Title: MODIFIED FRAILTY INDEX ASSOCIATED WITH CLAVIEN-DINDO IV COMPLICATIONS IN ROBOT-ASSISTED RADICAL PROSTATECTOMIES: A RETROSPECTIVE STUDY

Authors: Isaiah Levy(); Mark Finkelstein(); Khawaja Bilal(); Michael Palese()

Abstract Body:

Background/ Rationale
Elderly patients over the age of 65 comprise over 40% of all surgical patients in the United States. The prevalence of frailty in these elderly patients is higher (25.5 to 56.1%) compared to non-operative counterparts (6.9%). Frailty has been shown to be predictive of worse outcomes for prostatectomies; however it is not known whether frailty is associated with complications and mortality in patients undergoing robot-assisted radical prostatectomies (RARP).

Hypothesis or research question
Does patient frailty as measured by a modified frailty index (mFI) predict adverse outcomes including Clavien-Dindo IV (CDIV) (intensive care unit-level) complications and 30-day mortality for RARP patients?

Specific Aims of the Study
To determine the effect of frailty on patient outcomes including Clavien-Dindo IV (CDIV) (intensive care unit-level) complications and 30-day mortality for RARP patients in comparison to other predictive indices using the modified frailty index (mFI).

Study Design/ Methods
Patients undergoing RARP from 2008 to 2014 were queried using the ACS-NSQIP database. The mFI was developed using the Canadian Study of Health and Aging Frailty Index as a model. The mFI was compared with other associative indices such as the American Society of Anesthesiology (ASA) classification and the Charlson Comorbidity Index (CCI). Rates of CDIV complications and 30-day mortality were analyzed based on mFI score using SAS version 9.22.

Results
23,883 patients undergoing RARP were queried. RARP patients with the highest frailty score (≥3) had an adjusted odds for CDIV complications of 8.61 (CI: 2.50-29.59, $P < 0.001$) in comparison with non-frail RARP patients. These odds were higher than the ASA and CCI. Additionally, a variable combining mFI and ASA had fair sensitivity and specificity for predicting 30-day mortality in RARP patients (C-statistic = 0.71, $P < 0.0001$).

Conclusions/ Future Plans
Increasing mFI scores are associated with worsening outcomes for patients undergoing RARP. A combined mFI and ASA variable can be used to predict 30-day mortality for RARP patients better than mFI or ASA alone. Prospective studies are still needed in order to fully grasp the effect that frailty can have on the outcomes of RARP procedures.