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□ BRIEF CASE REPORT □

Fetus Papyraceus Caused by Velamentous Insertion of Cord to Dividing Membrane

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Fetus papyraceus, also called fetus compressus, is a mummified and compressed fetus as a result of fetal death during pregnancy[1,2]. It is always associated with twin pregnancy, and the other litter is usually alive to compress the dead fetus. The cause of death of the fetus is not always clear.

Recently we had a case of fetus papyraceus from a 25-year-old woman, which we thought most probably caused by velamentous insertion of the umbilical cord into the dividing membrane of the placenta, resulting fetal death and subsequently becoming fetus papyraceus.

Key Words: Umbilical cord, blighted fetus, fetus papyraceus, fetus compressus

CASE REPORT

This 25 year old woman, para 1-0-0-1, come to Incheon Municipal Hospital in labor on September 11, 1982. Her last delivery was May, 1981, and it was normal spontaneous delivery. Her last menstrual period was January 17, 1982 and the expected date of conception was October 24, 1982. Her prenatal check was done once at 4 month pregnancy at a local clinic and was uneventful. The past history and family history were non-contributory. Labor pain started at 4 AM September 11, and she was brought to the Hospital at 10:20 AM. General physical examination was essentially unremarkable. Obstetric examination showed height of fundus 28 cm and abdominal circumference 80 cm and fetal heart tone was normal. The presenting part was head and the os was fully dilated. At 10:40 AM spontaneous passage of the first small compressed dead fetus occurred. At 10:43 AM spontaneous delivery of the second viable baby took place. The placenta was delivered 2 minutes after. The mother was discharged in good condition 3 days after. The second baby was a male weighing 1.85 kg. The crown-heel length was 45 cm. Apgar score was 6 at 1 minute and 8 at 2 minutes. No gross anomaly was seen.

The first born small and underdeveloped dead fetus was gray white, mummified and anteroposteriorly compressed. It measured 17 cm in crown-heel length, 11.5 cm in crown-rump length and weighed 52 grams. The sex could not be determined. The head, trunk and extremities could be distinguished although marked distortion of the left upper and the right lower extremities were seen. The head part was bilaterally compressed. It was difficult to assess the gross malformation of this mummified fetus because of marked compression. However, no major anomaly could be detected. Internal organs could not be evaluated because of advanced autolysis. The twin placenta was round and measured 16x16x2.0 cm. It weighed 450 gms. Both fetal and materal surfaces were unremarkable. There was a dividing membrane in the midpoint of the placenta, and both umbilical cords were inserting very near to this membrane. The umbilical cord of the second born baby was inserted on the surface of placenta. How-

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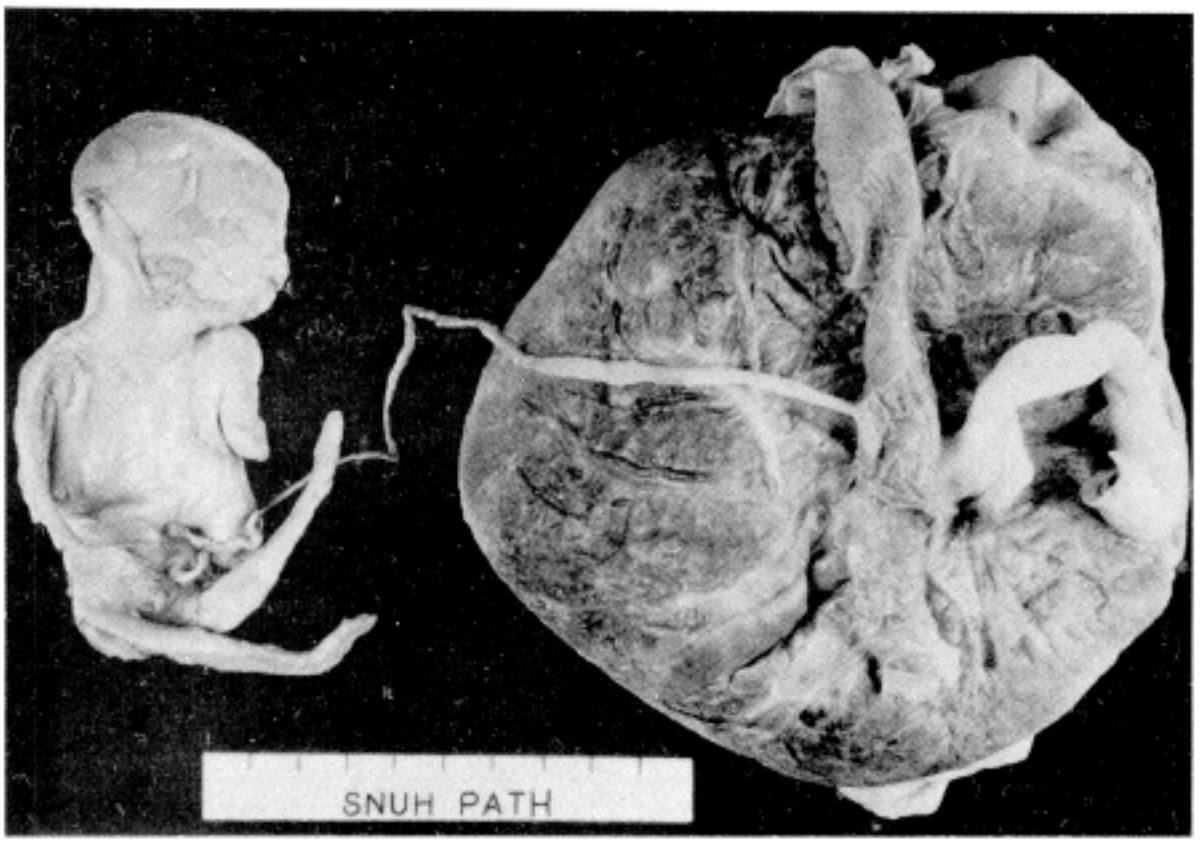

Fig. 1. Fetus papyraceus and twin placenta. The dividing membrane is seen, into which the umbilical cord of the mummified fetus is inserted. Note the other cord which is normal in size and insertion.

Fig 2. The fetus is seen to be markedly compressed and mummified.

ever, the umbilical cord of the first born baby was small sclerotic and 15 cm long. It was inserting directly into the dividing membrane (Fig. 1, 2). At this point the cord was compressed and became sclerotic. The umbilical vessels were also small and sclerotic microscopically. And there were 3 vessels. The cord of the alive baby was 30 cm long and was unremarkable with 2 arteries and 1 vein. The placenta was of diamniotic monochorionic twin. And no other pathological features were seen in the placenta. Especially no infarction or intervillous thrombosis was seen.

This case calls attention to the need of close examination of placenta and membrane following delivery because the blighted fetus can be unsuspected until the time of delivery as in this case. It is also interesting that the structure of the placenta and cord does not change remarkably during retention of the dead fetus. The size of this mummified fetus corresponds to 16 weeks of gestation[1], which probably indicate the time of arrested growth. This is the period that shows the highest incidence of blighting[2].

Since the cord of thd second baby was apparently inserting into the membrane there is a possibility that this baby was at risk of vascular compromise as most fetuses with velamentous insertion are jeoparaized. Following the death of one fetus in utero the viable cotwin continues to mature and this cotwin and its amniotic sac impinge upon the dead fetus, to cause flattening against the wall of the uterus or the placenta[1,2]. The placenta itself in this case showed no abnormalities although other reports[1,2] describe sizable infarcts.

Since the comprehensive review of 150 cases of fetus papgraceus recorded by Kindred[4] in 1944, only handful cases were added during next 12 years period in the literature[2]. No case of fetus papyraceus associated with velamentous insertion of the umbilical cord could be referred in the Korean literature.

REFERENCES

1)Mulliken DK: *Fetus compressus: A case report. Am J Obst Gynec 71:223-224, 1956*

2) Posner AC, Klein MA: *Fetus papyraceus. Recognition and significance. Obst & Gynec. 3:106-110, 1954*

3) Lee MB: *Studies on weekly development of Korean fetus. Korean J Anat 8:73-109, 1975*

4) Kindred JE: *Twin pregnancies withot twin blighted. Am J Obst & Gynec 48:642, 1944*

═국문초록═

종이모양 태아의 1예

지 제 근·신 성 식·유 기 숙

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25세 산모에서 35주만에 분만된 쌍태아중 첫번째 아이가 사산아로서 전형적인 종이모양 태아를 보였던 예를 기술하였다. 본예는 특히 태아 사망의 원인이 제대가 태아막(분리막)으로 들어간 것으로 인한 혈액공급 이상의 결과라고 추정되었으며 이로말미암아 종이모양 태아가 되었던 예이다.