

Endourology Society Summer Student Scholarship Project 2022 - Report

The effects of long term use of Whey Protein on
nephrolithiasis risk

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Introduction:

The aim of the project is to study the effects of long term use of high doses of Whey Protein on nephrolithiasis risk.

Updates on the project:

- We presented our project to the Hospital Universitário de São Paulo, and we were able to get the consent letter for the project from the Departments of Surgery, Internal Medicine, Clinical Laboratory, Nutrition and Radiology.
- I gathered and studied several articles:
 - The benefits of using Whey Protein¹
 - The deleterious effects on the kidney² and liver³ that can be caused by abusive and chronic use of protein supplements
 - The reference dose of the protein intake for adults⁴ and athletes⁵
 - Whey Protein as the most used protein supplement among athletes to increase protein intake^{6,7}
 - Doses (above 40g/day) of Whey Protein related to adverse effects on the organism⁸
 - Studies on humans and animals demonstrating that high-protein diets are associated with renal alterations^{9,10}
 - Low urinary pH, hypocitraturia and hypercalcemia as risk factors for renal calculi^{11,12}
 - Renal calculi prevalence^{13,14,15}
 - An obstructing kidney stone as a urological emergency¹⁶
 - Annual costs related to the treatment of patients with kidney stones (almost \$2.1 billion in the USA)¹⁷
 - With the population growth, along with the rising prevalence of obesity and diabetes, an expected increase of \$1,24 billion/yr in the cost of kidney stones by the year of 2030¹⁸
- We are in the process of gathering all the participants we need to the study (120 participants) and I am still involved in this phase of the project

- We were able to contact the president of the SPFF (São Paulo fitness and bodybuilding), that are helping us to gather patients to the study
- We worked in a database containing the information of the participants, such as nutritional, clinical, laboratorial and radiological data

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