Changing trends in indications for Therapeutic Apheresis (TA) in tertiary care centre *(and its comparison with published report)*

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Introduction: *TP and Cytapheresis*

- Therapeutic Apheresis (TA) is an esta
  its use has grown substantially and ra
  decades

- TA can be
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- TP is far n
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  1. Co
  2. Cas
  3. Immuno-Adsorption (IA)

Introduction – *ASFA adds & redefines!*

- ASFA evaluates potentially newer for apheresis and categorizes the indications into Category I to IV on the basis of available case-reports, case series, and randomized control trials

- Categorization is dynamic and ASFA continues to add [*Medical conditions went up from 68 (ASFA 2010) to 87 (ASFA 2016)*] and re-define categories for various indications by consistently applying the Grading of Recommendations Assessment Development and Evaluation (GRADE) system definitions. Inclusion of fact sheets of certain newer diseases such as Henoch-Schonlein purpura, Heparin Induced Thrombocytopenia (HIT), etc.

Aim and Objectives

- Evaluation of our institute's TA data with respect to indications, clinical response and adverse events

- We also compared this data with an earlier published Indian report [INDEX STUDY-*Sharma et al (Trans Aph Sci 2011:45;239-45)*]

Materials And Methods

Materials and Methods – *Type/Consent/Procedure*

- Retrospective analysis of TA procedures; performed from Jan 2014 to Jun 2016 in Transfusion Medicine department at large tertiary care hospital
- Primary Physician in consultation with TMS assessed patient suitability
- Informed consent was obtained
- Com.Tec; PL1 kit for TP, modified PL1 for CP and P1R for IA, respectively
- Central venous access with double-lumen catheter was used in all patients
- Estimated plasma volume (in litres) = TBV * (1- haematocrit)
- Injectable calcium gluconate (10%;10 ml diluted in 100 ml normal saline through intra-venous drip) for every 1000ml to 1200ml of plasma volume processed as prophylaxis to prevent citrate related adverse reactions

Materials and Methods - *Data Collection*

- Patient's details such as age, gender, weight, clinical indication, ASFA category, clinical response and adverse events were recorded
- Pre-procedure and post-procedure haematological parameters such as Hb, Hct, platelet count, serum calcium, coagulation parameters
- All procedures and adverse reaction management were done according to the departmental SOP
- Data from present study was compared with index study

TA frequency, duration and clinical response criteria

Clinical Disorder	Frequency and duration	Response criteria	
		Complete	Partial
Neurological disorders (AIDP, MG, CIDP)	Every alternate day (5 cycles up to 2 weeks)	a. Muscle power = regained to normal b. Weaning off Mechanical ventilation – Yes c. Improvement in vital capacity over base line – ≥50%	a. Not fully recovered b. Prolonged c. ≤ 50%
Haematological disorders (TTP and HUS)	Daily till a sustained remission attained (6 days to 2 weeks)	a. Platelet count ≥1.5x10³/µl b. Serum LDH<250 U/L c. RFT within normal range	a. ≥50x10³/µl b. < 500 U/L c. Partial recovery
Renal disorders (ABOi/HLAi, AMR)	Every alternate day (5 to 6 cycles)	Recovery of RFT - Complete	Partial
Hepatic Disorders (ABOi)	Every alternate day	Recovery of LFT - Complete	Partial
Internal Medicine & Rheumatology (SLE, Purpura Fulminans)	Daily (3 to 4 cycles)	a. Urinalysis Haematuria= No Proteinuria = No b. Recovery of Renal Functions- complete	 Yes Yes Partial

RESULTS

- No. of patients:187 (118 Males and 69 females)
- Mean age: 41 years (7 months - 73 years)
- TA procedures: 683

i. 504 TPE (73.7%) → 144 patients

ii.176 CP (25.7%) → 41 patients

iii. 03 IA (0.43%) → 2 patients

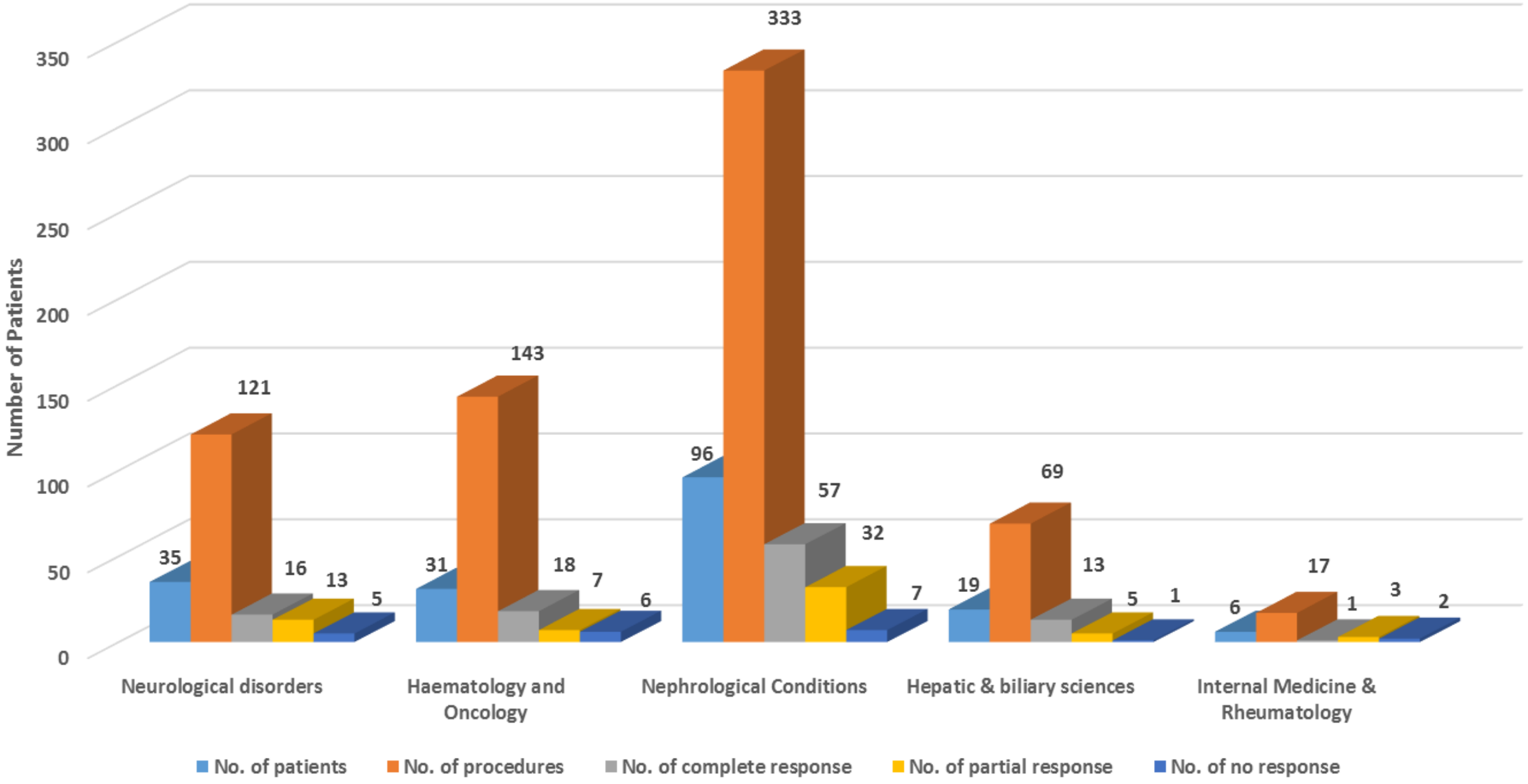
- Indication category in the present study according to 2013 ASFA guidelines:

➢ Category I →99

➢ Category II →59

➢ Category III →29

Response in patients – *Complete/Partial/No response*



Parameters	Present Study	Sharma et al (Trans Aph Sci 2011:45;239-45)
Procedures	683	492
Number of Patients	187	
Males	118 (63.1%)	
Females	69 (36.9%)	
ASFA Category		
I	365 (53	
II	225 (32	
III	93 (13.6	
Procedures Performed for-		
Nephrology	333 (48	
Haematology & Oncology	143 (20	
Neurology	121 (17	
Hepatic & Biliary Sciences	69 (10.1	
Internal Medicine and Rheumatic disorders	17(2%)	
Response Rate	76.2% (	
Encouraging Response Rate	ABOi & aHUS (	
Adverse Events	Neurolo	s (88.4%)
Common type	15 (0.02%) procedure	73 (14.83%) procedures
	Hypotension, hypocalcaemia, nausea.	Hypotension, catheter dysfunction, hypocalcaemia

Discussion

Discussion- *Adverse Reactions*

Much lower rate 15 (0.02%) of adverse reactions as compared to index publication 73 (14.83%)

1. Change in replacement fluid from FFP to albumin in almost all indications
2. Very little (300 ml) in CP or no fluid loss in IA - only minimal/no replacement fluid
3. Fewer Hypocalcaemic episodes as IV calcium gluconate given prophylactically
4. Central venous catheter :100% Vs. 69%.

en years' [492] data -

AIDP/GBS] (75.4% Vs.

in

Conclusion

- In the last decade there has been increase in number and spectrum of indications for therapeutic apheresis and frequency of these procedures.
- Safety of these procedures have also improved.

THANK YOU