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### Introduction

- GAD65 and Lgl-1 Ab-positive autoimmune limbic encephalitis (LE) is a novel disorder with neuropsychiatric manifestations (Boylan, 2000)
- Treatments for LE vary, but often include plasmapheresis (PLEX) (Dalmau, 2018; Pollak, 2020)
- PLEX is a procedure which filters plasma and is designed to remove antibodies, but can also filter other protein-bound molecules from the bloodstream
- Treatment of the neuropsychiatric manifestations of LE requires consideration of interactions with co-administered encephalitis treatments

### Case

68-year-old female with no significant past medical or psychiatric history presents with paranoia, delusions, memory loss, unstable gait, and fasciobrachial dystonic seizures. She was subsequently diagnosed with Lgl1 and GAD65 antibody-positive LE and discharged with a PO prednisone taper following IV solumedrol with good effect. She represented 2 weeks later with manic symptomatology. Numerous agents including Olanzapine and haloperidol were trialed without benefit. Patient received PLEX and adjuvant risperidone to manage behavioral symptoms to which she had a robust response.

### Discussion

Drug-Dependent Factors	Clinical Factors
Drug plasma binding affinity	Duration and frequency of procedure
Drug volume of distribution	Timing of drug dose relative to procedure
Multicompartmental kinetics and equilibration rate	Altered pharmacokinetics (overdose)
Drug half-life	Replacement fluid (albumin vs ffp)
Drug clearance rate	Nutritional status and organ function
Molecular weight	Clinical Stability (PLEX slowed by hypotension, for example)
Hydro- and lipo-philic/phobic properties of active molecule	Other treatments (gastric lavage, urine alkalinization, etc)

Figure 1. Factors Influencing the Effects of Therapeutic Plasma Exchange on Medication Levels (Cheng 2017)

- PLEX is an effective LE treatment as it eliminates offending antibodies
- Drugs like neuroleptics have high plasma protein binding affinity and are vulnerable to removal via PLEX
- Many factors influence the effect of PLEX on medication levels (table 1)
- Antipsychotics in general are highly protein bound, most >90%. Risperidone is commonly available and only 77% protein-bound (table 2)

### Conclusion

- We describe the effective use of Risperidone therapy to treat mood and psychotic symptoms in a patient undergoing PLEX for LE. This agent was chosen as it is one of the least protein-bound antipsychotics and therefore least likely to be impacted by PLEX therapy.

### References

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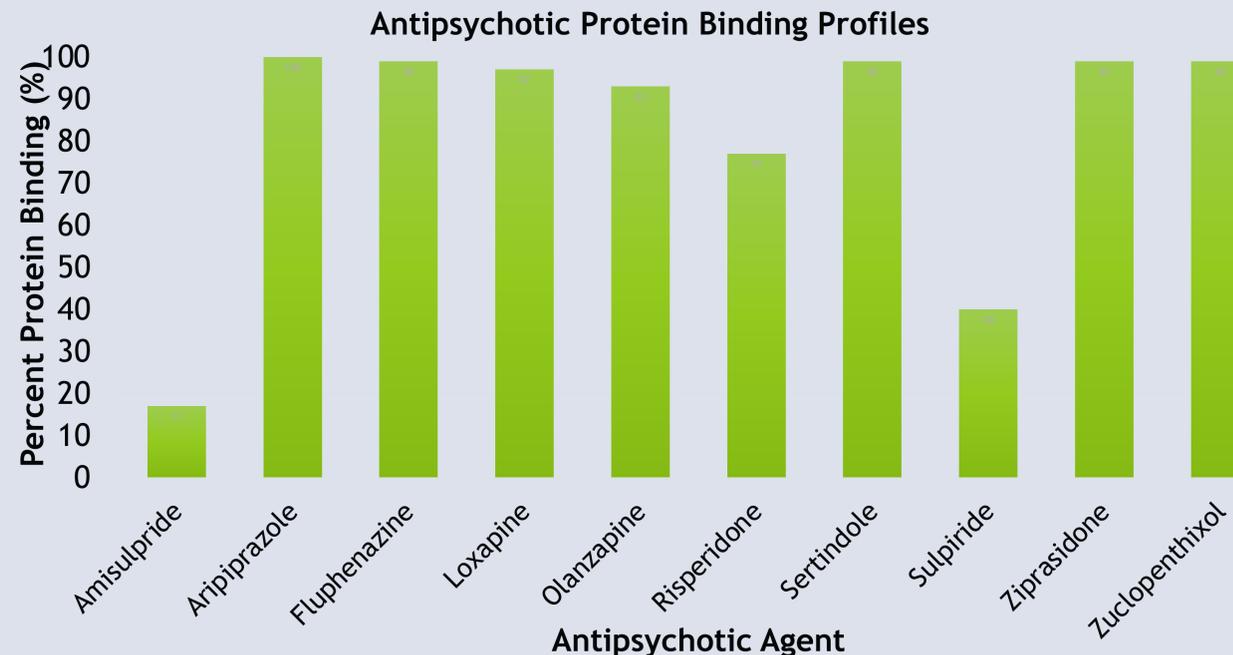


Figure 2. Antipsychotic Protein Binding Profiles (Beric, 2017)