Discussion to: Hospital characteristics associated with failure to rescue in cardiac surgery

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PII: S2666-2736(23)00355-8
DOI: https://doi.org/10.1016/j.xjon.2023.11.004
Reference: XJON 955

To appear in: JTCVS Open

Received Date: 8 November 2023
Accepted Date: 8 November 2023

Please cite this article as: Escalante GO, Whitman GJR, Discussion to: Hospital characteristics associated with failure to rescue in cardiac surgery, JTCVS Open (2023), doi: https://doi.org/10.1016/j.xjon.2023.11.004.

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2023 AATS Annual Meeting

Discussion to: Hospital characteristics associated with failure to rescue in cardiac surgery

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Disclosures:

Dr. Whitman is a consultant for Avania/Cellphire.
Dr. Glenn J.R. Whitman (Baltimore, MD):

Gabriela, that wasn’t just a good presentation, that was a spectacular presentation. You hit out of the park.

Ms. Gabriela O. Escalante (New York, NY):

Thank you.

Dr. Whitman:

Your presentation and your treatment of failure-to-rescue was so fascinating that I almost didn’t know where to begin, but it didn’t stop me. Some issues immediately come to mind. I know we don’t have expected failure-to-rescue rates yet, but the complication data and the mortality data that you presented wasn’t clear to me whether you normalize that for expected. Did you?

Ms. Escalante:

Thank you for the question. As you said, the failure-to-rescue rates were not normalized. They were the raw rates. And the reason that they’re the raw rates is because the complication data and the mortality data was the raw data directly from the STS Adult Cardiac Surgery Database (ACSD). Had we been trying to rank or compare hospitals, I think it would have been very important to normalize or risk-adjust. But our main goal was to find which hospital factors were associated with failure-to-rescue, so we did not risk-adjust them. We actually did risk-adjust in the final analysis when we were looking at hospital processes of care -- which ones were associated with failure-to-rescue, and we did normalize those at the end.

Dr. Whitman:
I saw that cardiac anesthesia improved failure-to-rescue rates. This surprised me because why would a cardiac anesthesiologist care in the operating room have anything to do with a failure-to-rescue from a complication that occurs days later? Could you come up with an explanation?

Ms. Escalante:

Thank you for the question. I think cardiac anesthesiologists can act in a number of settings. Our study did not specifically look at where the cardiac anesthesiologists were, either in the OR or acting as intensivist in the ICU. But I imagine that cardiac anesthesiologists operating in either setting would be important for patients. And I think we know that the importance of anesthesia doesn’t end in the OR, it doesn’t end when the operation is done. There’s hemodynamic support and stability that needs to be done. And specifically for cardiac anesthesia, TEE has been shown to improve patient outcomes, obviously after the OR. So, I don’t know what exact mechanism could be -- how a cardiac anesthesiologist in the OR improves survival after, but there have been studies that have shown that this is, in fact, true. That would be an interesting future direction to look at.

Dr. Whitman:

Gabriela, my last question is as follows. There are a variety of factors that have been looked that regarding failure-to-rescue rates, and you looked at a number of them—twelve, I think. But some, in my opinion, you missed that should’ve been looked at. Closed versus open ICUs, multidisciplinary ICU rounds, and the use of formal checklists and bedside nurse readbacks during rounds. Those have all been shown to affect outcomes, and I would have thought data that you could get in your survey. Why did you not choose those to ask as well?

Ms. Escalante:

I agree with you. I think we would’ve loved to ask those questions as well. And definitely in a future study, we should think about asking them. Our main goal was to make sure that we got a 100% response and completion rate of the survey. And so, we could’ve made a survey that had 50-plus questions that was super thorough and had all of the possible hospital factors that we found in the literature. But the risk of having hospitals just not respond to the whole thing, we didn’t want to run that risk. So, we chose the twelve we were most eager to learn about now. And hopefully, this will inspire others to look at those factors that you just brought up. Or Dr. Kurlansky and I, we could think about a future project.
Dr. Whitman:

Well done, Gabriela.

Ms. Escalante:

Thank you.

Dr. Lars Svensson (Cleveland, OH):

Excellent study. Very well performed and analyzed. Obviously, you’re looking here at deaths after complications. As one would expect, there would be differences in hospitals. The one question I have, when we think about failure-to-rescue at the Cleveland Clinic, it’s about the patients who have cardiac arrest, and we fail to rescue them after the arrest. We have put together a process to try and prevent or predict when this is going to happen. So, we have what we call a CMU unit. We have a remote person monitoring our patients, usually six patients at a time. They have about a 98% success rate in predicting an arrest before the event by using various algorithms, mainly the EKG, but also oxygen saturation monitors, and they alert the nurse beforehand. That’s one part of it. The other question is, when a patient does arrest, what is the success of rescuing those patients? So, we run about a 40% success rate in getting cardiac rhythm back when somebody arrests, and about a third get discharged. Part of that process is we have a team called the Cardiac Medical Emergency Team (CMET), which is staffed by an anesthesiologist, a cardiologist, and a cardiothoracic resident. They always go whenever CMET is alerted for cardiac arrest. Any nurse in either ICU or the floors, can also just hit the button and say, I need CMET even if an arrest has not happened and bypass all the other potential things that slow down the response team. So, I was wondering if you’ve looked at the actual deaths and your success in recovering those patients?

Specifically, in the patients who died from complications, did you actually look at how many of them were resuscitated -- what was your success rate in resuscitating those patients? And what may have influenced that? And perhaps different hospitals had different outcomes.

Ms. Escalante:
Thank you for your excellent question, Dr. Svensson. We didn’t look at that in this study, but that is a very interesting future direction.

Dr. Svensson:

Okay. Thank you very much.

Ms. Escalante:

Thank you.