



## Redefining Advanced Adenomas



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This summary reviews Anderson JC, Mackenzie TA, Butterly LF, Imperiale TF. Risk for metachronous advanced neoplasia in patients with a modified definition of advanced adenoma: Data from the New Hampshire Colonoscopy Registry. Clin Gastroenterol Hepatol. 2026 Feb;24(2):535-543.e2.

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### STRUCTURED ABSTRACT

**Question:** What is the risk of metachronous advanced neoplasia and colorectal cancer (CRC) in individuals with 10-19 mm tubular adenomas (TA) as compared to those with high-grade dysplasia (HGD), villous histology, and TAs  $\geq 20$  mm (modified AA)?

**Design:** Retrospective analysis of the New Hampshire Colonoscopy Registry.

**Setting:** Endoscopy sites in New Hampshire, United States.

**Patients:** The study included 35,941 individuals 40 years and older with an index colonoscopy and follow up colonoscopy 12 months or longer after the index exam. Individuals with index findings of CRC, poor bowel preparation, familial cancer syndromes, inflammatory bowel disease (IBD), or more than 10 adenomas were excluded.

**Intervention/Exposure:** Individuals were divided into 5 groups based on the most advanced index findings:

*Group 1)* No adenomas;

*Group 2)* 1-2 small (< 1 cm) tubular adenomas;

*Group 3)* 3-10 small (< 1 cm) tubular adenomas;

*Group 4)* 1 or more tubular adenomas 10-19 mm; and

*Group 5)* any adenoma > 20 mm or 1 with villous elements or high-grade dysplasia (“modified AA”).

**Outcome Measures:** The 2 outcomes of interest were advanced neoplasia (AN) diagnosed at the first follow up colonoscopy and CRC diagnosed 6 months or longer after the index exam. AN was defined as a large (> 1 cm) adenoma, or any adenoma with 25% or greater villous elements or HGD and adenocarcinoma. The authors also examined AN with the modified definition of AA as an outcome.

**Data Analysis:** The primary outcome was metachronous AN diagnosed 12 months or longer after the index colonoscopy. The crude and adjusted risks for metachronous AN were calculated using a Poisson loglinear model that included covariates of patient age (continuous), sex, BMI (continuous), smoking (never (reference), past or current), presence of large sessile serrated polyps (SSPs) on index exam, months (natural logarithm of months used an offset variable) since index exam as well as year and indication of index colonoscopy and adenoma detection rate (ADR) of index endoscopist. To examine and compare the risk for large (10-19 mm) tubular adenomas versus the modified AA group, the Poisson model was performed with the large (10-19 mm) TA as the reference category.

The secondary outcome was CRC diagnosed 6 months or longer after the index colonoscopy. Adjusted hazard ratios were derived from Cox regression modelling CRC diagnosis based on index findings. This model included age (continuous), sex, smoking (never, past or current), presence of large SSPs, months (time variable) since index exam as well as year and indication of index colonoscopy, ADR of index endoscopist and whether there was more than 1 follow up colonoscopy. Similar to the model above for advanced neoplasia, the Cox regression was performed using the large (10-19 mm) tubular adenoma category as the reference group.

**Funding:** Division of Cancer Prevention, National Cancer Institute, 5R01CA243449, Optimizing colorectal cancer prevention: a multi-disciplinary, population-based investigation of serrated polyps using risk prediction and modeling.

**Results:** There were 35,941 adults stratified by index findings: *Group 1*) no adenomas (n=20,857); *Group 2*) 1-2 small(<1cm) TAs (n=9,927); *Group 3*) 3-10 small (<1cm) TAs (n=2,124); *Group 4*) TAs 10-19mm (n=1,492); *Group 5* modified AA group (n=1,541). These data are shown in **Table 1**. Compared to patients with 10-19 mm TAs, there was a trend toward a higher adjusted AN risk for patients with the modified AA (RR=1.28; confidence interval (CI), 0.99-1.66; P=0.065).

However, when using AN with the modified advanced adenoma definition as the outcome, the authors observed that the modified AA group had a statistically significantly higher risk for metachronous modified AA than the large (10-19mm) TA group (RR=1.52; CI,1.04-2.22). With respect to CRC, the study observed that as compared to the low-risk groups (1-3), those with 10-19 mm TAs (Hazard Ratio (HR)=2.44; 95% CI,1.34-4.44) and those with the modified AA's 5 (HR=3.52; CI,1.98-6.25) had higher HRs for CRC. While the point estimate was higher for those with modified AAs, the CIs overlapped. These data are shown in **Table 2**.

## COMMENTARY

### *Why Is This Important?*

The term “advanced adenoma” carries an ominous connotation, as it signifies a high risk for colorectal cancer (CRC), causing concern for both patients and clinicians. Evidence, including data from the New Hampshire Colonoscopy Registry, supports this concern by showing that individuals with advanced adenomas face a higher risk of future advanced neoplasia—defined as the combined risk of CRC and other advanced adenomas—compared to

those with non-advanced or no polyps. However, it is possible that the varied components within this “advanced” category possess different levels of risk for future neoplasia. Data comparing the risk for patients with 10-19 mm tubular adenomas as compared to those with other advanced findings would be helpful in guiding surveillance recommendations. In this study the 10-19 mm group comprised approximately half of what would constitute the current definition of

Group	Adjusted Rate Ratio	95% CI Lower	95% CI Upper	P-value
<b>Advanced neoplasia</b>				
No adenomas (n=20,857)	0.27	0.22	0.34	< 0.001
Small 1-2 tubular adenomas (n=9,927)	0.41	0.33	0.50	< 0.001
Small 3 or more tubular adenomas (n=2,124)	0.64	0.50	0.83	< 0.001
<b>Reference group</b> (Large (10-19 mm) tubular (n=3,033))	1.0	---	---	< 0.001
Modified AA (n=1,541)	1.28	0.99	1.66	0.065
<b>Advanced neoplasia outcome with modified definition of advanced adenomas</b>				
No adenomas	0.29	0.21	0.40	<0.001
Small 1-2 tubular adenomas	0.41	0.30	0.56	<0.001
Small 3 or more tubular adenomas	0.47	0.31	0.71	<0.001
<b>Reference group</b> (Large (10-19 mm) tubular adenomas)	1.0	---	---	---
Modified AA	1.52	1.04	2.22	0.03

**Table 1.** Poisson model predicting advanced neoplasia at subsequent colonoscopy using 10-19 mm tubular adenomas as the reference groups.

<b>No advanced neoplasia as reference</b>			
	No advanced neoplasia	Large (10-19mm) TA	Modified AA
Hazard Ratio for PCCRC* (95% CI)	1.00 (Reference)	2.44 (1.34-4.44)	3.52 (1.98-6.25)
<b>Large (10-19mm) TA as reference</b>			
Hazard Ratio for PCCRC* (95% CI)	0.41 (0.23-0.75)	1.00 (Reference)	1.44 (0.66-3.17)

**Table 2.** Adjusted risks for post colonoscopy CRC with no advanced neoplasia and large (10-19 mm) TA as reference groups.

\*Cox regression of the hazard of post colonoscopy CRC based on index findings adjusted for patient age (continuous), sex, smoking (never, past or current), presence of large SSPs, months (time variable) since index exam as well as year and indication of index colonoscopy, ADR of index endoscopist and if there was more than 1 follow up colonoscopy.

AAs. These data suggest that this group would account for a large proportion of patients having a 3-year surveillance interval. A lower risk for patients with 10-19 mm polyps could suggest that a 5 year as opposed to a 3-year interval could be recommended, potentially decreasing the burden and risk associated with surveillance colonoscopies.

### ***Key Study Findings***

In summary, using the 10-19 mm tubular adenoma group as the reference group, the study observed that the modified AA group demonstrated a trend toward increased risk for metachronous advanced neoplasia. Furthermore, when using the modified definition of AA in the AN outcome, the investigators observed a statistically significant increased risk for the modified AA subgroup as compared to the 10-19 mm group. The modified AA group had twice the metachronous risk for CRC, which was not statistically significant but this finding may have been underpowered.

### ***Caution***

The study may also be limited by a lack of racial diversity, as data were sourced from New Hampshire endoscopy centers. However, the cohort maintains significant diversity across ethnic, socioeconomic, and rural/urban dimensions. Future research in more racially heterogeneous settings would be valuable to confirm these findings.

### ***My Practice***

Currently, I follow the 2020 USMTF post polypectomy surveillance guidelines which recommend a 3 year interval for patients with advanced adenomas. Therefore I recommend the 3 year interval for those patients with an adenoma of 10 mm or larger.

### ***Future Research***

While the study did not observe a difference in risk between the 10-19 mm tubular adenomas and the modified definition of AAs, quantifying metachronous risks for AN and CRC in the 10-14 mm and 15-19 mm tubular adenoma subgroups as suggested in the paper seems like a reasonable and desirable next step.

### ***Conflict of Interest***

The author of the summary has no conflicts of interest.