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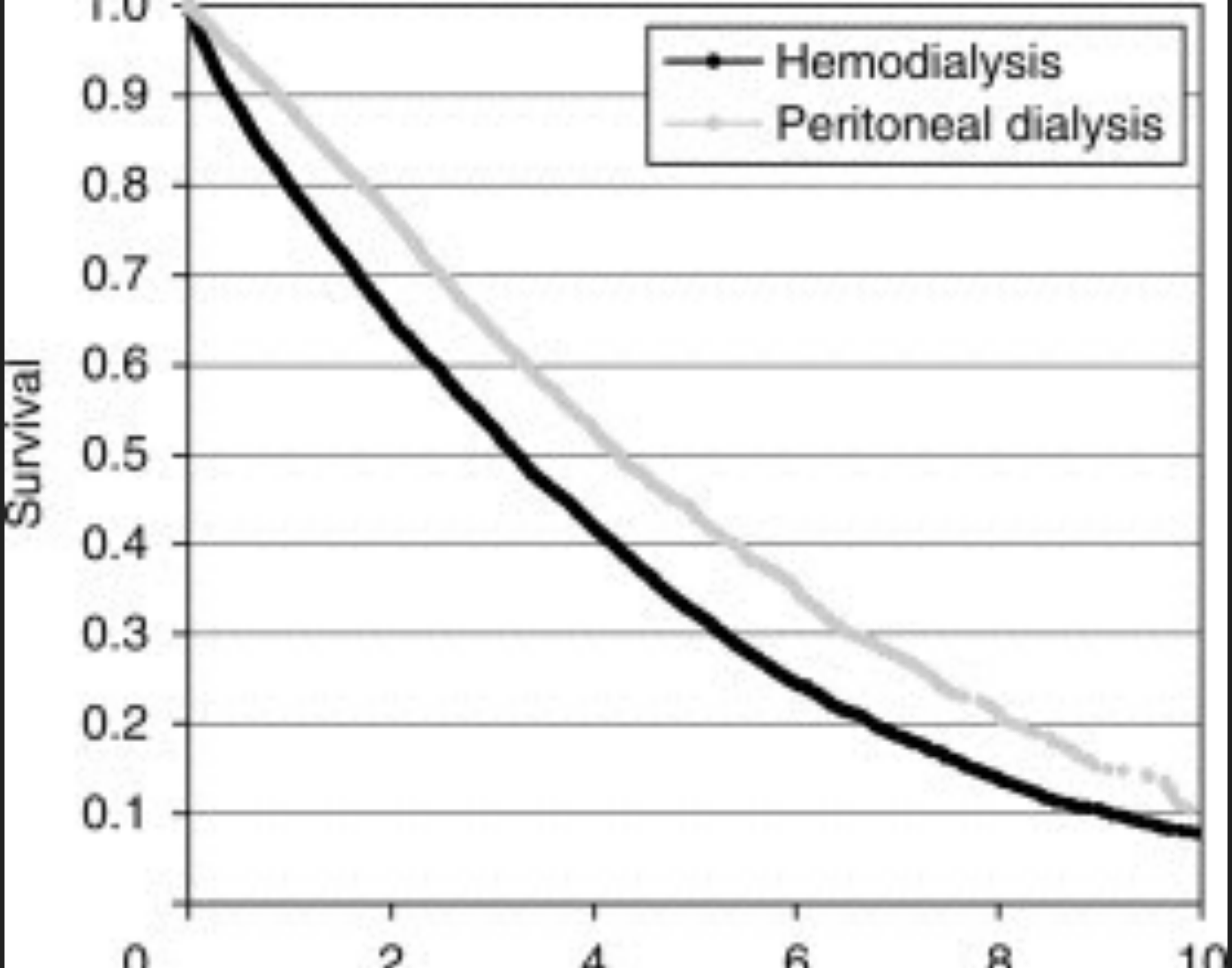
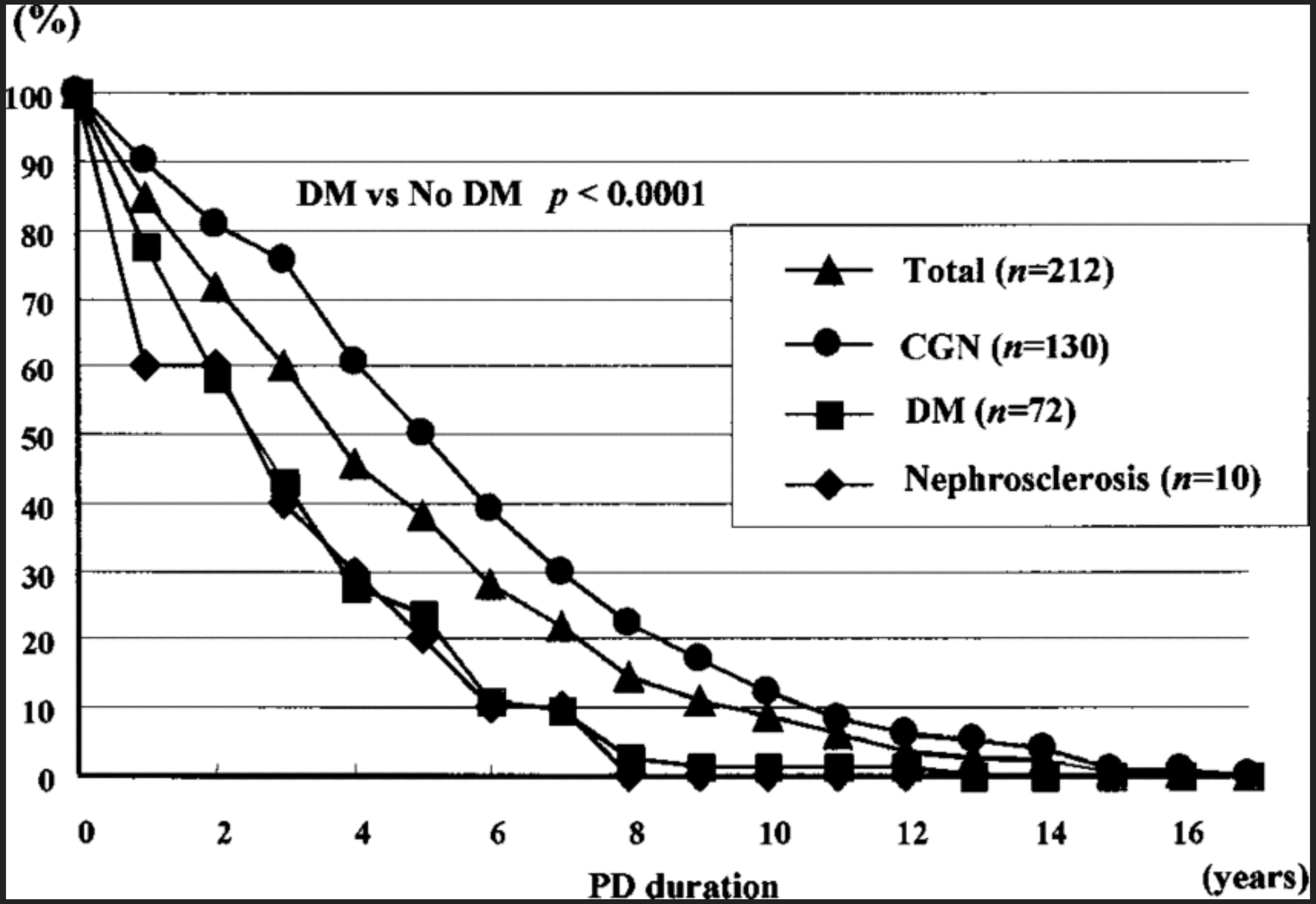
NEPHROLOGIST

OUTCOME OF PERITONEAL DIALYSIS


آهسته و
روی پای
دکتر گاس
دکتر آلانگ
دکتر سورگی

- Peritoneal dialysis is an effective therapeutic strategy for managing acute and chronic kidney failure.
- In five past decades the mortality and morbidity decrease in PD patients.


Hemodialysis
Peritoneal dialysis
Survival
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
2
4
6
8
10


(%)
100
90
80
70
60
50
40
30
20
10
0
DM vs No DM $p < 0.0001$
Total (n=212)
CGN (n=130)
DM (n=72)
Nephrosclerosis (n=10)
0
2
4
6
8
10
12
14
16
PD duration
(years)

HISTORY

- we begin doing peritoneal dialysis in 1995
- After a few months we were impressed with the results.


غذا
حاضر

SHORT TERM RESULT

- the Patients have a more diverse diet compared to the ones under hemodialysis
- Their blood pressure are better controlled
- Hb increased and need for EPO decreased.
- In one of the patient kidney function increased and dialysis stopped.
- Most of the patients can resume their normal lives

NIGHTMARE

- Within a few months we were faced with chemical peritonitis resulting in numerous problems.
- Most of the Patients went back to hemodialysis.
- one documented encapsulated sclerosis peritonitis developed.

AFTER SEVERAL YEARS

- The blood pressure raised after almost three years
- The tests for peritoneal function and UF showed degrading results and some of the patients even showed uremic signs.
- Some patients continued with no problem.

ULTRAFILTRATION FAILURE

- it is defined for less than 400 ml after 4 hour dwell duration with 4.25% solution it has been a condition with chronic PD duration.
- 30-50% of patients develop UFF after 6 years of PD and in 24% of cases changing the RRT modality is required to maintain clinically stability.
- it is the most prevalent problem.

TEXT

REASONS OF ULTRAFILTRATION FAILURE

- Uremia.
- Peritonitis.
- High glucose concentration in peritoneal dialysis solution.
- Glucose Degradation Product.
- Advanced Glycation end products.
- Neoangiogensis.

HIGH TRANSPORTER

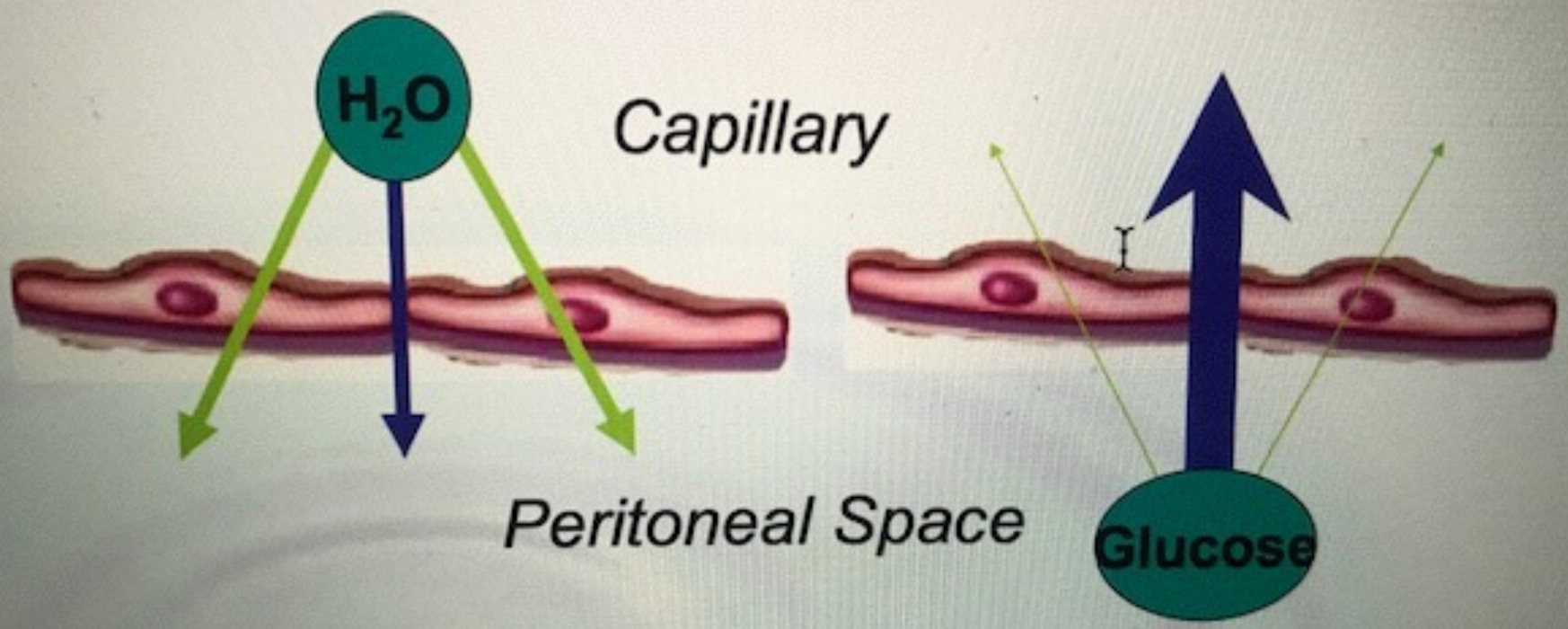
- in fast transporter there is a correlation between insulin resistance and metabolic syndrome.

TEXT

PROTECTIVE WAYS FOR PERITONEAL MEMBRANE MEDICINE

- N acetyl cystine.
- Angiotensin receptor blocker.
- Pentoxfillin
- Diltiazem
- Dypridamol
- Anti aldosterone

Physiology of Ultrafiltration: Structure of Peritoneal Membrane



- Aquaporin mediated: 50%
- Intercellular: 50%
- Glucose transporter mediated: minimal
- Intercellular: >90%

MOST COMMON COMPLICATION OF PD

- Infection is the most common complication
- There are no guidelines for management of repeated exit site infection.
- Patients receiving enhanced training have significantly fewer exit-site infection.

TEXT

MOST COMMON CAUSATIVE ORGANISM AND EXIT SITE INFECTION

- Staphylococcus aureus.
- Pseudmonoes aeruginos.
- 32% Infection treated.
- 52% had subsequent peritonitis.
- 6% need catheter exchange for removing the infection.
- 19% change for HD.
- 19% died within 12 month of repeat Exit Site Infection.

ENCAPSULATING PERITONEAL SCLEROSIS

EARLY DETECTION OF ENCAPSULATING PERITONEAL SCLEROSIS

- there is no diagnostic tools or methodology for early detection of imminent encapsulating peritoneal sclerosis

EPS AND FREE WATER TRANSPORT

- predictive value of free water transport(FWT) and EPS
- the parameters could be incorporated in the follow up of peritoneal dialysis patients

RESULT OF STUDY

- Free water transport volume and appearance rate of effluent biomarkers were investigated.
- Diagnostic performance was best for FWT followed by plasminogen activator inhibitor.
- Diagnostic panel of DWT and AR of CA125, interleukin-6 specificity above 84%.

GUIDELINES FOR ENCAPSULATING PERITONEAL SCLEROSIS

- Lack of well-defined diagnosis criteria, especially to determine early stages of EPS.
- A lack of intervention that consistently improve outcome of EPS, even after PD stopped.
- EPS may develop or progress after discontinuation of PD making the guidance about when to transfer to hemodialysis or transplant so difficult.
- It is rarely before 3 years of PD.

FAST DECLINE OF RESIDUAL RENAL FUNCTION

- Fast decline in the first year is a predictor for early withdrawal from peritoneal dialysis in non diabetic patients

- A faster residual renal function decline in the first year was a predictor for all cause mortality and conversion to HD in non diabetic PD patients, mainly in the first three years.
- For patients with faster RRF decline, increasing PD dose was effective to improve survival.

END STAGE RENAL DISEASE PATIENTS WITH LOW SERUM ALBUMIN

- low serum albumin is associated with high mortality in patients with end stage renal disease on chronic dialysis.
- In recents analysis from USA low serum albumin means (<2.5g/dl) has lower mortality in peritoneal dialysis than hemodialysis

RESIDUAL RENAL FUNCTION

- 1cc increase in GFR is associated with 12% reduction in mortality in both HD & PD.
- Greater urine volume is associated with improved survival each 250 ml of urine lead to 36% reduction in overall mortality.
- Risk of peritonitis increase losing RRF and risk of peritonitis decrease by 19% for 1 ml increase in GFR

TEXT

EFFECTS OF EXCESSIVE BODY FAT ACCUMULATION ON LONG TERM OUTCOMES DURING PERITONEAL DIALYSIS

- Significant body fat accumulation is an inevitable but potentially serious problem in peritoneal dialysis patients.
- Excessive fat accumulation was defined as one year change in the percentage of body fat (5% for men , 5.4% for women) in the short term group (less than 2 years) and closely with unfavorable baseline metabolic profiles, including diabetes, obesity, elevated blood pressure, and increase the risk of PD failure.

TEXT

JAPANESE SOCIETY OF DIALYSIS THERAPY GUIDELINES

PART 1

- Initiation of PD
- Adequacy of PD
- Adequate nutrition
- Evaluation of peritoneal membrane function
- Discontinuation of PD
- Management of peritonitis
- Management of PD catheter and exit site

TEXT

JAPANESE SOCIETY OF DIALYSIS THERAPY GUIDELINES

PART 2

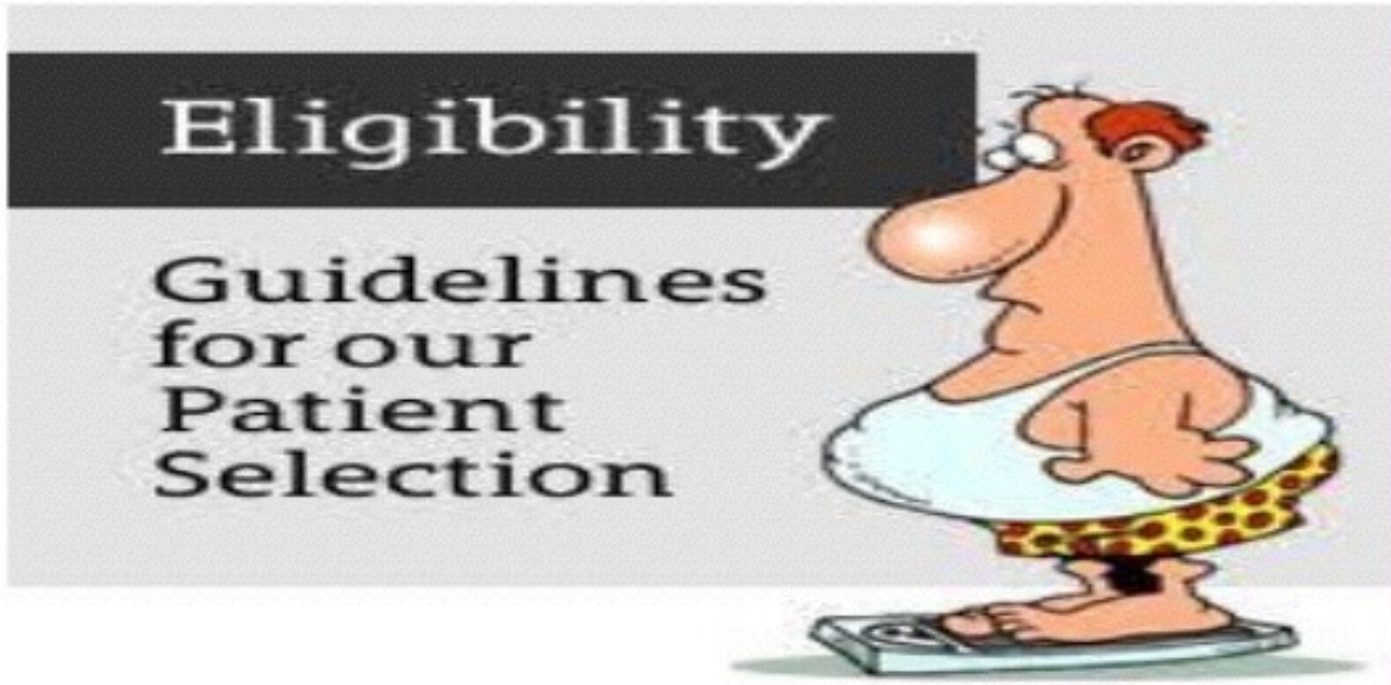
- Are renin angiotensin inhibitor useful or not
- Combination of icodextrin solution with glucose based solution useful?
- Is mupirocin or gentamicin useful for prevention of exit site is effective?
- Which method is better for catheter insertion.
- Which route is more effective in treatment of peritonitis IV or IP.
- Which kind of dialysis is better in diabetic patients.

ONE OF THE MOST IMPORTANT DECISION IS CHANGING THE MODALITY OF TREATMENT IN APPROPRIATE TIME.

IF A PATIENTS LOST APPETITE, LOST WEIGHT, BE ON LEAST ACCEPTABLE AMOUNT OF KT/V, SHOWED THE SIGN OF UREMIA, BY ALL POSSIBLE WAYS LIKE APD OR INCREASING PD TIMES DON'T INSIST OF PD.

CHANGING THE TREATMENT MODALITY

Patient selection criteria: Who should do peritoneal dialysis?



TEXT

FOR PROGRESS

`NOW WE MUST FIGHT WITH FACTORY FOR BETTER SOLUTIONS, TAKE CARE OF OUR PATIENTS, BE IN TOUCH WITH NURSES WHICH DONE A LOT FOR THE PATIENTS, AND COOPERATE WITH EACH OTHER TO REACH A GOOD DIALYSIS SCHEDULE.