

NEONATAL ABDOMINAL MASSES

Essay

submitted for the partial fulfillment of
Master degree in pediatrics
by

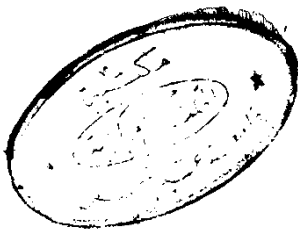
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1987





قَالَ رَبِّ سُبْحَانَكَ اللَّهُمَّ لَكَ مَا عَظُمْنَا
وَلَكَ أَكْبَرُ الْعَالَمِينَ
... صوره الله العظيم

سوره المعوه الايه " ٣٣ "



ACKNOWLEDGEMENT

I would like to express my deepest gratitude and appreciation to Professor Dr. FOUAD EL BADRAWY, Professor of Pediatrics, Faculty of Medicine, Ain Shams University for his valuable supervision, unlimited support and great cooperation through the whole this study.

Special and sincere thanks to Dr. NANCY ABD EL AZIZ, Lecturer of Pediatrics, Faculty of Medicine, Ain Shams University for her valuable piece of advise, kind cooperation and encouragement.

AZZA EMAM

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Contents

★ Chapter 1	Page
1-1 . Introduction and aim of the study	1
1-2 . Classification of neonatal abdominal masses.	3
1-3 . Diagnostic imaging strategy in neonatal abdominal masses.	6
1-4 . Imaging modalities.	8
1-5 . Prenatal diagnosis of abdominal mass lesions.	15
★ Chapter 2	
Neonatal Renal Abdominal Masses:	
2-1 . Hydronephrosis.	23
2-2 . Multicystic dysplastic kidney.	27
2-3 . Polycystic kidney disease.	32
2-4 . Mesoblastic nephroma.	36
2-5 . Renal ectopia.	40
2-6 . Renal vein thrombosis.	43
2-7 . Nephroblastomatosis.	48
2-8 . Wilms' tumor.	49

★ Chapter 3	Page
Genital Masses In The Neonate:	
3-1 . Ovarian Cyst.	60
3-2 . Torsion of an-intra-abdominal testis	63
★ Chapter 4	
Gastrointestinal Masses In The Neonate	
4-1 . Duplication Cysts.	65
4-2 . Volvulus.	68
4-3 . Cystic meconium peritonitis.	71
4-4 . Omental and Vitelline Cysts.	73
4-5 . "Pseudocyst" proximal to atresia:	75
4-5-1 - Duodenal atresia.	75
4-5-2 - Small bowel atresia.	77
4-5-3 - colonic atresia.	78
4-6 . Congenital hypertrophic pyloric stenosis.	81
4-7 . Hirschsprung's disease.	84
4-8 . Prune belly syndrome.	89
4-9 . Congenital omphalocele.	91
4-10 . Umbilical hernia.	93

★ Chapter 5

Page

AC	Non-Renal Retroperitoneal Masses In The Neonate.		
AFP	5-1	. Adrenal hemorrhage.	95
Ang	5-2	. Neuroblastoma.	100
BE	5-3	. Teratomas.	119
CEA	5-4	. Anterior sacral meningocele.	125
CT			

★ Chapter 6

IV	Hepatosplenobiliary Masses In The Neonate		
KC	6-1	. Hemangioendothelioma.	129
MF	6-2	. Hepatoblastoma & Hepatoma.	130
NC	6-3	. Subcapsular hematoma of the liver.	134
NM	6-4	. Hepatic abscess.	135
N	6-5	. Cysts of the liver.	137
N	6-6	. Splenic Cysts.	138
U	6-7	. Choledochal cysts.	139
U	6-8	. Gall bladder masses.	142
V	6-8-1	- Normal gall bladder.	142
.	6-8-2	- Hydrops of the gall bladder.	143
.	6-8-3	- Acute acalculous cholecystitis.	144
★ Summary			147
★ References			151
★ Arabic summary			

List of Tables

- Table 1 : Major abdominal masses in the neonate (Koop, 1973).
- Table 2 : Neonatal abdominal masses (Griscom, 1965).
- Table 3 : Some Common Sonographically detectable fetal anomalies (Fleischer et al, 1985).
- Table 4 : Staging of Wilms' tumor (Kalefa, 1986).
- Table 5 : Jejunoileal atresia: Clinical presentation (Grosfeld, 1986).
- Table 6 : A comparison of laboratory and visualization studies between renal vein thrombosis and adrenal hemorrhage. (Lebowitz and Belman, 1983).
- Table 7 : Incidence of Metastases in the Newborn with Neuroblastoma (Schneider et al, 1965).
- Table 8 : Staging of Neuroblastoma (Stark et al, 1983).
- Table 9 : Differentiation of abdominal teratomas from neuroblastoma and Wilms' tumor (Henderson and Torch, 1977).
- Table 10 : Classification and treatment of hepatoblastoma and hepatoma (Randolph and Cuzzetta, 1986).

VII

List of Figures

- Fig (1): Potential sequence for imaging abdominal masses in the neonate (Kirks et al, 1981).
- Fig (2): Ultrasound of ipsilateral Crossed fused renal ectopia (Toguri et al, 1979).
- Fig (3): Duplication Cyst of ileum which produced partial intestinal obstruction by extrinsic compression of intestinal lumen (Haller and Talbert, 1972).
- Fig (4): "Wind sock sign" of congenital membranous atresia of the colon (Blank et al, 1974).
- Fig (5): Prune belly syndrome (Pagon, 1979).
- Fig (6): Photograph of the child after birth demonstrates the relationship of the omphalocele, allontic Cyst and Umbilical cord (Fink and Filly, 1983).
- Fig (7): Transverse sonogram of the uterus and fetal abdomen (Fink & Filly, 1983).
- Fig (8): Total-body opacification features in the diagnosis of adrenal hemorrhage (Rose et al, 1971).

Fig (9): Spontaneous regression of skin lesions of disseminated neuroblastoma (Schwartz, 1974).

Fig (10): Sacrococcygeal teratoma that was present at birth (Hyes et al, 1967).

Fig (11): Classification of choledochal cysts according to cholangiographic appearance (Todani et al, 1978).

Chapter 1

INTRODUCTION

1-1 Introduction And Aim of The Study

Abdominal masses in the pediatric age group include a spectrum of lesions of diverse origin and significance. They may occur at any age—from the newborn period through adolescence, and have a wide range of clinical presentations. Their discovery is an urgent and challenging problem in which diagnostic imaging plays a key role (Merten and Kirks, 1985).

Most neonatal masses are discovered on the first day of life, and it is important to note that approximately 87 per cent are benign (Hendren, 1964). The majority (50 to 75 per cent are of urologic origin. Multicystic kidney disease and hydronephrosis together account for almost 40 per cent of cases (Griscom and Neuhauser, 1966).

Certain gastrointestinal and gynecologic conditions are also more frequently found in the newborn period because they are congenital.

Intra peritoneal gastrointestinal lesions may account for 10 to 15 percent of abdominal masses (Griscom, 1965) and consist mainly of duplications, but segmental bowel dilatations may also be encountered. Late gestational gastrointestinal problems might include midgut volvulus

with pseudocyst formation and fecal impactions secondary to Hirschsprung's disease or meconium ileus (Effmann, et al., 1980).

Finally, other miscellaneous benign conditions may be found presenting as abdominal masses in the newborn, such as follicular ovarian cyst, and liver cysts.

The 13 percent accounting for malignant disease include sacrococcygeal teratoma, neuroblastoma, Wilms' tumor, Occasional liver tumors, and retroperitoneal teratomas. Fortunately, the prognosis of such tumors in these young patients is surprisingly good. Sixty percent may be cured by surgery and almost 20 per cent improve by surgical or medical therapy (Stevenson, 1985).

Aim Of The Study

This study delineates the clinical and pathological features of various abdominal mass lesions found in neonates. The application and limitations of imaging procedures currently available are reviewed with emphasis on the principles and advantages of advanced imaging techniques. Selected neonatal abdominal masses are discussed.

1-2 Classification of Neonatal Abdominal Masses

Abdominal masses in the newborn infant may be classified according to the nature of the mass whether benign or malignant. Another classification is the anatomical classification e.g. the mass is classified as a midline, bilateral flank, unilateral flank, right upper quadrant, etc as described in -(Table 1) (Koop, 1973). The systemic classification is the traditional classification and is discussed in -(Table 2) (Griscom, 1965).

Table (1): Major Abdominal Masses in the Neonate.

URINARY	GASTROINTESTINAL	GENTAL	LIVER & BILE DUCTS	MISCELLANEOUS
Midline:	Meconium:	Hydrocolpos	Subcapsular hematoma	Adrenal hematoma
Bladder	Imperforate anus	Ovarian cyst	Choledochal cyst	Neuroblastoma
Urachal cyst	Meconium-plug syndrome		Hemangioendothelioma	Sacrococcygeal teratoma
Urachal diverticulum	Meconium ileus		Hepatitis	Anterior meningocele
			Cystic disease	Splenic hematoma
				Splenic cyst
Bilateral flank:	Duplication of bowel			
Hydronephroses (with bladder & posterior urethral valves)	Mesenteric cyst:			
(with bladder & ureterocele)	Hamartoma			
Hydroureters	Primary			
Polycystic disease	Pyloric stenosis			
	Intussusception			
Unilateral flank:				
Multicystic kidney				
Hydronephrosis				
Mesoblastic nephroma				
Engorged kidney (renal-vein thrombosis)				
Wilms' tumor				

Table (1): Koop C. E., (1973): Abdominal mass in the newborn infant. The New England Journal of Medicine, 289:569-571.