Follow-Up of Live Extra-Uterine Pregnancies

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EXTRA-uterine pregnancies are relatively rare. Very little is mentioned in the literature concerning the fate of the babies of such pregnancies or follow-up studies of those who survive. This paper will deal with some of the children delivered live from these pregnancies who have survived.

An extra-uterine pregnancy may be defined as a gestation outside of the uterus which is growing in part or wholly in the abdominal cavity. The placentas often attach to the exterior surface of the uterus, or to the tubes, broad ligament, ovaries, mesentery or intestinal tract. Extra-uterine pregnancy may also be described as an advanced ectopic pregnancy, which Clark and Bourke¹ state to be any gestation that develops outside of the endometrial cavity with a gestational age of twelve weeks or more. This definition differs somewhat from Yahia² who defines advanced ectopic pregnancy as an extra uterine gestation of five months or more, or King,³ who uses a period of viability.

Of the three cases presented in this paper, one survival was a full term tubal pregnancy, the other an abdominal pregnancy, and a third, a uteroabdominal pregnancy. The last type is defined as a form of ectopic pregnancy where a portion is in the uterine cavity, or there was a fistulous communication between the fetal membranes and endometrial cavity which would permit the passage of amniotic fluid or fetal appendages.⁴

Evaluation was made of the survivor's mentality, well-being, ability to exist in his environment, adjustments with his age, and educational advancement.

The information concerning the children of these pregnancies was obtained from the medical records of Freedmen's Hospital, a private physician treating one child, school records, and by talking to the mothers concerning the child's development. One child has not been located. Between 1946 and 1970, there were a total of 35 extra-uterine pregnancies encountered at Freedmen's Hospital out of 61,110 deliveries. This is an incidence of 1 in 1,746 pregnancies at our hospital,⁵ and represents a high incidence when compared to some other authors like Tan in Singapore, who had 1 in 50,820 deliveries, Beacham and Beacham, who had 1 in 2,081 deliveries, King, who reported 1 in 6,440 normal pregnancies, Yahia, who had 1 in 8,550 viable pregnancies and Zuspan, 1 in 15,000 prgnancies.⁵

Of the 35 abdominal pregnancies in our series, eight were between 20 to 28 weeks gestation, and 12 were 28 weeks and greater. Seven out of the 12 were alive and four out of the seven survived.⁶

The ages of the mothers in our series ranged from 18 to 42 years, indicating that age is an unimportant factor in the occurrence of abdominal pregnancies.¹ The gravidity of our patients ranged from one to eight with the majority of the pregnancies occurring in mothers of low gravidity, and were most frequent with the first or second pregnancies. Ten patients were primigravidas, eight were in their second pregnancy, and seven were in their third pregnancy.¹

CASE REPORTS

The first case is one of G. C. He was the eighth child of a 32-year-old, gravida-8, para-7, black female, born July 18, 1947, weighing nine pounds, $5\frac{1}{2}$ ounces. The mother's prenatal course was very uncomfortable, in that she complained of abdominal pain throughout the entire pregnancy. She went into labor and a subsequent preoperative diagnosis of feto-pelvic disproportion, giant or hydrocephalic fetus, transverse lie with no cervical dilatation, and no progress in labor was made.⁷ At laparotomy, a 9 pound, $5\frac{1}{2}$ ounce viable male infant was delivered—sac was intact—and the pregnancy noted to be contained in the left tube. The infant breathed spontaneously and remained in good condition throughout his hospital stay. There were no fetal abnormalities noted at birth and the child's development was essentially uneventful. His physical development fell within the growth range for each age. His mental development was normal and his mother never considered him to be a difficult child. In grade school, he was reported to be a slow learner, making below average grades, but appeared to do better in high school, making average grades of "C" or better and graduating. Since this time, he has been in the Navy for three years. Part of this time was spent in Viet Nam, and he is now in the Coast Guard working as a clerk. He has remained single and appears to be leading a normal life.

The second case, V. G., is the third child of a 31-yearold, gravida-3, para-2, black female, born August 25, 1958, and weighing seven pounds, fifteen ounces. Preoperative diagnosis was a bicornuate uterus, rupture of membranes with prolonged ineffective labor and failure to progress. At exploratory laparotomy, a utero-abdominal pregnancy was discovered and a transverse low cervical incision was made. A viable female infant was delivered. The child's hospital course was also essentially uncomplicated and there were no fetal abnormalities present. However, in July, 1962, when she was approximately four years old, she was seen by her private physician because of persistent headaches and fever. She looked markedly anemic, had a hemoglobin of 5 grams and was noted to have bleeding tendencies. The patient was hospitalized, diagnosed to have an aplastic anemia, and subsequently had a splenectomy. At the present, she is being followed for her anemia at the National Institutes of Health, but otherwise is progressing well. Her growth curves were low-normal for her age. At the present, she is in the ninth grade and is reported to have above average intelligence in her school work, making grades of "B" or better.

The third case is that of E. S., which resulted from the third pregnancy of a gravida-3, para-1, abortus-2, black female. This mother also had a very uncomfortable pregnancy, complaining of excessive abdominal pain, nausea and vomiting throughout her pregnancy. Fetal parts were easily palpable before delivery, with the baby in a transverse lie. X-rays revealed evidence of an abdominal pregnancy. Exploratory laparotomy was performed April 8, 1970, where an abdominal pregnancy was confirmed with the fetus contained in an unruptured sac. A viable male infant weighing five pounds, $3\frac{1}{2}$ ounces was delivered.

This infant's condition at birth was poor. He was cyanotic, had chest retractions and was grunting. The child had several deformities at birth. They were a left congenital hip dysplasia with a mild left calcaneo-valgus deformity and a severe right calcanceo-valgus deformity. He also had a flattening of the occipital bone on the left. Corrective casts were placed on both lower extremities at three days of age and the deformities in his feet were corrected by the time he was three months old.

His mother reports that he sat alone at six months, walked at 12 months, and began talking and forming words at 12-14 months. It has been noted that the child has some speech problems at present and that he complains of some left hip pain, but his mother does not bring him to clinic for follow-up treatment. Other developments in this child are unremarkable.

When the diagnosis of extra-uterine pregnancy is made, exploratory laparotomy is indicated. The fetal mortality rate in advanced abdominal pregnancy is high with the salvage rate being between 20-40%. Most mothers are seen after fetal death has occurred. If an earlier diagnosis were made, the results in fetal salvage would be greater.⁵

Intact membranes also are a necessary factor in obtaining a live baby with these pregnancies. When rupture occurs, it is most likely that it is shortly before delivery,⁵ as with our utero-abdominal pregnancy.

The three fetuses in our series have managed to survive in their extra-uterine environment even though there were a few negative factors against them. The site of placental implantation could have caused poor fetal blood perfusion, therefore, leading to mental retardation.

However, these three have managed to do well. The first child, age 26 years at the present, may have started as a slow learner but has the mentality to effectively serve his country during the time of war and survive. The second case, a female age 15 years, is doing exceptionally well in school. The third child, age 3 years, is progressing satisfactorily to conditions expected for his age according to pediatric growth charts.

In conclusion, extra-uterine pregnancies are rare occurrences, and in our series there is a 1 in 1,746 incidence. Of the three cases presented, only one was diagnosed prior to surgery. One child, age 26 years, has had no problems or medical illnesses. Another has normal mental and physical development but developed an aplastic anemia at 4 years of age. Currently, she is doing well. The third child had orthopedic deformities. In late abdominal pregnancies, or extra-uterine pregnancy, diagnosis before fetal death is necessary to insure maximal fetal survival. According to the literature, the majority of such babies develop normally.⁷

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addition, blacks on the average are significantly older than whites with testes cancers.

On the other hand, cryptorchism, which afflicted only two blacks and 32 whites, appeared to be unselective for patients of either race with testis cancers. Thereby, the cryptorchism found provides insufficient evidence to relate the rarity of testes cancers among blacks to this condition. Of interest, in two cryptorchids, cancers were present only in their normally descended testes and unilateral cancers existed in four bilateral cryptorchids. Bilateral cancers, in fact, were found solely in seven patients with both testes normally descended.

SUMMARY

This study investigates 33 blacks and 877 whites with primary germinal cell neoplasms of the testes. It constitutes a six-year 100% patient sample from all United States veterans' hospitals and compares the races by age, survivorship, the cancers' cell types and laterality. Also investigated is the possible role of cryptorchism in the disease.

American blacks, on the average, are significanntly older than whites with testes cancers, and blacks are much less likely than whites below age 30 to have the disease. In both races, testes cancers are principally located on the right side, where in blacks, they are usually pure seminomas and teratomas, but in whites, they are more often than not embryonal carcinomas.

Further, the survival experience with testis cancers for blacks and whites is similar. Overall, moreover, the proportions of cancers by cell types and disease stage are similar in both races. But the rarity of the disease in blacks (evidenced by their comprising 3.6 per cent of the cases but 15.3 per cent of hospitalized patients in general) was not demonstrably related to an infrequency of cryptorchism among blacks.

(Gaiter and Clark, from page 70)

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