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Abstract Discussion Forum **(0)**

Number: Sa1408

ROLE OF THERAPEUTIC PLASMA EXCHANGE IN PATIENTS WITH SEVERE ACUTE PANCREATITIS AND ORGAN FAILURE

Society: AGA

Track: Pancreatic Diseases

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Background: Patients with acute pancreatitis who develop early persistent organ failure (OF) have a mortality of up to 40% particularly those with multi OF. Current management involves only intensive care and organ support but there is no definitive therapy. Severe systemic inflammation due to cytokinemia is implicated in the pathophysiology of organ failure. Therapeutic plasma exchange (PLEX) is a procedure where large volume of plasma is replaced with fresh frozen plasma, replacement fluid and albumin and thus it removes cytokines and other pro-inflammatory molecules. We evaluated safety and efficacy of PLEX in patients with severe AP and organ failure in a pilot clinical trial.

Methodology: Patients with acute pancreatitis presenting within 7 days of onset of illness, having two or more organ failure (OF) each of at-least grade 2 as per modified Marshall scoring (MMS) or single OF with grade more than 2 were included. Patients with circulatory shock requiring inotropes or brain-dead patients were excluded. PLEX was done replacing 1-1.5 times the plasma volume depending upon tolerance at a rate of 1-2 liters/hour on alternate days for a total of 3 sessions. Serum cytokines were measured pre and post intervention. Any adverse event within 7 days of last intervention was the primary outcome. Improvement in OF and survival at 28 days were secondary outcomes. Historical controls in 4 : 1 ratio admitted during the preceding 3 years were included after propensity matching for comparison of secondary outcomes.

Results: Seven patients with severe AP were included from August 2020 till August 2021 with a median of 5 (3-6) days from onset of illness. The median MMS was 6 (4-9) at admission: 4 patients were on mechanical ventilation, 2 on non-invasive ventilation for respiratory failure and 4 on hemodialysis for renal failure. A median of 3 (1-3) sessions of PLEX was done. Post PLEX, one patient had an adverse event with ST-T changes on EKG. There was an improvement in OF and cytokine levels pre and post intervention (Figure). The 28-days mortality was 3/7 in PLEX arm vs. 10/28 in the control arm (P=NS) [Table].

Conclusion: PLEX is a safe interventional modality in patients with severe AP and ongoing OF. PLEX results in reduction in serum proinflammatory cytokines and improves organ failure. Randomized trials are needed to assess its therapeutic efficacy in patients with severe AP (Trial registration no.: CTRI/2020/01/023028).

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