CAPD Programme in Yangon Speciality Hospital

KYAW SWAR HTET*, KTD THWIN

DEPARTMENT OF NEPHROLOGY, UNIVERSITY OF MEDICINE (1), YANGON

Introduction

- Chronic kidney disease (CKD) is a major burden on health care, with an estimated worldwide prevalence of 8%–16%.
- Renal replacement therapy(RRT) represents an expensive form of health care technology.
- Continuous ambulatory peritoneal dialysis (CAPD) should be an ideal form of RRT in low- to middle-income countries (LMICs) like Myanmar, particularly for those living in rural areas.

- The average cost - about 400 US$/month .
- Less expenses than HD in terms of cost for transportation, erythropoietin and so on.

Background

- In Myanmar, CAPD has been practiced sporadically in both private and government hospitals since 1996
- Nearly 50 ESRD patients treated with CAPD in government and private hospitals
- The CAPD program was delayed for various reasons, mainly the lack of training and resources
- Restarted in 2016

Material and Methods

- Study Design - Retrospective study by reviewing the treatment records
- Study Population - 12 patients
- Study Place - Yangon 500 bedded Specialty Hospital (YSH)
- Study Period - January 2016 to November 2017

CAPD

- Funding – partly government and mainly by patients
- Catheter insertion – mainly nephrologist cooperated by urologist
- PD regime - CAPD
- PD system - Baxter
- No of exchange for CAPD - 3 times /d (4 hrly) with 2 litres volume, 1.5% 2 ex & 2.5% 1 ex

Results

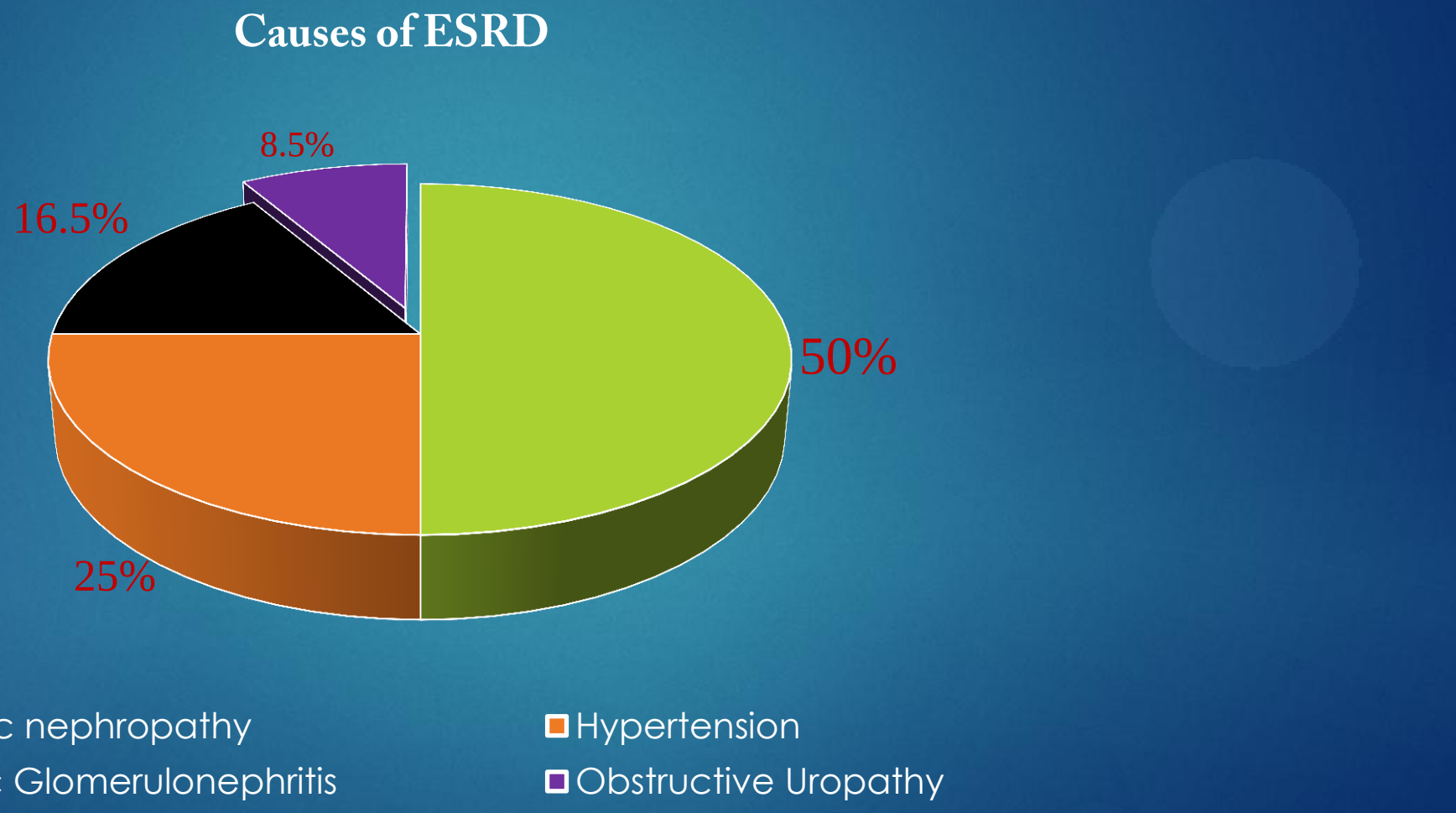
- **Demographic data**

- 6 females and 6 males

- 9 patients were started CAPD initially, but 3 patients were started with IHD because they needed urgent dialysis due to severe uremia

- oldest patient - 86 years, the youngest - 30 years

- **Causes of ESRD** were diabetic nephropathy - 6 patients, hypertension 3 , chronic glomerulonephritis 2 and obstructive uropathy 1



- All patients have eGFR < 5 when they started CAPD, 2.09 being the lowest
- Peritoneal Equilibration Test (PET) was done in 4 patients, and 3 patients was found to be high and 1 patient was high average transporter status

Complications of CAPD

- peritonitis in 2, (1 at one and a half year of CAPD, and another case at 7th month of CAPD),
- incisional hernia and intestinal obstruction in 1
- malposition of catheter in 1
- One patient was expired because of cardiogenic shock due to myocardial infarct after initiation of CAPD

Data profile

- Age, causes of ESRD and eGFR of individual patients
  (eGFR - Calculated with MDRD at the start of CAPD)

Patients ID	Age	Causes of ESRD	eGFR *	Complications
A	68	Diabetes Mellitus	2.7	Peritonitis (Klebsiella pneumonia)
B	62	Diabetes Mellitus	2.87	Incisional hernia and intestinal obstruction
C	58	Diabetes Mellitus	3.4	Malposition of catheter
D	62	Diabetes Mellitus	2.09	Peritonitis (Enterobacter aerogenes)
E	57	Diabetes Mellitus	4.43	
F	49	Diabetes Mellitus	2.69	
G	34	Chronic Glomerulonephritis	2.17	
H*	86	Hypertension		
I	30	Chronic Glomerulonephritis	3.23	
J	60	Hypertension	3.06	
K**	64	Hypertension	2.68	
L	56	Obstructive uropathy	4.7	

- *- expired, ** Hepatitis B co-infection on anti-viral theraphy

The changes in hemoglobin and albumin level at 3 months of CAPD

Patients ID	Change in Hb (%)		Change in Albumin level (g/dl)	
	0 month	3 month	0 month	3 month
A	8.2	9.1	3.7	3.3
B	8.1	8.9	3.0	2.8
C	10.3	11.1	2.3	2.2
D	7	8.2	3.2	3.5
E	7.9	10	2.9	3.2
F	10.9	7.3	3.9	2.6
G	7.9	9.2	3.8	3.5
H				
I	6.3	9.8	3.7	3.5
J	6.8	9.6	4.1	3.2
K	7.2	7.6	3.4	2.8
L	7.8	8.2	3.8	3.3

- most of the patients (90.9%) improved anemia
- hypoalbuminemia was more common in these patients (82%)
- One year survival rate is 100%

Discussions

- CAPD - relatively safe and can be applied in any age group.

- There are some advantages of CAPD over HD.

Advantages of CAPD

- ✓ Preservation of residual renal function.
- ✓ No need for vascular access.
- ✓ Mobility (e.g. easy to transport dialysis to holiday destinations).
- ✓ Patient engagement in treatment.
- ✓ Home-based therapy — maintains patient independence.
- ✓ Less expensive than HD.
- ✓ Less risk of transmission of blood-borne viruses.

CAPD exchange. Removing old solution and replacing it with new solution.

Contraindications to CAPD

- Absolute
- Relative

Absolute Contraindications

- Inguinal, umbilical, or diaphragmatic hernias (esp. pleuroperitoneal leak).
- Patient or carer unable to train adequately in the technique.
- Ileostomy or colostomy.
- Abdominal wall infections or intra-abdominal sepsis, e.g. active diverticular disease.

Relative Contraindications

- Abdominal surgeries (adhesions). The more extensive the surgery, the more likely PD will be unsuccessful.
- Morbid obesity (inadequate clearance).
- Huge polycystic kidneys (insufficient intraperitoneal space).
- Severe gastroparesis (worsening vomiting).
- Severe lung disease (diaphragmatic splinting).

Complications of CAPD

- Infectious
- Non-infectious

Infectious Complications

- peritonitis,
- exit-site infections (ESI), and
- tunnel infections,

Peritonitis is the major complication of PD, leading to significant morbidity and mortality.

Non-infectious complications

- ultrafiltration failure,
- incisional hernia,
- exit site leak,
- hydrothorax,
- catheter malposition,
- scrotal swelling and
- hemoperitoneum

Constraints

- Cost of consumables
- Patients reluctant to do procedure themselves
- Lack of awareness – benefits of CAPD

Future plan

- human resources training
  - Training opportunity for dedicated nephrologists, urologists and technical nurses
- Health education and information program to ESRD patients and doctors
- Increase government financial support
- More PD centers

THANK YOU!