

MORPHOLOGY OF THE AFTERBIRTH OF THE DANZIG QUINTUPLETS

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The morphological examination of the afterbirth of the Danzig quintuplets showed that it was composed of five fused placentas forming one single placenta, of extraplacental fetal membranes forming five separate fetal amniotic sacs and five umbilical cords. The structure of the placentas was very similar and no focal pathological changes were found in their texture. From a morphological point of view all separating membranes speak in favour of a quintovular pregnancy.

The afterbirth of the parturient, Mrs. L. R., 32 years old (case hist. no. 1350/71), who had born quintuplets on 12 May, 1971, was composed of five fused placentas forming one single placenta weighing 1520 g, and of extraplacental fetal membranes forming five separate fetal amniotic sacs and five umbilical cords (Fig. 1).

The placentas, marked as I, II, III, IV, and V, formed one multilateral flat shape, its size amounting to $42 \times 28 \times 3$ cm. Placenta V, measuring $9 \times 17 \times 2$ cm, was fused only with placenta IV on a stretch of 7 cm. The entire surface area of the placenta amounted to 1100 sq. cm.

The placenta was dark-red, velvety, nearly unitary, undamaged, without a marked division into separate placentas. It was composed of 42 cotyledons of various size. The intercotyledon furrows were rather shallow. The consistency of the placental flesh was normal on palpation. No focal pathological changes were found with the naked eye on the external surface and in sections.

Five separate fetal amniotic sacs of various volume were found on the fetal surface of the placental structure. The sacs adhered closely to each other and one umbilical cord was present in every fetal sac. No circulation anastomoses or additional blood vessels were observed. The external extraplacental membranes were thin and greyish. The extraplacental separating fetal membranes were thicker and entirely opaque. The amniotic membranes in all amniotic sacs were very thin, smooth and transparent, and they easily separated from the chorion.

The lengths of the umbilical cords, in the order of the marking, was: 32, 38, 42, 52, and 43 cm. Diameter of the umbilical cords: 1-3 cm. Every umbilical cord contained 2 arteries and one vein. The Warthon jelly was present in abundance on the entire length of the umbilical cords and it was uniformly distributed, without any edema symptoms. Neither true nor false knots were noted. Insertions of the umbilical cords in the particular placenta were, respectively: eccentric, eccentric, marginal, marginal, central.

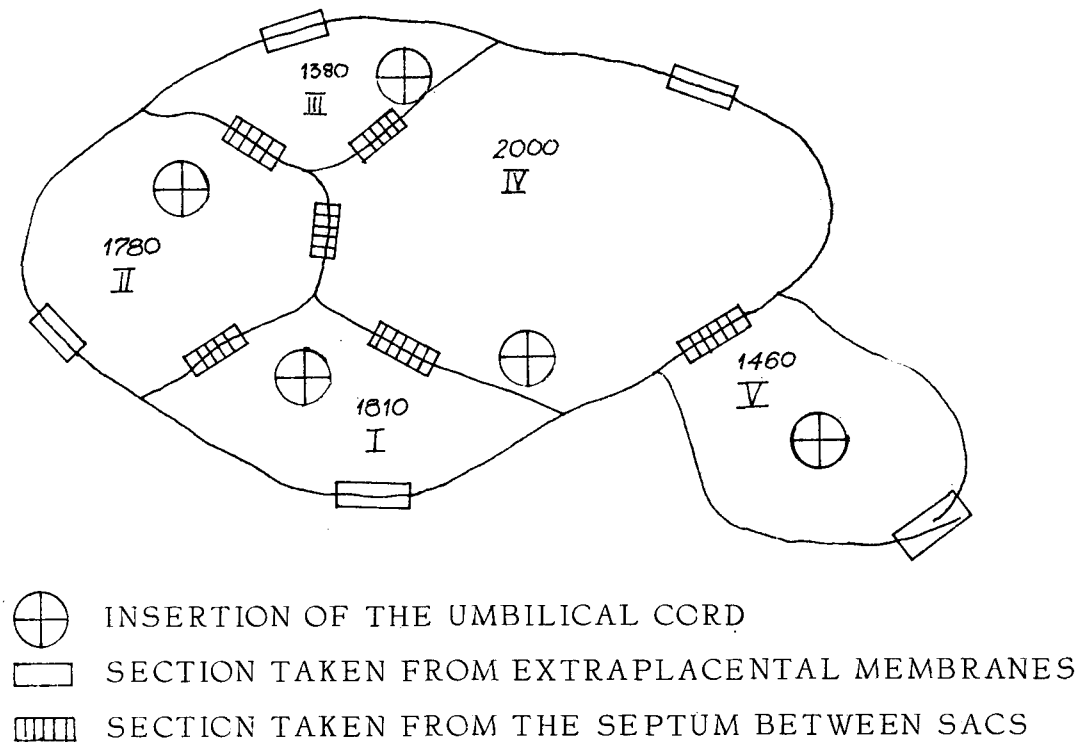


Fig. 1. The placenta of the Danzig quintuplets: diagrammatic illustration

Numerous cuts were taken from typical places for every placenta, from every umbilical cord, and all extraplacental fetal membranes. The 5-8 μ thick paraffin preparations were stained with hematoxylin and eosin and also according to other methods.

Microscope findings in the placental cuts: villous trunks of various length, well-shaped blood vessels in the villi, the cross-section of the vessels proportional to the thickness of the given villous trunk. End chorionic villi mostly of a diameter of 40-60 μ . No closure of vessels was observed. The connective tissue stroma of the villi was scanty and poorly endowed with vessels; the capillaries were of varying capacity. The vessels in sections near the insertions of the umbilical cord in placenta I and IV were more voluminous and filled with blood. The vessels were empty in the other placentas. Fairly numerous syncytial buds. No cytotrophoblast cells were found. Clear-cut, numerous vasculo-epithelial membranes. Fairly extended intervillous spaces, either empty or full of blood. Very scanty infiltrations of fibrous mass, present both in villi and in intervillous interstices. Only in placentas III and V the infiltrations of fibrous masses were somewhat more clearly set in evidence. Scanty infiltrations of calcium salts were found only in placenta IV (Fig. 2: 4-8).

The microscopic texture of one amnion and one chorion was found in the extraplacental membranes. Only a few elements of the decidua, but no leukocyte infiltrations were

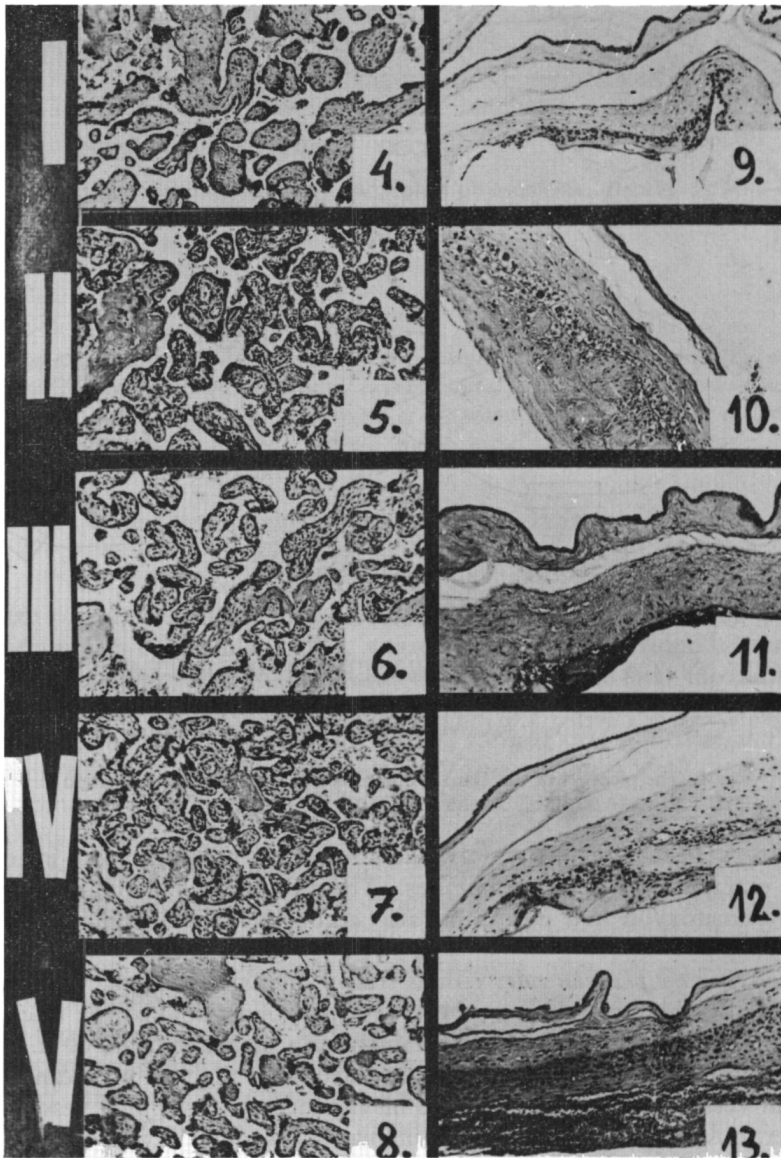


Fig. 2. The placenta of the Danzig quintuplets: microscopic examinations

found. They were double membranes (Fig. 2: 9-13). Two chorions and two amnions were diagnosed in the separating extraplacental membranes. The chorions adhere more or less to each other, and the amnions covered them from outwards. That means that they were fourfold membranes. A one-layer chorionic epithelium with a few foci of metaplasia visible in microscope preparations from the umbilical cords. Wharton's

jelly had its usual aspects without any symptoms of edema. By their structure the blood vessels corresponded to one artery and two veins. No additional vessels, infiltrations of small cells, or hemorrhages, were found in the umbilical cords. Remains of neither allantois nor allantoid-intestinal duct were found.

The morphological examination of the afterbirth showed that it was composed of a complex of five placentas forming one single placenta, of fetal membranes forming five separate fetal amniotic sacs and five umbilical cords. The structure of the individual placentas was very similar and no focal pathological changes were found in their textures. The fourfold texture of all separating membranes spoke in favour of a quintovular pregnancy.

The morphological examination of the afterbirth, first of all of the fetal membranes, could only suggest a quintovular pregnancy, as sometimes, in a uniovular twin pregnancy, if the embryo divides soon after the first striation, the partitions between the fetal sacs may consist of four membranes, too, as in a binovular pregnancy. In our case, in favour of a quintovular pregnancy might also speak the fact that no transfusion syndrome was found.