Introduction:

Although peritoneal dialysis was started in 1920 but it was regarded as life saving in 19461. Intensive care unit is a highly dynamic area and often intensivists face patients with multiorgan dysfunctions along with renal failures. In situations where patients are profoundly hemodynamically unstable, the conventional hemodialysis techniques are of no use. The only resort is CRRT which is not available in many centres. So many patients succumbed to renal failure as a result. In a desperate attempt to save these group of patients we started peritoneal dialysis and we are getting excellent results. So presenting a case to make people aware and may help in saving many lives in a resource limited situation.

The Case Summary:

A 77 years old female , hypertensive patient on Telmisartan and Amlodipine was brought to ER as a referral case from other hospital, where she presented with complains of breathing difficulty, chest pain and one episode of vomiting followed by generalized weakness. On preliminary evaluation patient was found to be having CHB with AV dissociation and severe anemia. Due to lack of proper facility she was referred to NH. Due to hemodynamic instability and hypoxia , patient was intubated and put on mechanical ventilator followed by temporary pace maker implantation. 2 D echo showed RWMA in septal , anterolateral and posteriolateral wall, severe LV systolic dysfunction with LVEF of 30%. On further evaluation patient was found to be having, raised NT proBNP, severe anemia(6 gm%), AKI, Leukocytosis, occult blood in stool. USG whole abdomen showed chronic cholecystitis with bilateral renal parenchymal disease. During her course of treatment she developed severe cardiogenic shock, oliguria, hyperkalemia and metabolic acidosis. Patient needed CRRT due to low cardiac output and shock but due to absence of CRRT facility peritoneal dialysis was initiated and continued for 5 days along with transfusion of one unit of PRBC and other supportive measures. As patient GC improved, her acidosis and hypotension resolved, she was gradually weaned off ventilator and extubated and converted to SLED. At later stage she underwent permanent pacemaker placement and discharged in stable condition.

Discussion:

The International Society of Peritoneal Dialysis developed guidelines to standardizethe practice. They recommended using peritoneal dialysis in Aki setting

based on evidences which will help specially the developing part of world.

Due to availability of very less data on Peritoneal Dialysis in AKI , a systematic review summarizes all these2. PD only studies were 13, PD and continuous or intermittent extracorporeal RRT were 11. These 11 studies comparing Peritoneal Dialysis and extracorporeal RRT, randomized controlled trials (RCT) were 4. No difference in mortality between PD and extracorporeal RRT in both the observational studies (odds ratio (OR), 0.96; 95% confidence interval (CI), 0.53-1.71) and the 4 RCTs (OR, 1.50; 95% CI, 0.46-4.86). Three of the RCTs were conducted primarily among septic or critically ill patients (77-100% of cases). So we can assume although there is dearth of studies that actually peritoneal dialysis is something which we can rely on. In our case we started with 1 litre for 1 hour 1.5% dextrose peritoneal fluid with heparin 1000 units per litre of fluid and gradually increased to 2 litre for 2 hours. The results were excellent and we switched to SLED in 3 days time when patient became hemodynamically stable. The results are so encouraging that we saved few more patients after that. We are planning to come up with a case series in future.

Conclusion:

Acute renal failure in profoundly hemodynamically unstable patients, the acute peritoneal dialysis is an excellent alternate therapeutic option especially in a resource limited situation. The cost of therapy is also significantly low. So we suggest using this modality as it has many advantages like excellent outcome benefit, low cost and requires less skill and other logistics.

Referrences:

1. Frank H, Seligman A, Fine J.
   Treatment of uraemia after acute renal failure by peritoneal irrigation. JAMA 1946; 130(11):703–5.
   CrossRefMedline :Google Scholar
2. Chionh CY, Ronco C, Finkelstein FO, Soni SS, Cruz DN
   Use of peritoneal dialysis in AKI: a systematic review. Clin J Am SocNephrol 2013 Oct; 8(10):1649–60. Epub 2013 Jul 5.

Author:

Dr. Additya Roshan Baruah, *Intensivist,*

Dr. Shashank Gupta, *Consultant Nephrologist,*
Dr. Apurba Kumar Borah, *Consultant & HOD, Critical Care and Emergency Medicine,*
Narayana Superspeciality Hospital, Guwahati, Assam.

Author

- CCEM Journal

View all posts