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Objective:

To determine how many newborns had cholestasis associated with PN when they used aminoacids adapted for newborns in a hospital of reference in Colombia.

Patients and method:

905 patients hospitalized in neonatal intensive care unit (NICU) that received Parenteral Nutrition (PN) from different causes (January 1998 - December 2005) were included and analyzed in a descriptive and retrospective study.

Results:

24 (2,7%) newborns had cholestasis (14 females and 10 males), they were diagnosed by the levels of conjugated bilirubin greater than 2 mg% or conjugated bilirubin greater than 30% of total bilirubin. Gestational age average at birth was 35 weeks \pm 5 Δ D.

Biochemical test: The diagnosis of cholestasis was done at 8 days \pm 3 Δ D of started PN (Table N° 1).

Table No. 1. Biochemical parameters.

BIOCHEMICAL PARAMETERS	MEAN	SD
Conjugated bilirubin (mg%)	4.3	2
ALT (U/l)	67.7	50
AST (U/l)	71	67
Alcaline fosfatase (U/l)	255.3	120.5

Contribute Nutritional (at the beginning of cholestasis): Protein 2.2 g \pm 0.96 Δ D; fat 1.6 g \pm 1.02 Δ D; carbohydrates 10.6 g \pm 2.9.

Duration of PN: The average PN duration was 17 \pm 8,6 days.

Associated diseases: Cholestasis occurred mainly in patients with some associated diseases (Table N° 2).

Table No. 2. Associated diseases in patients with cholestasis by PN.

ASSOCIATED DISEASE	n	%
Duodenal atresia	1	4
Esophageal atresia	3	12
Intestinal volvulus	1	4
Necrotizing enterocolitis (NEC) 3rd degree	4	16
Diaphragmatic hernia	2	8
Intestinal obstruction	2	8
Cystic fibrosis	1	4
Perinatal asphyxia	3	12
Hyalin membrane disease	2	8
Persistent arterious ductus with pulmonary hypertension	1	4
Sepsis	5	20
TOTAL	25	100

Sepsis is a associated situation in the patients with cholestasis by PN, some of the microorganisms were isolated (Figure N°1).

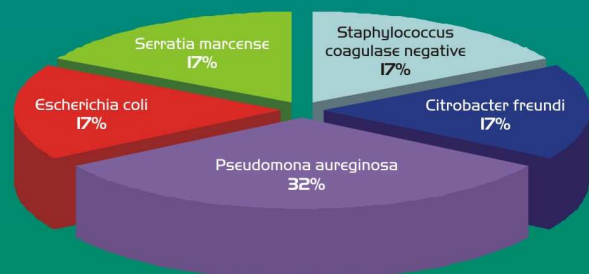


Figure No. 1. Isolated microorganisms in patients with sepsis and cholestasis by PN.

Conclusions:

The newborns more susceptible to cholestasis associated with PN are those with congenital malformations in gastrointestinal tract, sepsis and serious diseases as hialin membran disease and NEC. Possibly the low percentage of cholestasis in our hospital could correspond to a suitable following of patients by NST (Nutritional Support Team), as well as the individual prescription according to the physical and biochemical conditions, and because of the use of both aminoacid and lipids adapted for newborns.