

Fetus in Fetu: A Rare Case Report and its Embryo-Pathogenesis

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Abstract

Fetus-in-fetu (FIF), is a rare congenital anomaly that occurs due to malformed fetus growing inside the twin. It occurs due to the aberration in the diamniotic monochorionic monozygotic twinning with unequal division of inner cell mass of blastocyst leading to inclusion of small cell mass inside the developing sister fetus.

The most common presentation will be with intra-abdominal mass located in the upper quadrant retroperitoneally. Complete excision with meticulous dissection is curative and allows confirmation of diagnosis.

Key Words: Abdominal Distension, Diamniotic Twin, Fetus-in-fetu, Twinning.

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1- INTRODUCTION

Fetus-in-fetu (FIF), is a rare congenital anomaly due to malformed and parasitic fetus found inside the body of its twin. The anomaly was first defined in early nineteenth century by Meckel (1). Despite its prevalence among infants and children, there have been reports of cases in which the anomaly had remained asymptomatic until later ages. An array of this clinical condition has been presented in literatures, but the exact embryopathogenesis and its differentiation from teratoma had not been clearly explained. In this case report, we had explained a case report of this anomaly with its embryopathogenesis.

2- CASE REPORT

A boy of 7 years age presented to the pediatrics Out Patient Department (OPD), with complaints on pain in the upper abdomen for past 3 months with vomiting on and off. On examination the boy was normal except for the presence of pallor. On local examination the pediatrician found fullness in the right lumbar region with oval shaped non tender mass of variable consistency which extended up to right hypochondriac region and umbilical region. The upper border of the mass was

not palpable clearly which moved with respiration and there was no abnormal sounds auscultated over the swelling. Plain X-ray of the abdomen showed soft tissue mass in the abdomen with calcified bony structures. Ultrasonography of the abdomen showed solid and cystic mass of 10 cm to 7 cm with multiple echogenic foci suggestive of bony parts in the right renal region. Computerized tomographic scan showed well defined rounded heterogenous mass of size 10.3 cm length, 7.6 cm breadth, and height 10 cm adjacent to the right kidney consisting of fluid and fat filled areas with long bones and vertebrae. After doing all routine investigations the mass was excised successfully by right supraumbilical transverse approach. There was a large tumor like mass adherent to the posterior abdominal wall and the diaphragm extending up to upper half of right kidney. This tumor like mass was fed by a large vessel which was directly arising from the abdominal aorta. The feeding vessel was ligated and the tumor was excised in toto. The gross specimen measured 8cmx 5cm and weighed 350grams. After incising the membrane there was a fetus with pair of limbs from trunk with no head shown in **Figure 1 and 2.**



Fig.1: Fetus in fetu with Limbs, trunk and feeding vessel.



Fig.2: Fetus in fetu with limbs and feeding vessel.

4- DISCUSSION

Fetus-in- fetu was first termed by Lewis (2), and was first described by Meckel, a rare condition which represents as a malformed fetus with some organs and bones found inside the abdominal cavity of its partners. It occurs due to the aberration in the diamniotic monochorionic monozygotic twinning with unequal division of inner cell mass of blastocyst leading to inclusion of small cell mass inside the developing sister fetus. However there are some pathologist who regards this condition as a well differentiated and highly organized teratoma (3).

This condition was extremely rare occurs one in 500,000 births with fewer than 100 cases reported in the world (4). Presence of separate vertebral column indicates the fetus had gone through gastrulation with formation of neural tube, metamerization and symmetrical development around the axis (5). The most common presentation will be with intra-abdominal mass located in the upper quadrant retroperitoneally. The mass can be located in other sites like cranium, intrahepatic, pelvis, neck and mouth (6-9).

The other sites fetuses- in- fetu, have no vertebral column which is the diagnostic (8) for this condition. So far fetus in fetu of weight varied from 13g to 2000g (10, 11), had been reported which depends on the blood supply to it. Patients with fetus- in- fetu come to the hospital with complaints of abdominal distension, jaundice, emesis, pain, pressure effects on surrounding organs especially kidney, dyspnea, and also be asymptomatic (8). Plain X-ray abdomen is useful in diagnosis by identifying vertebral column and axial skeleton (11). Recently ultrasonography and CT of abdomen and pelvis, are also, helpful in diagnosis of this rare condition.

5- CONCLUSION

Fetus- in- fetu is a rare interesting entity that's presents with abdominal distension and pain in early childhood, which can be identified by imaging modalities. Complete excision with meticulous dissection is curative and allows confirmation of diagnosis.

6- CONFLICT OF INTEREST: None.

7- REFERENCES

- 1 Hopkins KL, Dickson PK, Ball TI, Ricketts RR, O'Shea PA, Abramowsky CR. Fetus-in-fetu with malignant recurrence. *J Pediatr Surg* 1997; 32:1476–79.
- 2 Lewis RH. Foetus in Foetu and retroperitoneal teratoma. *Arch Dis Child* 1960; 36:220–6.
- 3 Heifetz SA, Alrabeeah A, Brown BS, Lau H. Fetus in fetu: A fetiform teratoma. *Pediatr Pathol* 1988; 8: 215–26.
- 4 Grant R, Pearn JH. Foetus-in-foetu. *Med J Aust* 1969; 1:1016–20.
- 5 Goldstein I, Jakobi P, Groisman G, Itskovitz-Eldor J. Intracranial fetus-in-fetu. *Am J Obstet Gynecol* 1996; 175:1389–90.
- 6 Magnus KG, Millar AJ, Sinclair-Smith CC, Rode H. Intrahepatic Fetus-in-fetu: a case report and review of literature. *J Pediatr Surg* 1999; 34:1861–64.
- 7 Chua JH, Chui CH, Sai Prasad TR, Jabcobsen AS, Meenakshi A, Hwang WS. Fetus-in fetu in the pelvis: report of a case and literature review. *Ann Acad Med Singapore* 2005; 34:646–9.
- 8 Borges E, Lim-Dunham JE, Vade A. Fetus in fetu appearing as a prenatal neck mass. *J Ultrasound Med.* 2005; 24:1313–6.
- 9 Hoeffel CC, Nguyen KQ, Phan HT, Truong NH, Nguyen TS, Tran TT, et al. Fetus in fetu: A case report and literature review. *Pediatrics.* 2000; 105:1335–44.
10. Lee EY. Foetus in Foetu. *Arch Dis Child* 1965; 40:689–93.
11. Pantankar T, Fatterpekar GM, Prasad S, Maniyar A, Mukherji SK. Fetus in fetu: CT appearance - report of two cases. *Radiology* 2000; 214:735–7.