Validation of a Patient-Completed Caprini Risk Assessment Tool

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Introduction

- Individual risk assessment for Venous Thromboembolism (VTE) using the Caprini Risk Score (CRS) coupled with targeted prophylaxis based on the score is effective in reducing the post-operative VTE.
- Implementation of the CRS has lowered postoperative VTE incidence. The 9th American College of Chest Physician (ACCP) guidelines, recommend the use of the CRS for risk stratification in non-orthopedic surgical patients.
- Critics contend that the tool is time-consuming for healthcare providers.

Aim

- To compare scores calculated by a patient to scores in the same patient calculated by a blinded physician.

Methods

- A focus group was held with family members and patients to determine areas of misunderstanding in the original CRS.
- Based on these interviews a patient-friendly form was created and completed by hospitalized patients.
- A CRS trained, blinded physician scored 20 patients during the pilot study.
- Patients found it challenging to calculate BMI, which we excluded from the final Patient-CRS form due to low agreement in interim analysis.
- The study was approved by our local Institutional Review Board.
- We calculated the sample size to be 37 assuming power of 80% and an alpha of 0.05. We calculated the individuals’ questions and categorized scores using SPSS version 23 to estimate Kappa, linear correlation and Bland Altman test.
- A kappa value from 0.61 to 0.79 was defined as “substantial agreement” and values over 0.8 as “almost perfect” excellent agreement.

Results

- We recruited 42 patients (average age (55yo), female (45%), less than college education (62%)) who completed the CRS form.
- There was almost perfect agreement both for individual questions and for the overall score comparing physician and patient results.
- We report a high correlation (r=0.97).
- The Bland Altman did not show any trend for extreme values.

Conclusion

- We created and validated a self-reported CRS form to assess peri-operative thrombotic risk.
- The new version has an almost perfect agreement between patient and physician completed scores except for BMI.
- Based on these results, the physician only needs to calculate the BMI.
- Completing the form was not time-consuming.

Tables and Figures

Correlation for Patient CRS

![Figure 1. Spearman's correlation](image1)

Bland Altman for Patient CRS

![Figure 2. Bland Altman](image2)

References