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Applying Guideline Recommendations to ACS Management

Dr. Jackson:

Welcome to *Heart Matters* on ReachMD. I'm Dr. Steve Jackson, and today I'm joined by Dr. Sunil Rao to discuss the 2025 American College of Cardiology and American Heart Association guideline on managing acute coronary syndromes, or ACS, and how that is influencing clinical decision-making. Not only is he the Chair of the Joint Committee on Clinical Practice Guidelines, but he's also a Professor of Medicine at the NYU Grossman School of Medicine and the Director of Interventional Cardiology at NYU Langone Health.

Dr. Rao, thanks so much for being here.

Dr. Rao:

Oh, it's my pleasure. Thanks for the opportunity.

Dr. Jackson:

To start us off, why is it so important to develop a single ACS guideline, and what do you think have been the most meaningful changes for clinicians who are caring for these patients?

Dr. Rao:

Yeah, thanks for that question. It's been quite a while since guidelines have been released for this particular clinical situation. And one of the changes is that we combined both non-ST-segment elevation MI and STEMI into one document. Previously, they were separate. I think the reason to do that really is that these are syndromes that are part of a spectrum or a continuum, and there are some treatment strategies that are common to both—so for example, antithrombotic therapy, early invasive risk stratification or cardiac catheterization, and revascularization. But then there are other significant differences in terms of how to manage mechanical complications, which are much more common in the STEMI population, and cardiogenic shock, which is much more common in the STEMI population. So there are some subtle differences, but at the end of the day, they both are part of the same continuum. So it was important for us to combine those two.

The other thing is that the pace of evidence generation in cardiology moves very quickly, and to go over a decade before having a new set of guidelines means that there's just so much that has changed in our body of evidence to guide our decisions at the bedside. So it really was a timely document to put out to make sure that clinicians have the latest and greatest evidence to guide their practice.

Dr. Jackson:

So if we take a closer look at this guideline, we see an emphasis on the earliest moments of care, from emergency medical services to emergency department evaluation. Which recommendations do you think are most improving outcomes during this critical window?

Dr. Rao:

I think part of the reason we focused on that early period is that we know from large epidemiological studies that the highest risk period for a patient with acute coronary syndrome is that first 48 hours when they present. So it's really important to implement therapies during that early phase to make sure that the outcomes can be improved.

So what's important in that early phase? Well, I think what's really important is for patients to recognize their symptoms, and we've gotten much smarter about the spectrum of symptoms that patients can have. Chest pain is still the most common symptom even in women, but women do have other symptoms that can be indicative of acute coronary syndrome that doesn't involve chest pain.

So early recognition by the patient and then rapid seeking of care is really important because, even in the non-ST-segment elevation MI population, we tend to think of time as muscle as kind of the rubric for STEMI. But we know that the patients with the non-ST-segment

elevation MI also are putting their myocardium at risk the longer they wait to get treated. So early recognition is important.

The second thing is early diagnosis, and by that, I mean when the EMS arrives at that patient who's having chest pain or symptoms that are indicative of ACS, it's important for those EMS personnel and the emergency department to quickly triage what kind of MI this patient is having. So if the patient is having a STEMI, then it's really important to focus on rapid reperfusion and that door to balloon time or that door to needle time. On the other hand, if the patient is having a non-ST-segment elevation MI and they're clinically stable, then it's really important to implement early antithrombotic therapy with antithrombin therapy and antiplatelet therapy and then make sure that that patient gets invasive risk stratification, usually prior to hospital discharge or within the first 24 hours.

Now, one thing I should mention is that the guidelines continue to use this traditional dichotomy of STEMI and non-STEMI. I think what's becoming more and more interesting these days is the application of artificial intelligence models to the EKGs so that that dichotomy may in fact someday go away and we'll be really looking at things like occlusive MI. The reason we didn't use that classification in the guidelines is that one of the ground rules of the guidelines is that we have to be faithful to the randomized trials, and the randomized trials use that STEMI, NSTEMI dichotomy, which is why we used it. But I think this is an area that's rapidly evolving.

Dr. Jackson:

Let's discuss some of the meds. How have the updates around antiplatelet therapy and lipid management influenced your practice?

Dr. Rao:

I think the biggest change with antiplatelet therapy is really not the early implementation of antiplatelet therapy because that's been part of the guidelines for a long time. We also recommend more potent agents like ticagrelor or prasugrel over clopidogrel; that's, again, not a change. What really is changing is the discharge antiplatelet therapy strategy.

There have been just a number of randomized trials looking at so-called de-escalation. So de-escalation is a dialing down of antiplatelet therapy potency in patients who may be at high risk for bleeding complications. So there are several ways to de-escalate. You can truncate the overall duration of dual antiplatelet therapy from the traditional Class 1 recommendation of 12 months to something shorter. You can go from a more potent agent like ticagrelor or prasugrel to clopidogrel, which is a less potent agent. Or you can just say, "Listen, I'm going to truncate the duration of dual antiplatelet therapy and then go to a monotherapy strategy with a single antiplatelet agent." And now I think the data are emerging that probably show monotherapy with a P2Y12 inhibitor rather than aspirin may be the way to go.

So it's a lot of different combinations that you can use. Two of these strategies get a Class 1 recommendation. The first is the traditional 12 months of dual antiplatelet therapy. So all things being equal, if the patient can tolerate it, we still recommend 12 months. Why? That's what the randomized trials really looked at.

Now, if you do want to de-escalate, there's one de-escalation strategy that gets a Class 1 recommendation, which is to go from an aspirin plus ticagrelor strategy for one to three months and then drop the aspirin and continue with ticagrelor for the duration. And that is the so-called TWILIGHT or GLOBAL LEADER strategy—large randomized trials looking at that strategy showing non-inferiority for thrombotic events and superiority for bleeding. And I think that's really influenced a lot of people's practice.

I think we are starting to see some truncation of antiplatelet therapy at the time of discharge in patients who may be at high risk for bleeding, whether they're on a DOAC. And I should mention another Class 1 recommendation is that if you're on oral anticoagulation for atrial fibrillation or a mechanical valve, the recommendation really is to drop the aspirin. That's a Class 1 recommendation, and continue with oral anticoagulation plus a P2Y12 inhibitor. Most of those trials use clopidogrel. So we're clearly seeing that in our practice, and I've certainly adopted that myself.

But in terms of lipid-lowering therapy, I think the key with lipid-lowering therapy is that these patients with acute coronary syndrome have already declared themselves as having cardiovascular disease, right? They're having an MI. So really the goal of lipid-lowering therapy is to get as low as possible, and I think aiming for that LDL of 55 or lower is very important. How you get there, there are different strategies you can use. Obviously, statin is first line. You can use a combination of statin and ezetimibe. You can use so-called non-statin alternatives like ezetimibe or PCSK9 inhibitors. But the goal really is to get the LDL as low as possible. And I think we're starting to see some more of that. It's probably not at the level that we really need to be, and I think those are areas for quality improvement efforts.

Dr. Jackson:

For those just tuning in, you're listening to *Heart Matters* on ReachMD. I'm Dr. Steve Jackson, and I'm speaking with Dr. Sunil Rao about the 2025 American College of Cardiology and American Heart Association Guideline on the management of acute coronary syndromes.

Dr. Rao, we also saw several procedural recommendations. How should clinicians use this guidance to navigate revascularization in

patients with ACS, especially when the optimal strategy is not clear?

Dr. Rao:

There are lots of procedural strategies that are mentioned in the guidelines. Some of the ones that I think have a strong body of evidence and are supported by randomized trials are, for example, the use of radial access, a radial artery in the wrist for patients with acute coronary syndrome.

Large randomized trials showing not only a reduction in bleeding but a reduction in mortality for patients with STEMI undergoing primary PCI. The other thing that I think is a little bit more straightforward is if you've got non-culprit significant coronary disease in addition to your culprit artery in a patient with ST-segment elevation MI, the recommendation is for those other non-culprit lesions to be treated. The trials really were in patients undergoing PCI, and that's based on the COMPLETE-2 trial that showed a reduction in ischemic events both short and long-term. And then unless the patient is in shock, so that's another recommendation that was a new recommendation taken from the revascularization guidelines. If the patient has multivessel disease but they're actively in cardiogenic shock, the recommendation is to treat the culprit artery only at that time. And then once the patient stabilizes, you can go back and address the bystander disease.

Now, where there is a little bit of gray area is really in the patient who has multivessel disease. And what we did was really adopt that revascularization guideline strategy, which is that if you've got a high SYNTAX score and very, very complex disease, even if you're having an acute coronary syndrome, bypass surgery really should be considered. Partnership with the surgeons and a heart team approach to fully evaluate the patient to make sure that the patient can actually tolerate and survive bypass surgery and rehabilitate afterward is important. And of course, it's always important to take into account the patient's wishes and their priorities. But for complex coronary disease, bypass surgery is recommended over PCI.

Dr. Jackson:

Could you speak a little bit more to complex high-risk situations like cardiogenic shock?

Dr. Rao:

Yeah, absolutely. One of the newer recommendations in the latest iteration of the guidelines is around mechanical circulatory support. So if you think about mechanical circulatory support, there are really three options. There's the intra-aortic balloon pump, there's the intravascular microaxial flow pump, and then there's VA ECMO. Two randomized trials, one with intra-aortic balloon pump and one with VA ECMO, both conducted in patients with acute MI-related cardiogenic shock were neutral. They showed no benefit of routine use of intra-aortic balloon pump or VA ECMO in those patients.

In contrast, the DanGer Shock trial that looked at the microaxial flow pump did show a benefit. And it's a fascinating study. It's relatively small. It took almost a decade to enroll, so a long time to enroll these patients. And these patients were randomized to get the device versus routine care. And what's important is that certain patients were excluded. So if you were persistently comatose, for example, you were excluded. That was not necessarily the case in these other trials. The strategy in the DanGer Shock trial resulted in a significant reduction in six-month mortality at the expense of higher bleeding, more vascular complications.

So the guidelines for the very first time give a mild recommendation of a Class 2a recommendation to the intravascular microaxial flow pump in selected patients with MI-related cardiogenic shock. And the key there is selected patients. These patients, again, were not persistently comatose. They had vessels that could accommodate the large-bore device. And I think what's important is when you do place the device to rapidly wean it and get it out of the patient's body so that they don't have those complications.

Because of the randomized trials conducted with balloon pump and VA ECMO, they still get a Class 3: No Benefit. But the wording, again, is very important. The wording says "routine use." And I think that selected use is still allowed, and I think all of us have had clinical experiences with selected patients who get a balloon pump or selected patients who get VA ECMO and they walk out of the hospital. So those important nuances are included in the guidelines, and it's important for clinicians to be aware of it.

Dr. Jackson:

Finally, Dr. Rao, the guideline adds some new clarification and direction on what happens after the acute event. So what impacts are you seeing on the secondary prevention approaches for these patients?

Dr. Rao:

Well, I think secondary prevention is probably the most important thing. I mean, in the guidelines we talk about the in-hospital care of these patients with acute coronary syndrome, but the most important thing we can do is keep patients out of the hospital and prevent the next event. So there are several recommendations in the guidelines for aggressive lipid-lowering therapy.

We talked a little bit about making sure that LDL is very well controlled, 55 or below. Flu vaccination gets a Class 1 recommendation.

There's a large randomized trial conducted in Sweden in patients who are post-MI who were randomized to get the flu vaccine versus not—lower rates of MACE with the flu vaccine, so that gets a Class 1 recommendation. And then probably one of the more important recommendations, which is Class 1, is referral to cardiac rehab. And I think that rates of cardiac rehab are still significantly underused in patients with acute MI and patients who undergo revascularization. So our hope is that with this Class 1 recommendation of cardiac rehabilitation, we will see an uptick in referral of patients because, again, cardiac rehabilitation not only improves exercise tolerance and helps patients get stronger, it has been shown to be associated with improved medication adherence, improved mental well-being. And so I think those recommendations are going to be very important.

Dr. Jackson:

And as those insights bring us to the end of our program, I want to thank my guest, Dr. Sunil Rao, for joining me to share how recent guidance on the management of acute coronary syndromes is impacting clinical practice.

Dr. Rao, it was a pleasure having you on the program.

Dr. Rao:

Thanks so much.