MULTIPLE-PREGNANCY COMPLICATIONS

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The material covers 332 twin pregnancies (including 5 of triplets) of which 208 (62.7%) were premature deliveries and 124 (37.3%) deliveries at term.
Of the twin pregnancies included in the group examined 15.7% developed complications (gestosis and eclampsia, kidney and heart diseases, anemia, hydramnios). Spontaneous deliveries were 66.7%, operative deliveries 33.3%. A high mortality of the second twin (13.1%) is noticeable and it increases to 21.4% when operative procedures are applied to the first twin.

Multiple pregnancy presents serious problems of obstetric and social nature, due to difficulties connected with early diagnosis, predisposition to pregnancy and delivery complications, and a fivefold neonatal mortality among the newborns (Carston 1957, Guttmacher and Kohl 1958, Aaron et al. 1961, Graves et al. 1962, Kuczynski and Slomko 1965). According to Hellin's theory twin pregnancy occurs once every 89 deliveries and twice as often in parents born from twins. The rate of multiple pregnancies is markedly different in various countries: 1.4-1.5% in Poland, 1.4-1.6% in Sweden, 1.2% in France and Italy, 0.7% in Japan. In our material it was 1.26% (Carston 1957, Aaron et al. 1961, Graves et al. 1962, Spurway 1962, Kuczynski and Slomko 1965, Slomko and Kuczynski 1965*a*).
The purpose of this study is to find out, by means of clinical and statistical analysis, the frequency of pregnancy and delivery complications occurring in multiple pregnancies, and to determine the factors responsible for the destiny of the twin fetus, as well as to evaluate the indications for obstetric operations and the effects of the control of twin delivery.

Our material covers 332 twin pregnancies (including 5 of triplets) corresponding to 1.26% of the 26,316 deliveries occurred from 1962 to 1972 in the II Clinic of Obstetrics and Gynecology of the Silesian Academy of Medicine in Bytom.
The analysis concerned course of pregnancy, delivery, method of childbirth. The duration of delivery, the delay between the birth of the first and of the second fetus results from an examination of the clinical conditions of the newborns and their evaluation on the basis of the Apgar score, and, in case of death, from anatomo-pathological control.

RESULTS

Of the above 332 twin pregnancies, 208 (62.7%) resulted into premature deliveries and 124 (37.3%) into at term deliveries (Table 1). Of the twin pregnancies examined 15.7%

Table 1. *Twin Deliveries and Time of Gestation*

Weeks of pregnancy	Twin deliveries (N = 332)	
	N	%
Untimely and premature deliveries		
Up to 28	25 (1 triplet)	7.5
28-29	12 (1 triplet)	3.6
30-32	24	7.2
33-35	60 (1 triplet)	18.0
36-38	87 (1 triplet)	26.2
Total	208	62.7
On time and postmature deliveries		
39-41	51	15.3
42 and more	73 (1 triplet)	22.0
Total	124	37.3

exhibited pregnancy complications, the most serious being gestosis and eclampsia, kidney and heart diseases, anemia, hydramnios and other (Table 2). Table 3 shows the kind of fetus positions, the course and kind of delivery, as well as newborn deaths with reference to the above mentioned factors. Spontaneous deliveries were 66.7% while operative deliveries, owing to irregular presentation of the fetus, were 33.3%. A high mortality of the second twin (13.1%) is noticeable, and it further increases to 21.4% when operative measures are applied to the first twin, the latter's mortality being 7.7% and

Table 2. *Pregnancy Complications*

Pregnancy	N	%
Uncomplicated	280	84.3
Complicated	52	15.7
Gestosis	8	
Eclampsia	3	
Kidney diseases	7	
Hypertension	4	
Heart diseases	5	
Bleeding	4	
Anemia	6	
Prolonged gestation	3	
Epidemic jaundice	4	
Infections	3	
Hydramnios	5	
Total	332	100.0

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Table 3. *Perinatal Mortality and Kind of Delivery in Twins*

Kind of delivery	Twin I				Twin II				Both twins			
			Deaths				Deaths				Deaths	
	N	%	N	%	N	%	N	%	N	%	N	%
Spontaneous	237		17	7.2	209		17	8.1	446	66.7	34	7.2
Head									240	35.9		
Breech									206	30.8		
Breech									188			
Legs									16			
Face									2			
Operative	97	43.5	9	9.3	126	56.5	27	21.4	223	33.3	36	16.1
Manual aid by Bracht method and classical									188			
Extraction of fetus by hand									4			
Internal rotation and hand extraction									12			
Cephalotractor									9			
Cesarotomy									10			
Total	334		26	7.7	335		44	13.1	669	100.0	70	10.5

rising to 9.3% after operative treatment. Table 4 shows the deaths of the newborns within particular weight groups (newborns under 1000 g have been excluded from the analysis). The death rate of newborns with low birth-weight accounts for 15.7%, and it rises as the weight of the fetus decreases from 1500 g down. Deaths of full-term newborns were reported in 1.6% of cases.

DISCUSSION

Frequency of twin pregnancies in our material is 1.26% out of 26,316 deliveries investigated during the same period. Such figures are in agreement with the reports of other authors (Carston 1957, Aaron et al. 1961, Graves et al. 1962, Potter 1963, Kuczynski and Slomko 1965, Slomko and Kuczynski 1965*a*, Sternadel 1967*d*).

According to literature data, the rate of pregnancy and delivery complications is up to 40 times higher in multiple pregnancy as compared to the single one. In our investigations we found 15.7% serious complications of pregnancies and 33.3% deliveries by means of obstetrical measures; for the first twin we found 43.5%, for the second one 56.5%, due to his frequent irregular presentation (69.3% of cases). Similar results were found by Ware and others, who reported an irregular presentation of the first twin in 28% of cases, and of the second one in 46.9% (Guttmacher and Kohl 1958, Kuczynski and Slom-

Table 4. *Neonatal Mortality and Birth Weight*

Birth weight (g)	N	%	Deaths N	Deaths %
Up to 1000	51	7.6	49	96.1
Newborns with low birth weight				
1001-1250	25	3.7	15	60.0
1251-1500	48	7.2	27	56.2
1501-2000	121	18.1	22	18.2
2001-2250	175	26.2	2	1.1
Total	420	62.8	66	15.7
Mature newborns				
2251-2500	102	15.2	4	3.9
Over 2500	147	22.0	—	
Total	249	37.2	4	1.6
Grand total	669	100.0	70	10.5

ko 1965, Sternadel 1967*d*, Ware 1971). A crucial problem in multiple pregnancy is that of premature delivery, which occurs in not less than 62.7% of pregnancies below the 38th week. Along with complications associated to pregnancy and delivery, and with low weight, this carries a further hazard to the fetus.

Guttmacher and others in their own material found 50-52% of premature deliveries, i.e., a rate eight times higher than in all pregnant women (Guttmacher and Kohl 1958, Slomko and Kuczynski 1965*a*). As a result, and according to the recommendations of WHO (1970) every case of multiple pregnancy was hospitalized in order to reduce the number of premature deliveries and allow for stimulation of the activity of the womb by means of shrinking drugs, as well as to eliminate prolonged deliveries (generally lasting 5-8 hours). The time interval between delivery of the first fetus and delivery of the second one should be within optimal limits from 15 to 25 minutes. There is no agreement in the literature as to optimal duration for the delivery of the second twin.

Carston (1957) suggests that the time limit should not exceed 15 minutes; Weddel et al. (1960), 6-10; and Graves et al. (1962), 15-20. We found no difference in either pregnancy or delivery as concerns parity and maternal age. Some authors quote a higher mortality of fetuses and newborns among primiparae (Guttmacher and Kohl 1958, Sternadel 1967*d*). Perinatal mortality of twins is reported to be 10.6-16.6% and the mortality of the second twin 4-5% higher (Carston 1957, Spurway 1962, Slomko and Kuczynski 1965*a*, Ware 1971). Of a total of 669 twins studied, the mortality of the newborn is 10.5%, while the mortality of the second twin is 13% and in operative deliveries it rises up to 21%.

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It may be concluded that early hospitalization in cases of multiple pregnancy — from the 28th week of pregnancy on, in compliance with the WHO's recommendations (1970) — may contribute to improve early diagnosis and reduce the number of premature deliveries, which in turn shall decrease the incidence of neonatal mortality.

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