

CONGENITAL MALFORMATIONS OBSERVED AT THE OBSTETRIC DEPARTMENT OF FERRARA FROM 1973 TO 1978

(Clinico-statistical study)

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During the last twenty years, the study of congenital malformations has spread due to numerous researches organized on a worldwide basis by the W.H.O. ⁽²⁾.

The results obtained were not always agreeing and comparable, either due to the complexity of the subject, either to diversified criteria adopted by the Authors.

This paper will illustrate the results of a clinical and statistical research on congenital malformations observed at the Obstetric and Gynecological Department of Ferrara University in the period 1973-78.

MATERIAL AND METHODS

From the 1st of January 1973 to the 31st of December 1978, 10,633 births were recorded, stillborn included, of whom 5493 males, 5138 females and 2 with undetermined sex.

The verification of the malformations has been made at the moment of birth, or afterwards at the Institute of Child-welfare.

The present series includes only cases of structural anomalies macroscopically evident at birth or diagnosed within the first seven days of life.

Malformations were indicated according to the international analytical classification of the diseases, of the trauma and the causes of death.

RESULTS AND DISCUSSION

Among the 10,633 cases observed, 139 newborn (13.07 %) were affected by one or more malformations distributed as follows: hearth and circulatory system (2.54 %), multiple malformations (2.44 %), osteo-muscular (2.16 %), genito-urinary apparatus (1.97 %), Down's syndrome (1.22 %), cleft palate and lip (0.75 %), gastro-intestinal apparatus (0.66 %), anencephalia and spina bifida (0.47 %), others (0.84 %) (table 1).

For what regards the sex, a ratio of 158.49 (male/females = 84/53 %) is resulted.

That means that the males are more exposed to the risk. Such a phenomenon can be explained by the fact that the sex

SUMMARY

The Authors illustrate the results of a clinico-statistical research conducted on 139 cases of malformations corresponding to 13.07% of 10,633 births of the Obstetric Clinic of Ferrara during the period 1973-1978.

The following variables were examined: type of malformation, sex, weight, duration of pregnancy, type of delivery, mother's age and order of birth.

Table 1. — *Distribution of congenital malformations.*

Congenital malformations	Code (ISTAT)	N. of cases	%
Anencephalia	740	2	0.19
Spina bifida	741	3	0.28
Congenital hydrocephalus	742	1	0.09
Other congenital malformations of the nervous system	743	3	0.28
Congenital malformations of the eye, ear, face and neck	744,745	4	0.38
Congenital malformations of cardiocirculatory apparatus	746,747	27	2.54
Cleft lip and palate	749	8	0.75
Congenital malformations of the gastrointestinal apparatus	750,751	7	0.66
Congenital malformations of the genito-urinary apparatus	752,753	21	1.97
Osteo-muscular system	754,755,756	23	2.16
Congenital malformations of skin, hair and nails	757	1	0.09
Down's syndrome	759.3	13	1.22
Other not specified congenital malformations	758,759	26	2.44
Total		139	13.07

Table 2. — *Distribution of births in the Obstetric Clinic subdivided per year of birth and sex.*

Year of birth	Males	Females	Total
1973	1077	969	1046
1974	1119	1971	2190
1975	941	873	1814
1976	865	765	1630
1977	750	739	1489
1978	739	725	1464
Total	5491	5142	10633
Rate of masculinity	5491/5142% = 106.79		

ratio at birth and specific morbidity quotients, are higher for males than for females. In fact, table 2 indicates that masculinity quotient at the time of the investigation was 106.79.

On the other side data reported in table 2 indicate a higher morbidity between males, with maximum values during the last three years, passing from 12.72 % in 1976 to 25.71 % in 1978. For what concerns malformations of the genital apparatus, morphology conditions a more exact diagnosis in the male (13 males and 2 females among our cases).

The distribution-study of the malformations incompatible with life, as cause of intrauterine death during the first week, puts in evidence a higher perinatal mortality between females (table 4), who present a large frequency of multiple malformations.

From the maternal anamnesis a premature delivery frequency resulted (18 % of malformed were born before the 36th week of gestation), already mentioned by other Authors.

The most frequent way of delivery is the eutocic one, the operative delivery has a frequency of 19 % (forceps) and of 16 % (caesarean section).

In table 5 and 6 the newborns are divided according to the maternal age and parity. The distribution of specific quotients shows that pregnancy at the age ranging from 35 up to 39 presents a ma-

Table 3. — *Specific quotient of morbidity on 1000 births.*

Year of birth	Males	Females	Total
1973	6.50	4.13	5.38
1974	9.83	5.60	7.76
1975	20.19	8.02	14.33
1976	12.72	13.07	12.88
1977	22.67	12.41	17.46
1978	25.71	23.45	24.59
Total	15.30	10.31	12.88

Table 4. — *Distribution per sex of perinatal mortality.*

Sex	Stillborn or dead during the 1st week of life	Alive after the 1st week of life	Total
Males	18 (21.42%)	66 (78.57%)	84
Females	17 (32.07%)	36 (67.92%)	53
Undetermined . . .	2 (100.00%)	0 (0)	2
Total	37	102 (73.38%)	139

Table 5. — *Distribution of births in relation with age and parity (M+F).*

Parity	Classes of age						Total
	14-19	20-24	25-29	30-34	35-39	40-45	
I	14* 1091**	26 2438	21 1581	5 442	5 136	1 36	72 5724
II	1 78	10 788	15 1465	8 883	3 327	2 63	39 3604
III	0 4	5 84	4 297	4 326	3 184	3 46	19 941
IV	0 0	2 8	3 43	0 59	1 91	0 36	6 237
V	0 0	1 3	0 9	0 18	0 29	0 14	1 73
VI	0 0	0 1	2 4	0 15	0 16	0 18	2 54
Total	15 1173	44 3322	45 3399	17 1743	12 783	6 213	139 10633

* = N. malformed neonates.

** = N. births.

Table 6. — *Specific quotients of births (M+F).*

Parity	Classes of age						Total
	14-19	20-24	25-29	30-34	35-39	40-45	
I	1.28	1.07	1.33	1.13	3.68	2.78	1.26
II	1.28	1.27	1.02	0.91	0.92	3.17	1.08
III	0	5.95	1.35	1.23	1.64	6.52	2.02
IV	0	25.00	6.98	0	1.10	0	2.53
V	0	3.33	0	0	0	0	1.37
VI	0	0	50.00	0	0	0	3.70
Total	1.28	1.32	1.32	0.97	1.53	2.82	1.31

for risk of malformed first-born and that such a risk decreases with the increase of the number of births, the contrary of what happens in younger women (20-29 years old).

Another variable taken into account is the weight at birth that, considering the gestational week, is inferior to the average weight of healthy children.

In conclusion, from this research on 139 cases of congenital malformations diagnosed during the neonatal period, resulted a higher incidence of malformations among males, and the most hited organs are: genital apparatus, lips and palate, cardiocirculatory apparatus; perinatal mortality is more frequent among females; malformed neonates tend to be born prematurely from aged primiparae women or from young pluriparae, and present a medium weight at birth lower than the healthy ones.

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