EXPERIENCE WITH STAPHYLOCOCCAL PROTEIN A IMMUNOADSORPTION COMBINED WITH RITUXIMAB IN THE TREATMENT OF SEVERE RHEUMATOID ARTHRITIS

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Background: Staphylococcal protein A (SpA) Immunoadsorption (IA) was first used in the treatment of rheumatoid arthritis (RA) in 1994 [1] and was approved for the treatment of severe RA in 1999. The mode of action of SpA IA in the treatment of RA is not known, but it is most likely immunomodulatory given that it has been safely combined with multiple potent immunosuppressants in the treatment of renal transplant rejection [2] and other autoimmune diseases in addition to RA. Also, it has been postulated that leeching of SpA from the SpA columns contribute to the therapeutic benefit of SpA IA [3]. A significant portion of patients in a typical rheumatology practice have ongoing moderate to high disease activity on multiple medications, including biologics. The potential to add an effective, non-immunosuppressive agent to regimens would be attractive.

Objectives: To determine the safety and possible benefits of SpA IA combined with Rituximab in the treatment of RA.

Methods: Using standard care and treatment practices, seven patients with active refractory RA were chosen for treatment. The intent was to perform SpA IA once a week for twelve weeks, followed two weeks later by two Rituximab 1 gm infusions two weeks apart. IA was facilitated by the use of a filtration cell separator (Fresenius) and SpA columns (Fresenius).
Standard safety laboratories and measures were obtained as dictated by the medications the patient was taking. The ACR disease activity response measures, and the DAS28-CRP were performed on all patients at the start of treatment, and then again nine months later.

Results: Six patients received all twelve weekly IA's whereas one patient received only nine IA's because of lack of venous access. One patient developed severe hypotension on her ninth IA which rapidly responded to cessation of the therapy and volume expansion. The patient successfully underwent three more weekly IA's without any difficulty. Otherwise, there were no significant laboratory abnormalities, infections, or other serious toxicities.
All seven patients showed responses by ACR criteria with one patient reaching an ACR20 response, two patients an ACR50 response, and four patients an ACR70 response. The DAS28-CRP at the start of treatment was 5.65 (0.90) and 2.89 (1.24) nine months later.

Conclusions:
- The combination of SpA IA with Rituximab in the treatment of severe RA was safe.
- All seven patients showed a clinical response by ACR criteria nine months after starting therapy.
- The combination of SpA based therapy with Rituximab and other biologics used in the treatment of RA is worthy of further study.

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