CLINICAL FEATURES AND PREDICTORS OF OUTCOME AMONG CHRONIC KIDNEY DISEASE PATIENTS PRESENTING WITH PERITONITIS FOLLOWING PERITONEAL DIALYSIS IN A TERTIARY PEDIATRIC HOSPITAL

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INTRODUCTION:

Peritoneal dialysis (PD) is the preferred dialysis modality of choice for children with CKD. Despite preventive efforts improving PD outcomes, peritonitis remains the most common infection associated with peritoneal dialysis. The rate of infection is considered to be greater in children than adults and an important cause of morbidity, mortality and irreversible technique failure.

OBJECTIVES:

To determine the clinical profile and predictors of outcomes of CKD patients with peritonitis following peritoneal dialysis in a tertiary pediatric medical hospital

METHODOLOGY:

Study design: Retrospective analytical study
Study setting: Philippine Children's Medical Center

0 – 18 year old CKD patients undergoing peritoneal dialysis diagnosed with peritonitis admitted from January 2014 – January 2020

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Demographics and clinical data extracted from patient's medical records

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Data recording and statistical analysis

RESULTS:

There were 96 peritonitis episodes among 44 patients. More **males (54.5%)** than females (45.5%) had peritonitis and were in the **age range of 11 – 15 years old**. **Chronic glomerulonephritis (36.4%)** was the most common cause of CKD and majority had **at least one episode** (52.3%) of peritonitis. Majority presented with **abdominal pain (92.7%) or cloudy/turbid peritoneal fluid dialysate (93.8%)**, with **leukocytosis (58.3%) and elevated peritoneal fluid WBC counts** (85.4%) on admission. **Gram – negative organisms (32.3%) were predominant, with** *Acinetobacter baumanii* as the most common isolate, and **CONS (14.6%) the most common among gram – positive organism. Cefepime** was the initial antibiotic used in 54% of the cases. **Majority of the peritonitis episodes resolved (68.8%)**, while 31.2% had complicated outcomes. Mortality rate was at a 2.1% **Systemic WBC and dialysis effluent cell count on admission, presence of an isolate in the peritoneal fluid culture and initial antibiotic treatment had a statistically significant association with non – complicated peritonitis outcomes** with p – values < 0.05

CONCLUSIONS AND RECOMMENDATIONS:

Peritonitis remains to be a common complication of peritoneal dialysis therapy in children. Systemic and PD fluid WBC counts, isolation of an organism and early antibiotic initiation may predict a non – complicated course. Results gathered can be used as baseline information and a prospective study is recommended to further validate the findings obtained in the current study.

Keywords: chronic kidney disease, peritoneal dialysis, peritonitis

Table 6: Predictors of peritonitis outcomes

Variable	n (%) Non-Complicated Outcomes	n (%) Complicated Outcomes	p-Value	
Gender			0.71	NS
Episode Occurrence			0.81	NS
Age			0.63	NS
Signs and symptoms present			0.64	NS
Baseline WBC count on admission (systemic)			0.044	SIG
Normal	23 (34.8)	17 (56.7)		
WBC > 10, 000	43 (65.2)	13 (43.3)		
Peritoneal fluid analysis			0.006	SIG
Less than WBC count 100 x 10^6	14 (21.2)	0		
≥ WBC count 100 x 10^6	52 (78.8)	30 (100.0)		
Causative organisms			0.018	SIG
Gram positive	20 (30.3)	7 (23.3)		
Gram negative	20 (30.3)	11 (36.7)		
Fungal	0	4 (13.3)		
Culture negative	22 (33.3)	5 (16.7)		
Polymicrobial	4 (6.1)	3 (10.0)		
Antibiotics Given			0.05	SIG
Cefepime	42 (63.6)	10 (33.3)		
Cefepime + vancomycin	4 (6.1)	4 (13.3)		
Ceftazidime+ vancomycin	6 (9.1)	3 (10.0)		
Cefazolin + gentamicin	0	1 (3.3)		
Cefepime + amikacin	4 (6.1)	1 (3.3)		
Cefazolin	1 (1.5)	1 (3.3)		
Cefepime + gentamicin	1 (1.5)	4 (13.3)		
Others	8 (12.1)	6 (20.0)		