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www.reachmd.com
info@reachmd.com
(866) 423-7849

Adenoma Detection Rate: A Prediction of Colorectal Cancer

Dr. Buch:

Adenoma detection rate is an independent predictor for the risk of developing colorectal cancer, and therefore, improving ADR will result in fewer colon cancers.

This is ReachMD, *GI Insights*. I'm your host, Dr. Peter Buch. Today we're joined by Dr. Aasma Shaukat, who is the Robert M. and Mary H. Glickman Professor of Medicine at the New York University Grossman School of Medicine. She's also the lead author of "Interventions to Improve Adenoma Detection Rate for Colonoscopy," which was published in *Gastrointestinal Endoscopy* in August 2022.

Welcome to the program, Dr. Shaukat.

Dr. Shaukat:

Thank you so much, Peter. Thank you for having me. It's a pleasure.

Dr. Buch:

To start us off, Dr. Shaukat, can you give us some background on ADR? And how does it truly indicate quality?

Dr. Shaukat:

I'm so glad you asked. And based on the introduction you provided, adenoma detection rate is perhaps the most important quality indicator for colonoscopies. As you know, we do about 15 million colonoscopies in the US every year, and colonoscopy is highly operator-dependent, meaning the quality of the colonoscopy and how effective it will be in detecting and preventing colon cancer truly depends on who's doing it. So that begs the question: how do we measure the quality of the endoscopist? And that's where ADR has emerged as the most important quality indicators for colonoscopy.

Dr. Buch:

Thank you very much for that one. With that in mind, let's dive into some interventions to improve ADR. So, for instance, does lengthening withdrawal time beyond six minutes increase the detection of adenomas?

Dr. Shaukat:

The answer is absolutely yes. When we first started doing colonoscopy in this country, we didn't know much about how much time needs to be spent examining the lining of the colon. And it's not just the sheer amount of time that's important, but what we do with that time. And there are four important things that we emphasize should be done in that time: washing and suctioning; looking behind folds; doing a very, very segmental inspection and a timed withdrawal, such that we look at each segment of the colon; and give it the time that it deserves so that we're not missing any lesions that could be hiding behind folds or just difficult to see if we were to do our withdrawal very quickly.

Withdrawal time has emerged as an important quality indicator in two ways. One, it helps us improve our adenoma detection rate. We've done some studies where withdrawal time of longer than six minutes, particularly seven to eight minutes, seems to be the sweet spot which was associated with the lowest risk of developing a colon cancer in the three to five years after the colonoscopy, and physicians with withdrawal times lower than six minutes had a much, much higher risk of having an interval cancer or a post-colonoscopy cancer appear in their patient over the next five years. So we think it's a very important indicator because it helps us improve our ADR, but it seems to have some independent effect beyond improving the ADR also and essentially makes us more effective endoscopists. So I would say focusing on withdrawal time is perhaps one of the most important things we can do, and it fairly

requires minimal effort and minimal investment to do so.

Dr. Buch:

So, do you have any statistics if we increase the withdrawal time from six minutes to eight minutes or more, how many more polyps we can detect?

Dr. Shaukat:

Yeah. So, this has been looked at in studies, and by improving our ADR, but also ensuring that the withdrawal time is eight minutes or longer, we can improve our ADR by about almost 8 to 10 percentage points, and that's a very big incremental gain for the amount of effort, energy, that we spend doing so. So I would say it's one of the most effective ways to improve our ADR.

Dr. Buch:

Thank you very much for that useful information. And if we look at another intervention, can a second forward look at the right side of the colon also increase adenoma detection?

Dr. Shaukat:

The answer is yes, it can, absolutely. Through a lot of research, we've now realized that we tend to miss a lot of polyps and advanced adenomas, particularly on the right side of the colon, also known as the proximal colon, and that's because the right side of the colon tends to be a little more challenging. There is sometimes some mucous covering these polyps, the prep tends to be somewhat less optimal on the right side, and just the patient positioning and being able to expose all the folds is a little more impaired on the right side and hence, no surprise, that we've now learned that we miss more things on the right side such that some studies have demonstrated that colonoscopy is not protective for right-sided colon cancer.

To mitigate that, it's really important to do a second look in the right colon. And the way it's done is first completing the exam, going all the way to the cecum and then pulling back as we normally would all the way back to the hepatic flexure, but then, instead of continuing to withdraw, doing a second look and going back into the cecum a second time. And it's amazing how many more things we see on that second look that we just didn't see on the first look, so that back and forth improves our ability to detect adenomas. And again, improvement from multiple studies is between 5 percentage points all the way up to 9 percentage points.

Dr. Buch:

For those just tuning in, you're listening to *GI Insights* on ReachMD. I'm Dr. Peter Buch, and I'm speaking with Dr. Aasma Shaukat about improving adenoma detection rates in colonoscopy.

Now let's look at some of the technology at play here. Dr. Shaukat how do distal attachment devices compare to standard colonoscopy when we're looking to improve our ADR?

Dr. Shaukat:

Distal attachment devices are a fairly low-cost investment, and the idea is they go at the tip of the colonoscope and really help us, as we're withdrawing in particular, by opening up folds, flattening folds, exposing more mucosa that we wouldn't see otherwise and hence allowing us to detect more adenomas. There are several distal attachment devices, and we review some of them in our paper. They pretty much do the same thing is the bottom line, and whether it's the EndoRing or the ENDOCUFF, what they do is very similar in terms of improving adenoma detection, and it's a bit of a dealer's choice which ones an endoscopist may prefer; again, improving adenoma detection by about 5 to 8 percentage points. So we really encourage colonoscopists to think about and at least try a distal attachment device and see if it enhances their ability to distend folds, see more adenomas and truly helps their practice.

Dr. Buch:

For endoscopy units that don't have the capacity to compile ADRs, are there any reasonable alternatives?

Dr. Shaukat:

So, for endoscopy units, the toughest part is building that capacity and ability to measure ADRs because, as you know, it requires us to pull data from the colonoscopy note about polyps removed but then also from the pathology or the histology note that they were adenomas, put the two together and then calculate this ADR, so it can be cumbersome. And right now we don't have a universal-grade solution. However, there are automated solutions through certain EndoWriters, and these are essentially programs that help us write a very succinct endoscopy report; they have templated fields. And in these EndoWriters, there's provision to link the histology back to the procedure note. And then, with a click of a button, it can calculate all these metrics that are very important. However, not all healthcare systems or practices may have access to that, so I would say work with your electronic health record administrators and see what tools you might have or ways to automate calculation of ADR.

Dr. Buch:

And that leads to the additional question: What do you feel about just a polyp detection rate as opposed to an ADR in small hospital systems that absolutely can't afford to put the information together?

Dr. Shaukat:

Absolutely. Polyp detection rate tracks very closely to the adenoma detection rate. In fact, there's recent studies showing that polyp detection rate is also associated with risk of interval cancer in the period after the colonoscopy such that an adenoma detection rate of 25 percent tracks with a polyp detection rate of 46 percent. So, in a pinch, the polyp detection rate can be used as a quality indicator and as a surrogate for an ADR. However, the limitation of these studies is it's always easier to look at the data retrospectively. And what gives us pause is if we recommend a polyp detection rate to be measured, there's possibility that it can be gamed, and that's because there's certain very small, very clearly hyperplastic, non-worrisome polyps in the rectum, for instance, so it is conceivable that an endoscopist, just to get their polyp detection rate up or inflated, could go after a lot of these small things that we generally tend to ignore, particularly in the rectum. And that would inflate their polyp detection rate but not really confer protection, so that's the only reason that the Multisociety Task Force and other guidelines haven't universally recommended polyp detection rate as a quality indicator or a surrogate for ADR.

Dr. Buch:

That's extremely useful insight. And do you have any recommendations as to how we can improve colonoscopy education and feedback?

Dr. Shaukat:

Listening to podcasts like this one. So, truly, it's education, and it's very readily available. There's online resources. There's repositories of online videos and cases. We can be attending national meetings, seminars, webinars. There are so many tools out there, and a lot of them are free, so I would say it's very important that we keep our knowledge up-to-date and brush up on our skills, and watching videos or listening to experts talk about polyp detection, techniques and newer advances is, perhaps, the best way to get at it.

And the second most important aspect is getting that feedback, so getting a report card of your quality indicators, where you stand perhaps compared to other peers in your group or other people in the region. There's also national repositories, like the GIQuIC, which are essentially quality benchmarking registries that can help us with that. So getting that feedback, getting the report card. If you're not getting it, ask your practice for that information and see where you stand and see if there's things that you want to do to improve your ability to detect adenomas.

Dr. Buch:

Before we close, are there any other thoughts you'd like to share with our audience today?

Dr. Shaukat:

Absolutely. So, in the US we do a lot of colonoscopy, and we do it really well. Now more than ever it's important to emphasize that colonoscopy is only effective when it's done by a high-quality endoscopist.

Again, we want to be effective and have colonoscopy as an effective tool for reducing the risk of colon cancer, so I would encourage all our listeners, if you do endoscopy, please think about soliciting that feedback, getting report cards of where you stand and periodically giving thought on what you can do to improve your quality metrics by attending courses, listening to educational sessions or other discussions that you could bring up in your group and really help us elevate the field and be effective at what we do.

Dr. Buch:

This was an excellent discussion on improving adenoma detection rates. I want to thank my guest, Dr. Aasma Shaukat, for sharing her insights on how we can improve the quality of colonoscopies.

Dr. Shaukat, thanks so very much for joining us today.

Dr. Shaukat:

Thank you so much for having me. My pleasure.

Dr. Buch:

For ReachMD, I'm Dr. Peter Buch. To access this and other episodes in this series, visit ReachMD.com/GIInsights where you can be Part of the Knowledge. Thanks for listening, and see you next time.