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GALL-BLADDER DISEASE COMPLICATING PREGNANCY.*

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UNLESS one has seen cholelithiasis or cholecystitis complicating pregnancy these conditions are not apt to receive much consideration. When either condition presents itself, problems arise, the decision of which may save or destroy one or two lives.

Comparatively little has been written concerning conditions of the gall-bladder complicating pregnancy, whereas much has been written concerning appendicitis complicating pregnancy. It is my impression that such is the case not because appendicitis is a more frequent complication of pregnancy, but because gall-bladder disease either passes unrecognized, or when recognized is not considered, to be always a surgical condition.

Little is said in the text-books about cholelithiasis and cholecystitis during pregnancy. DeLee and Cragin give as much detail as any of the authors read. Cragin's text is based on a paper read by Reuben Peterson before the American Gynecological Society in 1910, and so far as I have been able to find this is the only complete résumé of these conditions complicating pregnancy that has been made up

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to that time or since. Peterson reports twenty-five cases complicating pregnancy and ten cases complicating the puerperium. He reports only cases of proven diagnosis by operation. In the discussion of this paper four operative cases of cholelithiasis were reported. Unfortunately many details are lacking in the reports of these four cases. Two were operated at four months' gestation and went to term, one at five months' gestation and went to term. One was operated at two months' gestation and aborted one month later, whether as a result of the operation is not stated. These are all the particulars given.

Branson reports four cases in three of which gall-stones were found in the feces. None of these cases were operated and they all went to term.

Burke reports four cases of cholelithiasis and all were operated. They all had pain, vomiting and jaundice. No statement is made as to the location of the stones. Two were operated at two months' and one at three months' gestation. These three cases went to term. The fourth case delivered herself during the attack and was operated ten days postpartum. This patient died. Whether she was at term is not stated.

Watson reports three cases of cholelithiasis during pregnancy which were not operated and went to term. One was operated one year later and died.

Finkelstein reports a case of cholelithiasis which was aborting when he first saw her at three and one-half months' gestation. The gall-bladder condition cleared up after the uterus was empty. In her next pregnancy this woman was operated at seven months' gestation for gall-stones and went to term. This patient was never jaundiced.

Moulden reports a case of empyema of the gall-bladder complicating pregnancy at the sixth month. The gall-bladder was opened and drained and pregnancy continued to term. The gall-bladder was removed at a later period.

Before discussing my subject further I desire to report a case of cholecystitis complicating pregnancy at term.

Mrs. F. S., aged twenty-two, Austrian, married one year. Family history has no bearing upon present condition. Past history. During 1910, at the age of seventeen, patient had an attack similar to that from which she is now suffering, namely: pain in the right hypochondriac region, vomiting and jaundice. She was admitted to the Jewish Hospital at that time and operated for gall-stones. A number of stones were removed. Two weeks following this operation the patient became suddenly jaundiced. She was again operated

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and bands of adhesion were found to be the cause of the obstruction. These adhesions were freed and the woman made a complete recovery. These statements were verified by communicating with the Jewish Hospital.

Five years later, on November 10, 1915, this woman was admitted to my service at St. John's Hospital supposedly in labor. She gave the following history: This was her first pregnancy and she had last menstruated sometime in February, 1915. Vomiting had been more or less persistent throughout pregnancy but had been much more severe during the past few weeks. Six weeks before admission she began to have pain in the region of the gall-bladder, this pain gradually spread over entire upper abdomen. Soon after the onset of the pain the patient began to notice jaundice. The pain and jaundice became progressively worse, the former so much so that the woman actually thought herself in labor.

On examination the following conditions were found: the skin and conjunctivæ were moderately jaundiced. The uterus was enlarged to full-term pregnancy; fetal movements could be felt and the fetal heart was heard to the right and below the umbilicus, rate 148. No rigidity of the recti muscles could be elicited, but there was marked tenderness on slight pressure over the gall-bladder. Vaginally: The perineum was very firm; the cervix was long and hard; the os admitted only the tip of the finger and the fetal head was engaged at the brim. There was no evidence that the woman was in labor. Temperature 99.2°, pulse 90, respirations 25.

There seemed to be no immediate need for interference and it was decided to wait, hoping that labor might come on. In the meantime a blood examination showed 7800 white cells; polynuclears 77 per cent., large mononuclears 17 per cent., lymphocytes 4 per cent. and eosinophiles 2 per cent. The urinalysis was as follows: color: reddish brown; reaction: acid; specific gravity 1026; albumin and sugar negative; reddish deposit; uric acid crystals; bladder and kidney epithelium; bile: present.

At the end of twenty-four hours the patient's condition became grave. She appeared to be in a state of collapse. Her temperature was 100.4°, pulse 160, respirations 60. At this time the attending surgeon at St. John's, Dr. Delatour, was asked to see the case with me. It was decided that the gall-bladder condition should be relieved at once but that nothing could be done until the uterus was emptied. It was felt that whatever was done must be done quickly; consequently the usual means of cervical dilatation and induction of labor were discarded, and vaginal hysterotomy was discarded because of the size of the child. In spite of the danger of infection, an abdominal hysterotomy was considered advisable. At this time fetal movements could not be felt and the fetal heart was not heard.

The hysterotomy was done through a high right lateral incision and the only point of interest was the difficulty experienced in getting the uterus to contract. The child was stillborn.

After I had finished suturing the uterus, Dr. Delatour enlarged

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my incision upward and exposed the gall-bladder. It was about three times its normal size and there were many firm adhesions involving the gall-bladder, duodenum, stomach and pancreas. These adhesions were broken up. An aspirating needle was then inserted into the gall-bladder and several ounces of mucopurulent bile withdrawn. An incision was now made and a search made for stones, but none were found. A drainage tube was sutured into the gall-bladder.

The drainage of bile ceased at the end of twenty-nine days, and at the end of thirty-five days, the wound was entirely closed and the patient left the hospital, having had an uneventful convalescence.

A pure culture of bacillus pyocyaneus was obtained from the gall-bladder contents.

It seems reasonable to believe that disease, or potential disease, of the biliary passages is a fairly common complication of pregnancy. Gall-stones occur three or four times as frequently in females as in males, and Osler says that 90 per cent. of women with gall-stones have been pregnant. This being the case the question arises: Why should pregnancy favor the development of gall-bladder disease?

Whether human bile is ever absolutely sterile is a question still under discussion. But it has been proven by experimentation that an artificial stasis of bile causes it to become infected, and gall stones may eventually be expected where infected bile exists. It has been shown by Goldsborough and Ainley that elimination is always slower during the pregnant than in the non-pregnant state. It is quite the usual thing for the pregnant woman during the first few weeks of her pregnancy to have manifestations of disordered digestion and nutrition, and it is well known how readily these cases may pass into a toxic state, the toxemia of pregnancy, with an accompanying jaundice. May it not be the fact that after all the so-called physiological vomiting of pregnancy is not physiological, but rather always a manifestation of a toxic state and an indication that the digestive apparatus, perhaps especially the liver, is on the verge of giving way under the work required of it.

Many women become moderately jaundiced during the early months of pregnancy without any definite symptoms of either gall-bladder disease or toxemia of pregnancy, but that it is the result of a toxic condition there can be but little doubt. Rolleston reported a case in 1910 in which the woman became jaundiced in four successive pregnancies. He attributed the jaundice to a toxic condition. England in the same year reported a case of jaundice of doubtful origin with a fatal termination. Phosphorus poisoning was suspected, but the pathologist's report gave as the cause of death, eclampsia. Again, in the cases reported by Peterson, at least half were jaundiced in spite of the fact that the common duct was not occluded. In explanation of this Peterson says: "It would appear as if this high percentage of jaundice where pregnancy is complicated by gall-stones can only be explained by the tendency of pregnancy to produce jaundice in a constitutional way, without the aid

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of obstruction in the shape of calculi." Since we are familiar with jaundice in toxic states of pregnancy, but not with constitutional jaundice, it seems logical to at least suspect that the jaundice in such cases may be due to some liver derangement, if not an infection of that organ, particularly since gall-stones were in the gall-bladder and in some cases pus as well.

In late pregnancy, when the pregnant uterus becomes an important abdominal organ, pushing all before it as it enlarges and constantly increasing intraabdominal pressure, conditions would seem to be ideal for the development of gall-bladder disease. Add to this the wearing of tight corsets, the usual sedentary habits of the latter months of pregnancy and the frequent constipation, and the wonder is that so many women go through pregnancy without some derangement of the biliary passages. For all of these conditions tend to cause biliary stasis with possible resulting infection.

The diagnosis of gall-bladder disease during pregnancy ought not to be difficult. It might be confused with appendicitis, but what is more likely, it might be mistaken for toxemia of pregnancy in the early stages. Postpartum it has been mistaken for puerperal sepsis.

Treatment.—It it is a fact that pregnancy brings with it the danger of gall-bladder disease either during the pregnancy or subsequently, cannot much be done in the way of prophylaxis? Let us not look upon pregnancy as a physiological state, but rather one in which grave conditions may develop either immediately or subsequently because of the pregnancy. I will not dwell upon prophylactic measures, they will be evident to you, and include dress, exercise, elimination and diet.

With definite symptoms of cholelithiasis or cholecystitis what shall the treatment be? The rational procedure is to treat these conditions in a surgical manner, regardless of the period of gestation. This seems to be in the best interest of mother and child. If we believe gall-bladder disease to be an infective process, it is reasonable to treat it as we would other infections, that is surgically. The reported cases which have died have all been operated when the symptoms have been far advanced or when the cases have been held over until the puerperium for operation. As to the child, a very small percentage of the cases have aborted, and in my own case, if operation had been performed at once instead of waiting twenty-four hours, in all probability the child would have survived.

There is no more reason to fear a termination of pregnancy in operations upon the gall-bladder than in any other operation. In this connection Richardson says: "In reviewing my experience with the surgery of the pregnant uterus, I am chiefly impressed by the tolerance of the pregnant urerus to surgical operations and general anesthesia. I have had now many experiences which tend to show that most operations and general anesthesia do not interrupt pregnancy."

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