



Patterns of readmission among the elderly after hepatopancreatobiliary surgery[☆]



DR. SCOTT R. STEELE (Cleveland, Ohio): I'd like to thank the authors for the opportunity to review this manuscript evaluating the patterns of readmission after hepatobiliary surgery in elderly patients. Despite the fact that I'm a former Badger, I would like to congratulate The Ohio State University on their attempt to shed light on certain dogma in surgery, including the effective age, as you say, physiological age versus actual age, on complex operations that we think are typically associated with higher morbidity.

As stated by the author's, age alone, specifically older age in the absence of comorbidities is not only associated with improved outcomes but, in many cases, can be protective. In addition, while the authors found that by 90 days postoperatively one in four patients require readmission, another way of looking at this is that three in four patients did not, even despite the fact that you had older age, multiple comorbidities and undergoing complex surgery.

So the question here is why the difference and what can we do about it?

So a few questions for the authors. First of all, what was your hypothesis in this? Was it something that jumped out to you, that surprised you? I assume that you thought that older age, in and itself, would be associated with a higher readmission rate. Second, why did you divide the cohort into the groups that you did? At some stage, age must come into play for outcomes and yet you decided to say greater than 60 and then all the way up to 74 and then went to 75 or older. Would there be a difference if you broke down your numbers into different groups? Your stratification, for example, was greater than 75 or 75 versus 85 or greater than 85.

Third, you talk about the number of comorbidities, but we all know that somebody who has one type of comorbidity might be different than another type of comorbidity. So, for example, is COPD different from somebody who has chronic renal insufficiency or versus anemia or coronary artery disease? Several papers have looked at different risk factors for surgery and found independently each of those being prognosticative for poor outcomes. So were you able to find out any variability determining the individual comorbidities themselves? And then were you able to – I didn't see this in the paper – but were you able to take a look at the initial hospital stay and how they did with that? A lot of times it's that initial hospital stay can predict their outcomes in terms of their readmission rate and how did those two factor in?

DR. PAREDES: So for the first question, our hypothesis was that age was not going to be associated with readmission pattern. In regards to how we decided to break up the group, as we did the cohort, what we did was, we had our initial review of the database.

We had separated the group out in different age categories, including those that were older than 85. But for the sake of the manuscript and the analysis, there weren't many patients that met that category. And so in order to be able to run this and be able to perform statistical analysis, we separated based on these groups.

In regards to the influence of certain comorbidities, you are completely correct, there's a difference in regards to someone who has diabetes versus someone who has COPD that is poorly controlled and is on oxygen. When the diagnosis related group measured how the mortality risk was determined, it takes into account how their comorbidities were managed. But you're right, we didn't perform a multivariable analysis of each of the comorbidities and the extent of how each of these comorbidities were controlled to determine which comorbidity was driving the readmission rate. Further analysis and further research prospectively would be best to figure out what is it that these patients have and how is it that these comorbidities together influence the patient-hospital pattern. And, unfortunately, a limitation of the readmissions database is that we don't have that information as to the index hospitalization regards to how long was the operation, what complications exactly were encountered, was there something that occurred there. And that's where further institutional data or prospective data would be able to be most beneficial.

DR. MARGO SHOUP (Warrenville, Illinois): This is a great paper. I think it kind of solidifies what most of us probably already felt was going to be true in the first place. And I'm curious, though, in your own institution, have you taken this data to make any changes? Because I think a 25% readmission rate for complex HPB surgery is not unusual in this country, but I think the challenge is for us to try to figure out a way to decrease that. And what we have done at our own organization is to stratify patients preoperatively based on what we think the risk is for a postop readmission. And age is one of those factors, not speaking English is one, diabetes is one. And we're sure that our nurse practitioners see those patients either the day after they go home or two days after they go home and you'll be surprised how many times they just need IV fluids or they just need to be encouraged to take some stool softeners. It keeps them out of the ER. We've actually reduced our readmissions by more than half by just doing that. So I'm just wondering if you put anything together at Ohio State to see if there's something you can do to reduce your readmission and I'd be curious to see if that's something you can present to us at some point if you have.

DR. PAREDES: So I think what this study highlights is the fact, like you were saying, is that each individual, especially elderly patients, is completely different. And it takes into account, you have to understand your patient and know their comorbidities that they have, what their functional status is at baseline, and it relies a lot on

[☆] Presentation given by Anghela Z. Paredes, M.D.

the experience of the provider and knowing how their patients typically do.

We do have nurse practitioners that work with our patients to help facilitate conversations post discharge. As to exactly what is the best way to handle the post discharge period and facilitating their transition from home – from the hospital to home is not necessarily known. Should these patients that are maybe deconditioned be going to a skilled nursing facility? Does a skilled nursing facility provide any benefit to the patient versus them just going home? And I think those questions still are unanswered.

DR. SUKAMAL SAHA (Flint, Michigan): Thank you for your data, because this kind of advice really would guide us in the future trend with how somebody who does a lot of pancreas operations could guide the discharge planning. And do you find any difference in the people who went to home from the hospital versus to a nursing home or an extended care facility? Because at least I find in my practice that based on the care facility, patients come back more often than the patients who are sent home, for various reasons, you know. And the two comorbidities, at least we look that very seriously at the advice of Dr. Cameron from Johns Hopkins, is the diabetes controlled and the pulmonary functions. Those two, I think, bring in the most coming back to the hospital. So would you have any comments?

DR. PAREDES: So exactly what you alluded to is where some of our future projects are directed to as to who are the patients going to skilled nursing facilities. Does it benefit a patient to go to a skilled nursing facility? What benefit do they get? Because you're right, anecdotally some providers are seeing that people that get discharged to facilities may not necessarily be better off than someone who's going home and having home health services or have a support system. But then the question comes, what support do they

need, what services need to be there so that these individuals are having better outcomes and not necessarily hurting themselves?

DR. SAHA: Did you find a particular –

DR. PAREDES: Oh, I'm sorry. No, not in this study. So in this paper, we were able to see how many people were being discharged to a skilled nursing facility or home or a different form of a facility, but we did not specifically do further analysis on those patients that were discharged to a facility and to see what characteristics those individuals had with this database.

DR. FRED A. LUCHETTE (Maywood, Illinois): Dr. Paredes, very nice presentation, and your handling of the questions is extraordinary. Thank you for your preparation for this presentation.

You know, the American population is aging, the fastest growing segment of our population. And with that, the incidence of cancers goes up. So I think your paper is very timely and it brings on an important point. I was struck with the mortality rate and the effective age on mortality. So we talk about specific comorbidities, but there's some simple tools called the Frailty Index, and most of the surgeons know that patient selection is so critical on your outcomes. So are you going to go back to The Ohio State University and use the Frailty Index to help your colleagues select patients better to undergo these hepatobiliary procedures?

DR. PAREDES: The Frailty Index, there's various, what's also not congruent across different papers that even discuss frailty and the impact of frailty, is what scale to use. There's a modified Frailty Index. Different institutions have different measures of this, and it's how do you figure out which – how do we centralize which index to use, which measures to use and which measures are most important? And I think it needs to be done and hopefully future research from our institution will be able to highlight that.