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Research Article

TYPES AND STRUCTURE OF SURGICAL DISEASES IN NEWBORNS ACCORDING TO DATA FROM A REGIONAL CENTER

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Mavlyanov F.Sh.
Samarkand State Medical University, Samarkand Regional Children's Multidisciplinary Medical Center, Samarkand, Uzbekistan

Azizov M.K.
Samarkand State Medical University, Samarkand Regional Children's Multidisciplinary Medical Center, Samarkand, Uzbekistan

Tursunov S.E.
Samarkand State Medical University, Samarkand Regional Children's Multidisciplinary Medical Center, Samarkand, Uzbekistan

Mavlyanov Sh.K.
Samarkand State Medical University, Samarkand Regional Children's Multidisciplinary Medical Center, Samarkand, Uzbekistan

ABSTRACT

Reducing perinatal morbidity and mortality is one of the main tasks of the maternal and child health care system. Congenital anomalies contribute significantly to these indicators and occupy leading positions in terms of prevalence. According to the World Health Organization, 25% of newborns are born with developmental defects. In light of this data, increasing the efficiency of early medical care and reducing growth and development-related disorders in newborns is crucial. Congenital anomalies of the digestive tract occupy a primary place, corresponding to 21.7%-25%. Currently, perinatal studies of the problem of mother and child with congenital digestive tract anomalies are considered separately, which is significant for perinatal diagnostics, the ability to predict congenital digestive tract anomalies, and determining tactics. This is of great importance for both pediatricians and surgeons. As a first step in

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creating a system for assessing and improving medical services provided to the younger generation, it is important to optimize medical care for newborns with surgical diseases.

KEYWORDS

Perinatal studies, indicators and occupy leading positions, determining tactics.

INTRODUCTION

To study the types and frequency of nosological forms of surgical diseases in newborns that required surgical treatment within the first day of life.

METHODS

The material for the study was a retrospective analysis of official data from annual reports of the heads of neonatology and newborn surgery departments of the Samarkand Regional Children's Multidisciplinary Medical Center for the period from 2017 to 2022. The study was multi-stage. The program and methodology of the study are presented in Table 1.

Table 1.

Program and Methodology of the Study

Stages	Work Content	Observation Objects and Research Methods	Information Sources and Observation Volume
I	Study of the morbidity level of surgical pathology among newborns hospitalized	Neonatology and neonatal surgery patients	Official data from annual reports (2017-2022)
II	Clinical and statistical characteristics of gastrointestinal surgical diseases in hospitalized newborns	Neonatal surgery and neonatology ICU patients	Retrospective and prospective controlled study of diagnosis and treatment results (2017-2022)

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The level of surgical pathology among newborns was analyzed at the first stage of the study using hospitalization data.

During the second stage of the analysis, the results of diagnosis and treatment were examined. As a result, the clinical-statistical characteristics of congenital gastrointestinal surgical diseases in 335 children, which led to hospitalization, were identified.

RESULTS AND DISCUSSION

Based on the statistical data registry from annual reports (2017-2022), 14,994 newborns were hospitalized at the Samarkand Regional Children's Multidisciplinary Medical Center, with 2,012 infants having surgical pathology (Table 2).

Table 2:

Number of Newborns with Surgical Diseases (2017-2022)

Hospitalization Period	Number of the children		
	Other Pathologies	Urogenital System Pathology	Total
2017	2281(91,6%)	209 (8.4%)	2490 (100%)
2018	2288 (87.5%)	326 (12.5%)	2614 (100%)
2019	2129 (82.9%)	438 (17.1%)	2567 (100%)
2020	1703 (81.7%)	380 (18.3%)	2083 (100%)
2021	2026 (77.7%)	580 (22.3%)	2606 (100%)
2022	2346 (89.1%)	288 (10.9%)	2634 (100%)
Total	12982 (86.6%)	2012 (13.4%)	14994 (100%)

It is evident that the actual incidence of surgical diseases might be significantly higher than the registered statistical data. The increase in the level of medical care and the rise in morbidity are not only due to an increase in the number of diseases among newborns but also due to the improvement in the quality of medical care provided. The study showed that surgical pathology among infants and young children (up to 1 year old) averaged 13.4%.

As the studies indicated, congenital intestinal obstruction ranked first in the structure of morbidity based on hospitalization data (42.1%), followed by

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anorectal malformations (21.5%). A significant number of newborns had anterior abdominal wall defects and necrotizing enterocolitis, accounting for 11.9% and 10%, respectively (Table 3).

Table 3:

Nosological Forms of Gastrointestinal Surgical Diseases in Newborns

Final Diagnosis	Number of Infants
Jejunal Atresia	8
Ileal Atresia	42
Small Bowel Atresia, Necrosis, Perforation, Peritonitis	5
Cecal Atresia	1
Small Bowel Membrane	3
Duodenal Atresia	4
Aberrant Duodenal Vessel	1
Duodenal Membrane	10
Ladd's Syndrome	25
Annular Pancreas	18
Meconium Ileus	3
Embryonic Adhesions of the Duodenum	6
Hirschsprung's Disease, Acute Form	16
Necrotizing Enterocolitis	34
Lower ARM (Anorectal Malformation)	40
Upper ARM	31
Esophageal Atresia	25
Congenital Pyloric Stenosis	23
Gastroschisis	8

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Omphalocele	32
Total	**335**

Among the infants, there were 217 boys and 118 girls. As shown in the table below (Table 4), the number of patients from rural areas significantly exceeded those from urban areas. The majority of children (79.1%) had a normal body weight at the time of hospitalization. By gestational age at birth, there were 251 full-term infants, 59 preterm, and 22 post-term newborns.

Table 4:

General Characteristics of Patients

Gender		**Total**
Boys	217 (64.8%)	335 (100%)
Girls	118 (35.2%)	
Address		
City	9	335 (100%)
Village	326	
Weight at Admission		
Normal	265 (79.1%)	335 (100%)
Low	68 (20.3%)	
Very Low	2 (0.6%)	
Gestational Age		
Full-term	251	335 (100%)

The study of the routing of newborns with surgical diseases found that the vast majority of patients (76.4%) were rehospitalized from the maternity hospital. Within the first 48 hours of birth, 194 infants were hospitalized. 141 patients were hospitalized more than 48 hours after birth. 83.6% of the children underwent surgery within 24 hours of admission (Table 5).

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Table 5

Routing of Hospitalized Newborns

Pathways to Hospitalization	Number of Patients	Percentage
Rehospitalization from Maternity Ward	256	76.4%
From Home	79	23.6%
Total	**335**	**100%**
Time from Birth to Hospitalization	**Number of Patients**	**Percentage**
Within 48 Hours	194	57.9%
More than 48 Hours	141	42.1%
Total	**335**	**100%**
Time from Hospitalization to Surgery	**Number of Patients**	**Percentage**
Within 24 Hours	280	83.6%
More than 24 Hours	55	16.4%
Total	**335**	**100%**

Surgical treatment was performed on 333 newborns. Surgery was not conducted on 2 patients due to parental refusal of the proposed treatment. Surgical intervention was performed on 194 newborns within 48 hours from birth. The remaining infants underwent surgery more than 48 hours after birth. From the time of admission to surgery, 83.6% of the patients were operated on within 24 hours, and 55 newborns were operated on later.

The following surgical procedures were performed on the 333 newborns (Table 6).

Table 6

Types of Operations Performed on Newborns with Congenital Intestinal Obstruction

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Operation Name	Number of Patients
Abdominal Drainage	13
Membrane Resection of the Duodenum, Naso-Intestinal Intubation	7
Membrane Resection of the Small Intestine	3
Partial Resection of the Small Intestine, T-shaped Ileal-Ileal Anastomosis	19
Duodeno-Duodenal Anastomosis, Naso-Intestinal Intubation	26
Ladd's Operation	25
Partial Resection of the Small Intestine, Ileal-Ascendostomy Anastomosis	1
Embryonic Adhesions of the Duodenum, Naso-Intestinal Intubation	6
Laparotomy, Jejuno-Jejunal Anastomosis, Naso-Intestinal Intubation	3
Laparotomy, Colostomy	7
Perineal proctoplasty	42
Left-sided Maydl colostomy	42
Laparotomy, cecal resection, ileostomy	1
Partial resection of small intestine, ileostomy	42
Esophago-esophagostomy	25
Laparotomy, pyloromyotomy	23
Gastroschisis repair	7

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Omphalocele repair	32
Laparotomy, gastric perforation closure	5
Laparotomy, small intestine perforation closure, appendicostomy	2
Laparotomy, cecostomy	1
Resection of embryonic adhesions in the abdominal cavity	1
Total	**333**
Naso-intestinal intubation	**45**
Ileostomies	**45**
Colostomies	**50**
T-shaped anastomoses	**20**

CONCLUSIONS

Based on the conducted research, surgical diseases among pathological conditions in newborns constitute 13.4%. In our view, this frequency represents a significant medical and social issue that requires increased attention from the medical system at all levels.

A clear classification and detailed study of the epidemiological features of these pathologies in different regions and population groups are essential steps in optimizing medical care, developing effective preventive measures, and rationally allocating healthcare resources. Only a comprehensive approach that considers the epidemiological, clinical, and social aspects of this problem will achieve significant progress in the field of neonatal surgery.

The established increase in the incidence of surgical diseases in newborns necessitates the justification of modern, cost-effective approaches to organizing medical care, treatment methods, and rehabilitation of patients. The large number and variety of surgical operations on the digestive system performed on newborns in the first days of life prompt the search for ways to improve their outcomes.

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