Autoimmune Dysfunction and Subsequent Renal Insufficiency in a Collegiate Female Athlete: A Case Study

Background: We present the case of a 21 year old female college basketball player who was presented to a rheumatologist, urologist, and nephrologist after complaining of visual disturbances, extreme fatigue, and upper bilateral flank pain. Upon consultation by each physician, the medical staff diagnosed her with an unusual autoimmune disorder called Wegener’s granulomatosis and IgA kidney disease. Symptoms began at 19 years of age, including severe, stabbing eye pain, and bilateral flank pain of unknown origin. At the age of 20, during routine tests for preseason physicals, protein levels in her urine were markedly elevated (greater than 3g/ml), necessitating an immediate biopsy of her kidney tissue. Results from the kidney biopsy showed IgA kidney disease, another autoimmune disorder causing her renal insufficiency, in addition to the Wegener’s granulomatosis. Differential Diagnosis: sinus infection, scleritis, lymphomatoid granulomatosis, Churg-Strauss Syndrome, lupus, general granulomatosis infections due to viral or bacterial infection Treatment: Initial assessment revealed all symptoms consistent with Wegener’s disease in the eyes including intense pain and a bloodshot appearance. Her corneas were examined by a cornea specialist who then prescribed various medications until relief of symptoms was found with the steroid prednisone. When prednisone dosages were reduced, her symptoms returned. Further tests were conducted revealing ANCA, a protein associated with Wegener’s, thus confirming the original diagnosis. The following year, routine tests showed abnormal protein levels in her kidneys warranting a biopsy. Biopsy results of her kidneys revealed renal insufficiency and she was formally diagnosed with IgA kidney disease. The athlete has been under the care of an ophthalmologist who specializes in Wegener’s and was seen every two months. In addition to the ophthalmologist, a nephrologist was consulted every four months for her IgA kidney disease and she saw a rheumatologist every six weeks to monitor her medication dosages at the time of this case report. Uniqueness: This athlete presented two rare autoimmune disorders in an early stage in her life. The various medications left this athlete fatigued on a daily basis and she was placed on three immunosuppressant drugs, which left her open to various other medical issues, such as opportunistic infections. Despite these challenges, the athlete was able to successfully compete at the college Division I level. Additionally, this athlete had no family history of renal disease, respiratory or autoimmune disorders, which is strongly linked to genetics. She also presented some of the more rare symptoms for this particular diagnosis. Conclusions: The athlete presented with severe eye pain which lead to a diagnosis Wegener’s granulomatosis, an autoimmune disease. Within a year post diagnosis, the athlete was undergoing routine tests with a rheumatologist and was found to have abnormal protein in her urine suggesting renal insufficiency. This lead to a kidney biopsy and a diagnosis of IgA kidney disease. The athlete showed signs of improvement in over two years of medications and treatments. At the time of the study, the athlete was decreasing in prednisone dosage which was the main immunosuppressant, and has continued to compete at a high level of competition. Word Count: 500.