

be aware of its clinical features and treatment so that morbidity can be avoided. It might be difficult to distinguish between the thyroid storm and infection in thyrotoxic patients as tachycardia and high fever may present in both. The definitive criteria of thyroid storm laid down by Burch and Wartofsky⁵ are useful (table). Thyroid crisis may be mistaken for sepsis, heat stroke, acute gastrointestinal infection or IHD especially in undiagnosed thyrotoxic patients. The manifestation of thyroid eye disease may coexist or may worsen with thyroid storm as in this case.

Urgent thyroid function test is a confirmatory diagnosis. Treatment of thyroid storm should not be delayed if there is a high index of suspicion. Hyperglycaemia, leucocytosis, hypercalcemia may coexist. Deranged liver function tests mainly raised alkaline phosphatase, could be due to increased osteoblastic activity in response to high bone resorption. Serum thyroid hormone level would typically show hyperthyroidism but due to sudden rise of thyroid hormone secondary to precipitating factors, patients can no longer adapt to the sudden metabolic stress.

Treatment of thyroid storm includes correction of severe thyrotoxicosis, precipitating illness and associated active thyroid eye disease. Patients should be monitored in ICU in the early phase. In this case, the patient required intravenous fluid as she was dehydrated but in cases with congestive cardiac failure, diuretics may be required.

Beta-blockers control adrenergic systems, thionamides block new hormone synthesis, iodine solution blocks the release of thyroid hormone and glucocorticoids reduce T4 to T3 conversion. Beta-blockers should be used cautiously if congestive cardiac failure is present. Among thionamides, propylthiouracil is preferred over methimazole as it also blocks peripheral T4 to T3 conversion. Iodination radio contrast iopanoic acid can also be used although it is not easily available.

Thyroid storm can be diagnosed based on Burch and Wartofsky⁵ scoring system. All diagnosed cases should be managed with anti thyroid drugs, beta blockers and iodine solution along with supportive care preferably in Intensive Care Unit.

REFERENCE

1. **Waldstein SS, Slodki SJ, Kaganeic GI, D.** A clinical study of thyroid storm *Ann Intern Med* 1960;52: 626-42
2. **Sherman SI, Simonson L, Ladenson PW,** clinical and socioeconomic predisposition to complicated thyrotoxicosis: a predictable and preventable syndrome? *Am J Med* 1996; 101 (2): 192-8.
3. **Mourits MP, Prummel MF, Wiersinga WM, Koornneef L.** Clinical activity score as a guide in the management of patients with Graves' ophthalmopathy.
4. **Werner SC.** Modification of the classification of the eye changes of Graves' disease: recommendation of the Ad Hoc Committee of the American Thyroid Association. *J Clin Endocrinol Metab* 1977;44:203-4.
5. **Burch HB Wartofsky L.** Life threatening thyrotoxicosis: Thyroid storm. *Endocrinol Metab Clin North Am* 1993; 22:263-77.

LITERATURE REVIEW

Therapeutic Plasma Exchange. *Arghya Majumdar, Head, Dept. of Nephrology, AMRI Hospital, Kolkata*

Therapeutic plasma exchange (TPE) is an extracorporeal blood purification technique designed for the removal of large molecular weight substances from the plasma. The basic premise of TPE is that removal of these substances will reduce further damage and may be removed by TPE include pathogenic autoantibody of (e.g. anti- glomerular basement membrane), immune complexes (e.g. systemic lupus erythematosus (SLE). Cryoglobuline, myeloma light chains, thrombosis factors cholesterol containing lipoproteins and other putative toxic mediators.

The Canadian Apheresis Group reported that the five most common indication for therapeutic plasma exchange were thrombosis thrombocytopenia purpura myasthenia gravis, chronic inflammatory demyelinating polyneuropathy, waldenstroms macroglobulinemia and Guillian- Barre Syndrome. The indication which a Nephrologist would more commonly encounter TTP/HUS, cryoglobulinemia, Goodpasture's syndrome, ANCA associated vasculitis Acute kidney injury (AKI) due to multiple myeloma, ABO incompatible kidney transplants, focal segmental glomerulosclerosis (FSGS) (peri- transplants), Antibody mediated acute rejection (C4d+ve), etc. A review of the reported complication from over 13000 plasma exchange treatment found that adverse reaction were substantially more common with fresh frozen plasma (FFP) than with albumin replacement. The common complication are hypotension transfusion related acute lung injury (TRALI), citrate- induce hypocalcemia and metabolic alkalosis, coagulation problems, infection, hypokalemia, drug removal, etc.

The new techniques of TPE include crofiltration heparin – mediated extracorporeal low- density lipoprotein (LDL) fibrinogen precipitation (HGLP) apheresis thermofiltration, extracorporeal immunoadsorption and extracorporeal photopheresis.

The AMRI experience (2001-09), 29 cases : TTP-4 (one with HIV) Goodpasture's syndrome -2 Guillian- Barre syndrome -9 SLE with acrocyanosis-1 Adult atypical D-HUS-1, Myasthenic crisis -5, ADEM – 1, ANCCA associate systemic vasculitis with RPGN and DAH-3

Laparoscopic Kidney Retrieval in Donor with an Extended Criterion : Assessing the Safety and Outcome.

Arvind R. Ganpule, Mahesh Desai and Shashikant Mishra

Ann Natl Acad Sci (India),2008, 44(3):165-175.

The term marginal kidney donor/ extended donor criterion is not clearly defined. In the article we assess the safely and out come of laparoscopic donor nephrectomy (LDN) in donor with an extended criterion. A retrospective analysis of our database was done between normal donor (group 1) and donors with extended criterion (group 2). The parameters analyzed were pre and post operative serum creatinine in donors and recipients, operative time, warm ischemia time, analgesia requirement in donors and impact of extended criteria on recipient outcome. Group I and group II had comparable nadir at 1 year in recipient. Donor with BMI more than 30 kg/m required more number ports and hospital stay. Recipients nadir creatinine was comparable in extended and non extended indication donors. In our study LDS was found to be safe, feasible and efficacious in donor with extended indication such as old age, BMI more than 30, multiple vessels and anatomical anomalies Recipient outcome for donors with normal vs. extended criterion was comparable at one year follow up. All donors with extended criterion levels with maintained nadir stable creatinine at two year follow up. Long term follow up would be of interest.