STAYING AFLOAT THROUGH COMPETITIVE SWIMMING: A COLLEGIATE ATHLETE WITH CF
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Background: A 20-year-old female collegiate swimmer was diagnosed failure to thrive at birth. At 2 months old, doctors performed a sweat test where the results confirmed an excess of salt in her system, indicative of Cystic Fibrosis (CF). Doctors determined her life expectancy was approximately 12-years-old. Genetic testing determined that she carries 2 genetic mutations, Phe508del and the second one is currently unknown, but only 60 other people with CF have this second mutation. Due to her B. Cepacia infection, she was placed on the lung transplant list as of April 10, 2015 (along with 463 other people). Differential Diagnosis: Bronchiolitis, Celiac Disease, Sinusitis, Aspergiliosis, Bronchiectasis, Ciliary Dyskinesia. Treatment: This athlete’s daily routine consists of utilizing a vibrating vest (2x a day), a nebulizer (as needed), and a daily dose of six inhalants, seven oral pills, and a nasal spray. These medications are all necessary to control the symptoms she suffers from CF. Every few months she is hospitalized for complications due to the disease (e.g., pancreatic deterioration, lungs collapsing, sinusitis, fatty liver disease). To combat these traumatic incidences, she has standard bi-weekly hospital visits, which include x-rays, blood tests, and ultrasounds of her pancreas and gallbladder are necessary to determine if her health is declining or stable. On May 11th 2016, she underwent surgery to remove the rest of her gallbladder, a part of her liver, and a part of her sinuses because they weren’t functioning properly due to deterioration as a result of her CF. She underwent surgery a few days later because of complications (a fever of 106.3º F and decreasing oxygen levels). Uniqueness: This case exemplifies that an athlete with a rare, life-threatening, genetic condition is still able to competitively swim at a National Collegiate Athletic Association (NCAA) Division II institution. Four of the inhalants used to manage her CF are banned as controlled substances (e.g., beta-2 agonists) by the NCAA; however, with proper paperwork, the bans are lifted. After having difficulty breathing from a left pneumothorax and her right lung due to mucus accumulating from the flu last year, she still managed to swim at the Pennsylvania State Athletic Conference finals three days later. CF renders its individuals too weak to participate in sports, even at the recreational level. However, this athlete not only swims, but also competes at the NCAA Division II level with her condition, further adding to the uniqueness of this case. Conclusion: Aggressive genetic disorders, like CF, causes those afflicted unable to breathe efficiently due to a constant secretion of thick mucus lining the lungs as well as harmfully affecting other organs, like the heart, pancreas, and liver. Throughout their lifetime, CF diminishes their life quality and expectancy tremendously. Sport participation has prolonged this athlete’s life by supporting her lung function and endurance; however, doing so has also aggravated other organs (e.g., her heart tissue has diminished in function). By furthering our scope and understanding of chronic, life-threatening conditions, like CF, athletic trainers and related health professionals will be able to improve the life quality and expectancy of those afflicted with this catastrophic disorder by supporting them through an active lifestyle. Relevant Evidence: There are only 2,000 mutations reported, many whose genetic effects are unknown; each variant predisposes those individuals with their own unique complications, comorbidities, and life expectancies of CF. To be active with CF is very rare and to be an athlete with CF is extremely rare; this case advocates that it could be beneficial to the patient with the proper education, exercise routine, and treatment protocol in place.

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