Clinical efficacy and applications of therapeutic plasma exchange: A tertiary care center experience from Jammu

Sir,

Therapeutic plasma exchange (TPE) commonly used in disorders where immune etiology has been implicated that is, Guillain — Barre' syndrome (GBS), chronic inflammatory demyelinating polyneuropathy (CIDP), myasthenia gravis (MG), multiple sclerosis and acute disseminated encephalomyelitis.[1]

This study is a retrospective study carried out in the Department of Transfusion Medicine, Government Medical College, Jammu from July 2009 to February 2011. The list of patients was obtained from the TPE log-book of the apheresis units in our facility. TPE was carried out on continuous flow Fenwal CS-3000 plus cell separator requiring double-venous access. All patients were classified according to Hughes functional grading scores.[2]

A total of 22 patients underwent 71 TPE procedures. The study group included 13 males and 9 females in the ratio of 1.4:1. The mean age was 36.8 years, with age ranging from (17 to 75 years). Of 22 patients, there were 18 cases of GB syndrome (81.8%), two cases of MG (9%), one case each of thrombotic thrombocytopenic purpura (TTP) (4.5%) and chronic demyelinating polyneuropathy (4.5%). The details of procedures are described in Table 1.

In 18 cases of GB syndrome, complete response was noted in 11 cases (61%), partial response in 3 cases (16%), no response in 4 cases (22%) with an overall response rate of 77% at the end of 10 days follow-up period. One case of CIDP underwent six procedures and recovered completely. MG patient with antibody negative case showed good response after five procedures and weaned off from ventilator. One case of TTP underwent nine procedures, showed good response with lactate dehydrogenase (LDH) <250 U/L, platelet count 2.3 lakhs/cu mm after seven procedures, two of which were performed in our center. However, relapsed after 7 months with intracerebral hemorrhage, LDH 2833 U/L, and platelet count 68,000/cu mm. The last two procedures were incomplete due to poor peripheral venous access, though, planned for central venous access, but were not successful due to marked edema of the neck and ultimately patient died

Table 1: Average number of procedures, whole blood processed and plasma volume replaced

Patient population	Number of patients	Number of procedures (mean ± SD)	Whole blood processed (mean ± SD) ml	Plasma volume exchanged (mean ± SD) ml
GBS	18	54 (3.00±0.94)	4540.85±868.96	1996.96±567.09
MG	2	6 (3)	4867.4	2067.4
TTP	1	5	3764	2050
CIDP	1	6	4716.6	2066.6

SD: Standard deviation, GBS: Guillain–Barre syndrome, MG: Myasthenia gravis, TTP: Thrombotic thrombocytopenic purpura, CIDP: Chronic inflammatory demyelinating polyneuropathy

This study showed encouraging response rates in neurological diseases. Cochrane systematic meta-analysis reported that TPE was the only treatment for GBS and found to be superior to supportive treatment. Furthermore, TPE was more beneficial when applied within the first 7 days of disease. Many studies showed encouraging results in cases of TTP who underwent TPE.[3] TPE appears to be just as beneficial as intravenous immunoglobulin therapy in patients with MG.[4] To conclude, in our experience TPE is safe and effective mode of treatment.

Meena Sidhu, Ashu Dogra, Dinesh Kumar
Department of Immunohematology and Blood Transfusion Medicine, Government Medical College, Jammu and Kashmir, India

Correspondence to: Dr. Meena Sidhu, F-234, Raipur Satwari, Jammu Cantonment, Jammu and Kashmir, India.
E-mail: minapthapa@gmail.com

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