

Heparin-Induced Thrombocytopenia during Plasmaphoresis in a Patient with Neuromyelitis Optica



Patient with Neuromyelitis Optica

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Background

- Heparin-induced thrombocytopenia (HIT) is a dangerous and potentially life threatening condition
- An immune reaction where IgG antibodies are formed against platelet factor 4/heparin complex and causes thrombocytopenia with or without thrombosis (Figure 1)
- Neuromyelitis optica (NMO) is a rare autoimmune demyelinating disorder with autoantibodies against aquaporin 4
- NMO attacks are typically optic neuritis, longitudinally extensive transverse myelitis (LETM), and area postrema syndrome (APS)
- Plasmaphoresis (PLEX) has been used for the treatment of acute attacks in NMO particularly steroid resistant
- PLEX is a procedure where the blood is separated from plasma and it is exchanged with donor plasma and/or albumin, and then returns other blood products to the patient, thus reducing circulating antibodies

Objectives

- To report a case of HIT during PLEX treatment for an attack of LETM from NMO

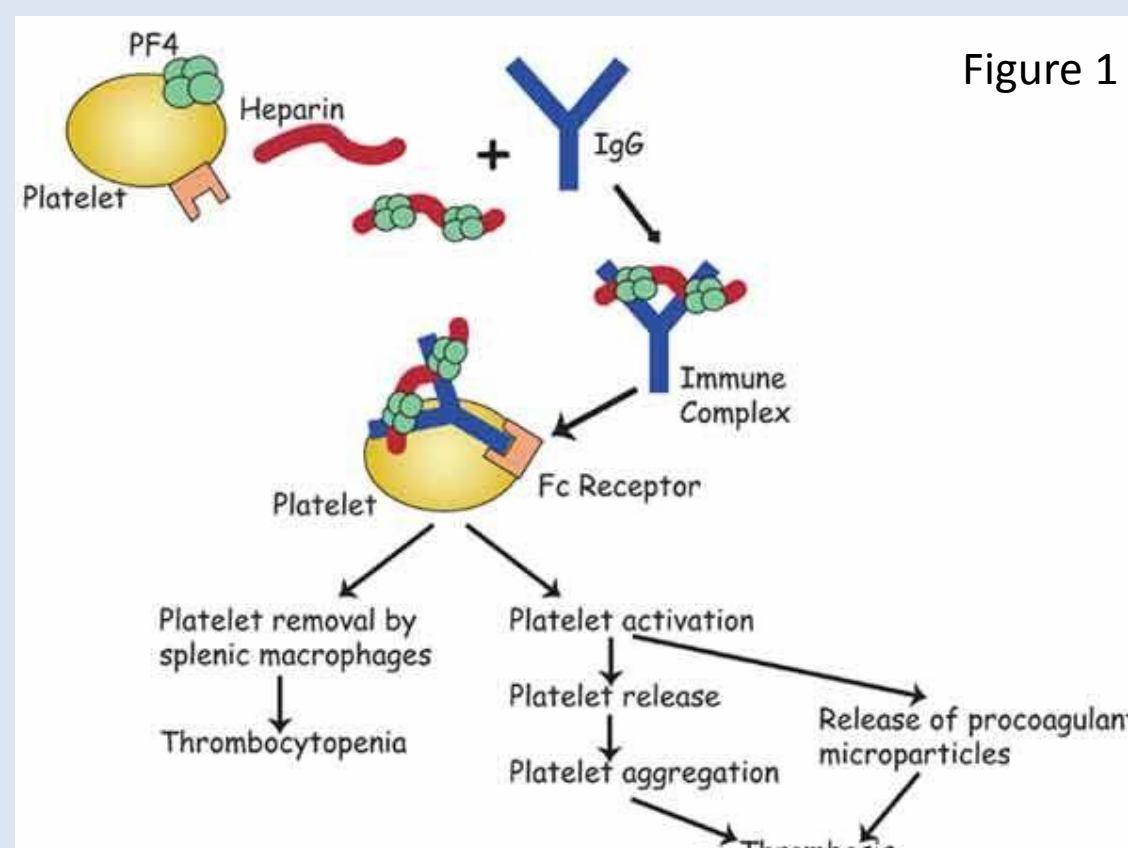


Figure 2 MRI T-spine sagittal STIR



Figure 3 MRI T-spine sagittal T1 post contrast



Figure 4 MRI T-spine sagittal T1 post contrast

4 T score

Category	2 points	1 point	0 points
Thrombocytopenia	Platelet count fall >50% and Platelet nadir > 20,000	Platelet count fall 30-50% or Platelet nadir 10-19,00	Platelet count fall <30% or Platelet nadir < 10,000
Timing of platelet count fall	Clear onset between days 5-10 or platelet fall <1 day (prior heparin exposure with in 30 days)	Consistent with days 5-10 fall, but not clear or onset after day 10 or Fall< 1 day (prior heparin exposure 30-100 days ago)	Platelet count fall <4 days without recent heparin exposure
Thrombosis or other sequelae	New thrombosis or skin necrosis at heparin injection sites or acute systemic reaction after intravenous heparin bolus	Progressive or recurrent thrombosis or non-necrotizing skin lesions or suspected thrombosis	None
Other causes for thrombocytopenia	None apparent	Possible	Definite
< 3 = Low probability for HIT	4-5 = Intermediate probability of HIT	> 6 = High probability of HIT	

Table 1 Highlighted boxes represent our patient's score

Disclosures: Scott Belliston has nothing to disclose
Kevin Call has nothing to disclose

Case

- 50-year-old Hispanic female with suspected NMO presented to treating hospital with paraplegia and numbness with T6 sensory level, urinary retention, and intractable nausea and vomiting.
- 3 prior admissions with LETM in the prior 6 months
- Aquaporin 4 antibodies by ELISA negative x3
- MRI C/T spine showed improvement of old lesion and a LETM from T3-9 with enhancement T6-8 (Figures 2-4) MRI brain showed no change
- NMO IgG antibody by fluorescence activated cell sorting assay was positive
- As she previously was refractory to IV steroids, she was started on both IV steroids and PLEX
- Platelets were normal on admission 223K/mcl and by day 6 were 116K/mcl with nadir on day 7 at 109K/mcl. 4T score of 6 (Table 1)
- HIT was suspected and all heparin analogs were discontinued
- Placed on fondaparinux for prophylaxis and altaplast for flushing of PLEX catheter
- HIT IgG antibodies to platelet factor 4 and serotonin release assay were both positive
- Platelets stabilized and returned to normal

Conclusion

- We recommend clinicians have a high index of suspicion of HIT in patients on any form of heparin with thrombocytopenia or thrombosis
- We recommend close monitoring of platelets during PLEX therapy
- It is important to remember heparin packing of dialysis catheter
- We recommend NMO IgG antibody testing when aquaporin 4 is negative or high suspicion of NMO