Effect Of Albumin On Anti-coagulation With Warfarin: Is it just a Theory?

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Introduction: Warfarin is a protein-bound drug. Thus, it has been a concern that hypoalbuminemia could cause over-anticoagulation in these patients. We studied patients on warfarin to look for an association between the number of readmissions with supratherapeutic INR and their baseline albumin level.

Methods: This is a retrospective cross-sectional study which recruited patients from a community hospital who were on warfarin for atrial fibrillation and were admitted with the primary diagnosis of supratherapeutic INR from June 2017 to June 2018. Electronic medical records were reviewed to access data on patient demographics, co-morbidities, re-admissions with supratherapeutic INR, albumin levels at baseline and in every re-admission. Linear regression and student T-Test was used to assess the association between albumin and readmissions with supratherapeutic INR. Multiple linear regression analysis was employed to assess for the effect of other co-morbidities.

Result: 290 patients had multiple admissions with supratherapeutic INR. Mean age was 67.8 ±16.4 years with 44% (128) males and 55% (162) females. On linear regression analysis, there was no association between the number of re-admissions and their baseline albumin (p-value > 0.01). A students t-test was used to compare the mean number of readmissions between the normal albumin group and low albumin group. The mean number of readmissions were similar in 2 groups that are patient's with normal albumin and patients with low albumin.

Conclusion: We did not find any correlation between the number of readmissions with supratherapeutic INR and baseline albumin level. It appears that the effect of albumin on warfarin is more of a theoretical concept than a practical finding. Further studies are needed to solidify our findings.