensuing pregnancy. It is evident that preference should be given to a thin galvano- or pyro-caustic knife; but it is also true that the operator may use an ordinary pointed cautery iron (beak-shaped), only it must be used by an experienced hand, quickly and energetically.