



Monotherapy for Multiple Autoimmune diseases: The novel use of Ofatumumab for concurrent Multiple Sclerosis and Autoimmune Hepatitis

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Background

- Autoimmune hepatitis (AIH) is a rare acute or chronic inflammatory liver disease.^{1,2}
- Treatment for AIH typically involves a prolonged course of steroids +/- azathioprine.³
- Azathioprine was historically used to treat MS with similar efficacy to platform injectables but is less effective than newer disease-modifying therapies (DMTs).⁴
- Several studies have suggested that AIH has a significant B-cell mediated component, contrary to current dogma.³
- Multiple sclerosis (MS) also has a significant B-cell component as evidenced by multiple anti-CD20 therapies approved for treatment of MS.^{2,3}
- Ofatumumab, an anti-CD20 monoclonal antibody approved for treatment for relapsing-remitting MS (RRMS), is a highly effective treatment for RRMS that may also have benefit in treating AIH.¹

Case

- 49 year-old female presented with symptoms and MRI findings consistent with RRMS (figure 1)
- Routine labs on presentation showed ALT/AST in the 600-800s range.
- Liver biopsy showed early AIH with evidence of centrilobular inflammation. Figure 2a shows central vein surrounded by lymphocytic inflammation. There was also evidence of focal interface hepatitis as in figure 2b
- The patient was treated with ofatumumab and a short course of budesonide.
- The patient's liver associated enzymes returned to normal within 12 weeks.
- Patient has had no further clinical or imaging findings suggestive of either MS or AIH, now 14 months later.

Radiological Images

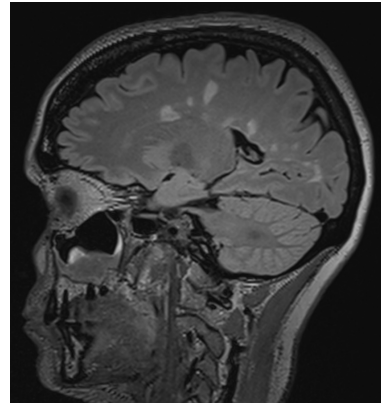


Figure 1. (Sagittal FLAIR)

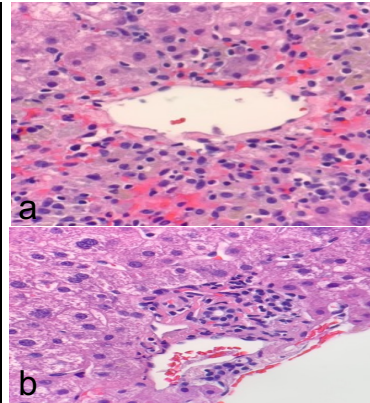


Figure 2. Liver Biopsy

Discussion

- While AIH was previously thought to be primarily T-cell mediated, this case suggests a significant B-cell driven process.
- Prolonged courses of steroids +/- azathioprine may be avoided if these results can be replicated.
- Ofatumumab, an anti-CD20 monoclonal antibody approved for treatment for relapsing-remitting MS (RRMS) could be used for MS overlapping with AIH

Conclusions

- This is the first reported case of cotreatment of AIH and RRMS with ofatumumab and highlights the B-cell mediated component of both autoimmune diseases.

References

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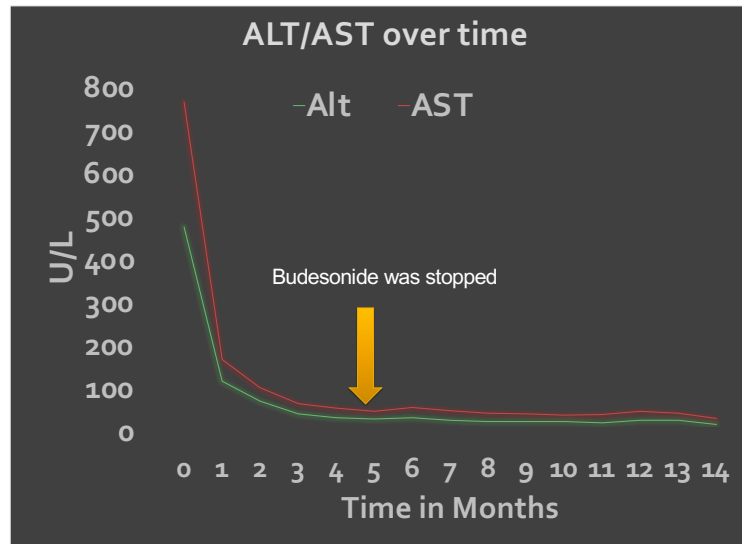


Figure 3. Timeline