ECOGRAPHICAL DIAGNOSIS OF TWO TYPES OF MALFORMATIONS IN THE ABDOMINAL WALL OF A FETUS

GENTILI P., PAPARELLA P., GIORLANDINO C.

Istituto di Clinica Ostetrica e Ginecologica
dell'Università Cattolica del S. Cuore - Roma
(Direttore: Prof. A. Bompiani)

Introduction

The malformations in the fetal abdominal wall so far diagnosed "in utero" are: i) omphalocele (1, 2); ii) gastroschisis (1, 3); iii) conjoined twins (4). This paper describes two types of malformation in the fetal abdominal wall diagnosed "in utero" by real time ultrasonography. Case A refers to the real time ultrasonographic diagnosis of an omphalocele; case B takes a view of the malformations one can regard comprehensively as the "amniotic band disruption complex" (5, 6).

Case report

Case A: C.A., 25 years of age, gravida I, 12th week of gestation, asks for an ecographic check. The observation is carried out with an SSD-202 Aloka apparatus. Fetal biometric parameters show a reduced fetal growth. As a whole the fetal abdominal wall looks as though it has been replaced by a thin membrane sticking out; the internal parts, vaguely transonic, do not seem to send back echoes referable to viscera (Fig. 1). Remarkable oligoamnios can be noted. An examination follows at the 15th week of amenorrhea, which discovers a lifeless fetus.

The details we have described are seemingly the same; the assumption that it might be an omphalocele is taken. Such assumption is proved right after the fetus is delivered.

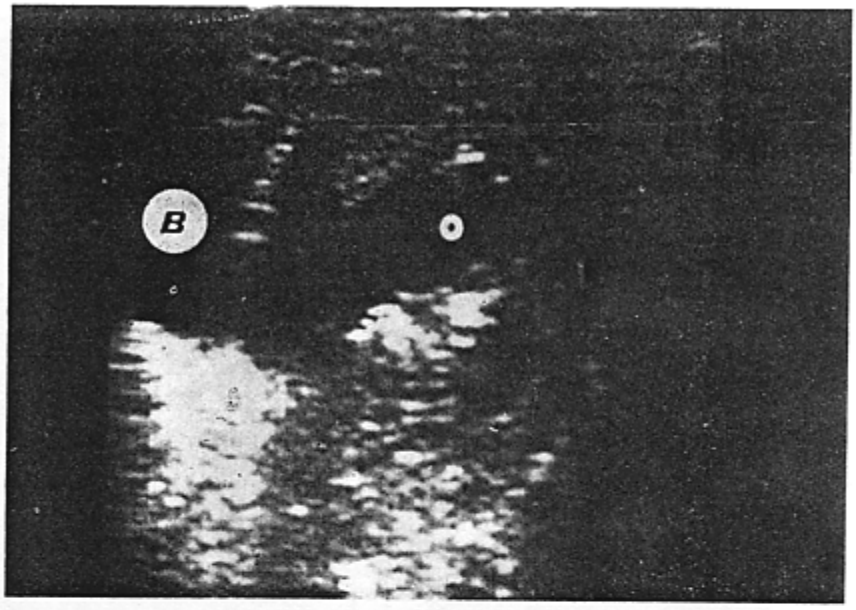

Fig. 1: Transversal section of the fetus by linear multitrasducer. b = bladder; o = omphalocele.

Case B: M.A., 22 years of age, gravida II, para 0,22nd week of gestation, asks for an ecographic examination because fetal underdevelopment is suspected. The examination is carried out with an SSD-202 Aloka apparatus. Fetal biometric parameters show an poor intrauterine fetal growth. By the fetal front-thoracic wall, come viscera are noted, among which the fetus' heart can be singled out; its bradycardia conveys the beat to the other herniated organs (Fig. 2). At the 24th week another examination is executed which ascertains an increase of oligoamnios, notes a craniomeningocele, and confirms the thoracic-abdominal malformation. No right arm can be located. There appears to be a noticeably reduced fetal motion. The ecographic report showing the existence of heart rules out either an omphalocele or a gastroschisis. Both the increase of oligoamnios and the herniation of thoracic-abdominal organs lead us to assume an "amniotic band disruption complex" (5, 6).

At birth (Fig. 3) — 25th week — a multiple malformation is ascertained, interpreted as an "amniotic band disruption complex", viz. i) craniomeningocele; ii) a paramedian button-shaped ex-

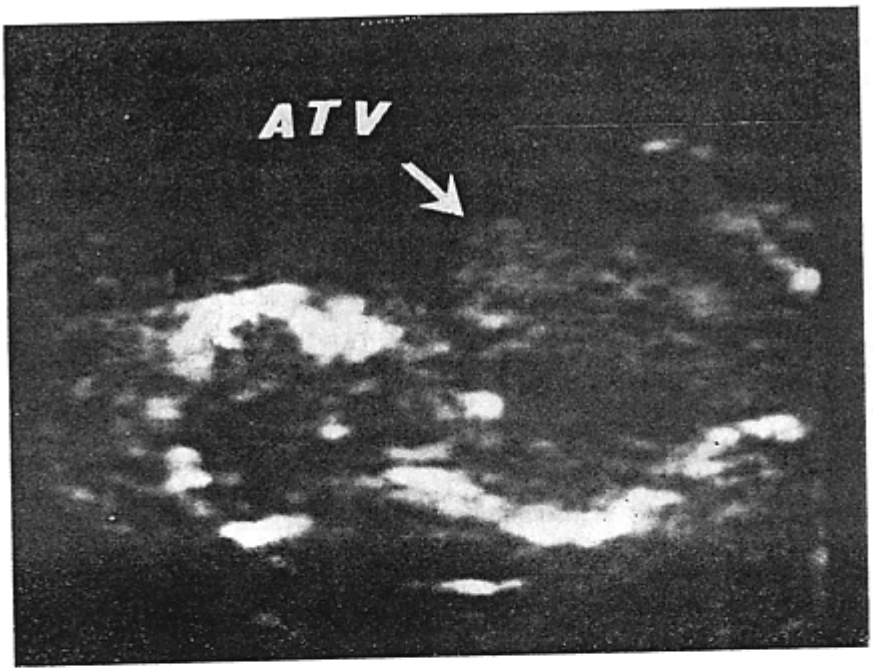

Fig. 2: Longitudinal section of the fetus by linear multitrasducer. atv = abdominal and thoracic viscera.

Fig. 3: The fetus at birth (25th week).

crescence, referable to the root of the right arm; iii) a complex thoracic-abdominal malformation. The right-hand front-thoracic wall is partially agenetic and lets out heart, liver and intestine. The abdominal wall is also partially agenetic, and this is not referable neither to omphalocele nor to gastroschisis.

Discussion

Two types of malformations in the fetal abdominal wall have been described. In case B, because of the heart standing out among herniated viscera, we doubt that it could be an omphalocele or a gastroschisis. Both its association with oligoamnios and the apparent non-existence of the right arm have induced us to assume an "amniotic band disruption complex", which, as far as we know, has been now for the first time diagnosed ecographically. The echographic description of an omphalocele we have given is similar to the ones described by specific literature, except for the presence of oligoamnios. We publish it to show the differences that have allowed us to ascertain an "amniotic band disruption complex."

REFERENCES

1) Ianniruberto A., Tajani E., Iaccarino M.: Diagnosi ecografica dei difetti della parete addominale del feto. IV Congresso nazionale della società Italiana per lo studio degli ultrasuoni in medicina, Modena 9-10 Novembre 1979, Vol. II, pag. 189.

2) Cameron G.M., McQuown D.S., Modanlou H.D., Zemlyn S., Pillsbury S.G.: Intrauterine diagnosis of an omphalocele by diagnostic ultrasonography Am. J. Obstet. Gynecol. 131, 821, 1978.

3) Giulian B.B.: Prenatal ultrasonographic diagnosis of fetal gastroschisis. Abstracts Intern. Symposium on fetal medicine. Venezia, 6-10 Giugno 1979, pag. 272.

4) Wilson R.L., Shaub M.S., Cetrulo C.J.: The antepartum findings of conjoined twins. J. Clin. Ultrasound, 5, 35, 1977.

5) Jones K.L., Smith W.D., Hall B.D., Hall J.G., Ebbin A.J., Massoud H., Gollbus M.S.: A pattern of craniofacial and limb defects secondary to aberrant tissue bands. J. Pediatr. 84, 90, 1974.

6) Higginbottom M.C., Jones K.L., Hall B.D., Smith D.W.: The amniotic band disruption complex: timing of amniotic rupture and variable spectra of consequent defects. J. Pediatr. 95, 544, 1979.

7 Torpin R.: Fetal malformations caused by amnion rupture during gestation. Thomas C.C. Ed., Sprinfield 1968.

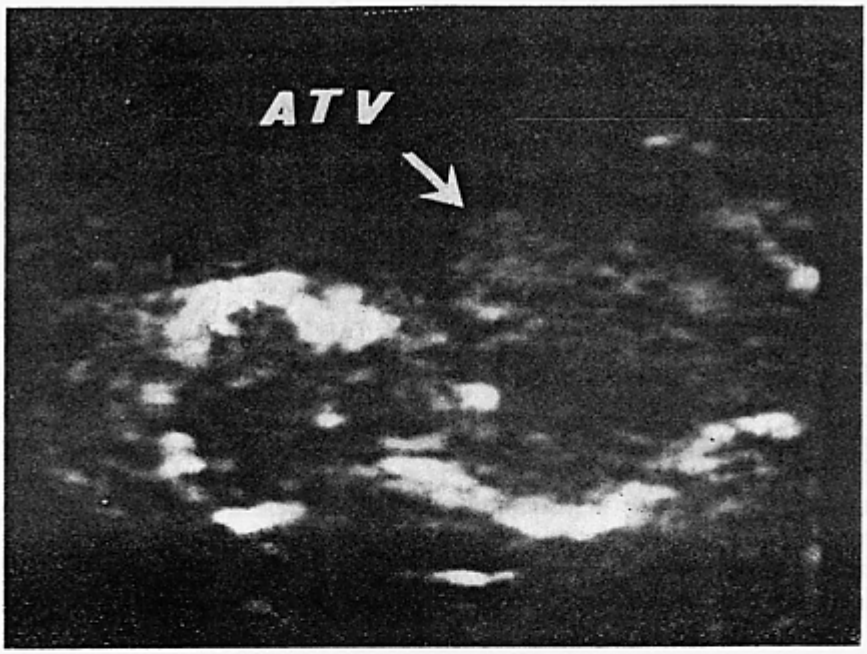

Fig. 2: Longitudinal section of the fetus by linear multitrasducer. atv = abdominal and thoracic viscera.

Fig. 3: The fetus at birth (25th week).