

II. NEONATOLOGY

INFECTIONS PATHOLOGY INCIDENCE TO NEWBORNS WITH CONGENITAL MALFORMATIONS

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Abstract

This study wants to establish the correlation between congenital malformations of the newborns and the infections pathology they developed.

Key words: newborns, congenital malformations, infections pathology

Introduction

Birth defects are being diagnosed in an increasing number of infants during the prenatal and neonatal period because of improved diagnostic technology, especially ultrasonography.

Because of this, it is even more important for the neonatologist to be knowledgeable about congenital malformations. There are various causes of birth defects, including genetic abnormalities, dysmorphogenesis, and environmental affects on the fetus.

Congenital malformations represent a fundamental pathology problem correlated to incidence (3-5%), etiology, pathology and medical and social implications.

Objectives

This study wants to establish:

- the incidence of congenital malformations at newborns
- the types of congenital malformations
- the incidence of congenital malformations according to gender and social background
- the maternal risk factors
- the correlation between congenital malformations of the newborns and the infections pathology they developed

Material and methods

The necessary data to elaborate this study were collected by analyzing the observation files and laboratory records of the newborns hospitalized in Neonatology and Health Care Clinic Timisoara between 01.01.2001 and 31.12.2002.

Results and discussions

From a total number of 1044 cases, 72 (6,89%) newborns presented congenital malformations.

Distribution of cases related to sex indicated:

- 35 (49%) male
- 37 (51%) female (Fig. 1).

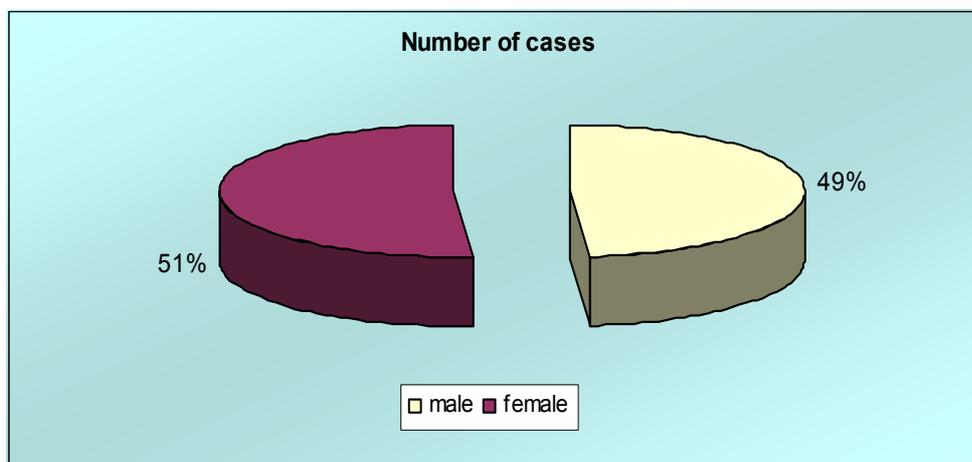


Fig. 1. Sex ratio.

The social background of the newborns indicated that 39 (54,16%) cases were from the urban area and 33 (45,84%) cases – from the rural area (Table 1).

Social background	Number of cases
urban area	39 (54,16%)
rural area	33 (45,84%)

Tab. 1. Repartition of cases related to social background

The types of malformations were:

- 29 (40,27%) cases with osseous malformations
- 28 (38,89%) cases with cardiovascular malformations
- 4 (5,55%) cases with penile hypospadias
- 4 (5,55%) cases with central nervous system malformations (3 cases with meningomyelocele and 1 case with cerebral atrophy associated with left anophthalmy – Fig. 2)
- 3 (4,16%) cases with gastrointestinal malformations
- 3 (4,16%) cases with cleft lip and palate (Fig. 3)
- 1 (1,39%) case with chromosomopathy at 9 chromosome associated with cardiac malformation and congenital clubfoot



Fig. 2. Left anophthalmy



Fig. 3. Cleft lip and palate.

The infectious pathology of the newborns was:

- ❖ 42 (58,33%) skin and mucous infections
- ❖ 38 (52,78%) respiratory infections

- ❖ 12 (16,67%) bacteremia
- ❖ 9 (12,5%) urinary infections (Table 2)

Tab. 2. Distribution of cases according to type of infection

Infection type	Number of cases
skin and mucous infections	42 (58,33%)
respiratory infections	38 (52,78%)
bacteremia	12 (16,67%)
urinary infections	9 (12,5%)

Cultures from pharynx, nasal secretion, umbilicus, conjunctiva, skin wounds, urine, blood and meconium were made in attempt to identify the type of bacterial agent.

Of a total number of 131 positive cultures we found:

- staphylococcus aureus - 86 (65,65%) cases
- e. colli - 24 (18,32%) cases

- enterobacter - 9 (6,87%) cases
- klebsiella - 4 (3,05%) cases
- staphylococcus - R 4 (3,05%) cases
- pseudomonas aeruginosa - 3 (2,29%) cases
- staphylococcus epidermidis - 1 (0,76%) case (Fig. 4)

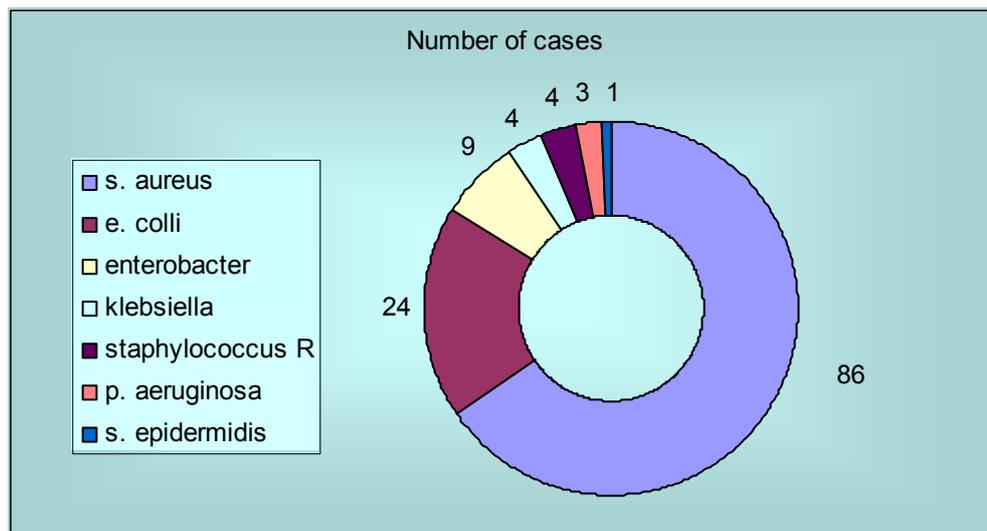


Fig. 4. Distribution of cases according to germ type

Maternal infections circumstances were found in 59 (74,68%) cases:

- the premature rupture of the amniotic membranes - 16 (22,22%) cases

- dystocia 7 (9,72%) cases
- green amniotic fluid 22 (30,55%) cases
- maternal infections - 14 (19,44%) cases (Table 3)

Tab. 3. Distribution of cases related to maternal infections circumstances.

Maternal infections circumstances	Number of cases
the premature rupture of the amniotic membranes	16 (22,22%)
dystocia	7 (9,72%)
green amniotic fluid	22 (30,55%)
maternal infections	14 (19,44%)

Conclusions

1. congenital malformations are more frequent to males and to newborns from the urban area
2. the most frequent malformations appear at the osseous system followed by the cardiovascular system
3. because of the immaturity of the imunitary system at newborns with congenital malformations, the infections pathology is more frequent

4. the most frequent infectious pathology is represented by skin and mucous infections and respiratory infections
5. the most frequent bacterial agents are staphylococcus aureus and e. colli
6. maternal infections circumstances are implicated in almost ¾ of cases

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