

The Predictive Value of Small vs. Diminutive Nonadvanced Adenomas (NAAs) for Metachronous Advanced Colorectal Neoplasia: A Multicenter Observational Study

Chi-Liang Cheng,¹ Shuo-Wei Chen,² I-Chia Su,³

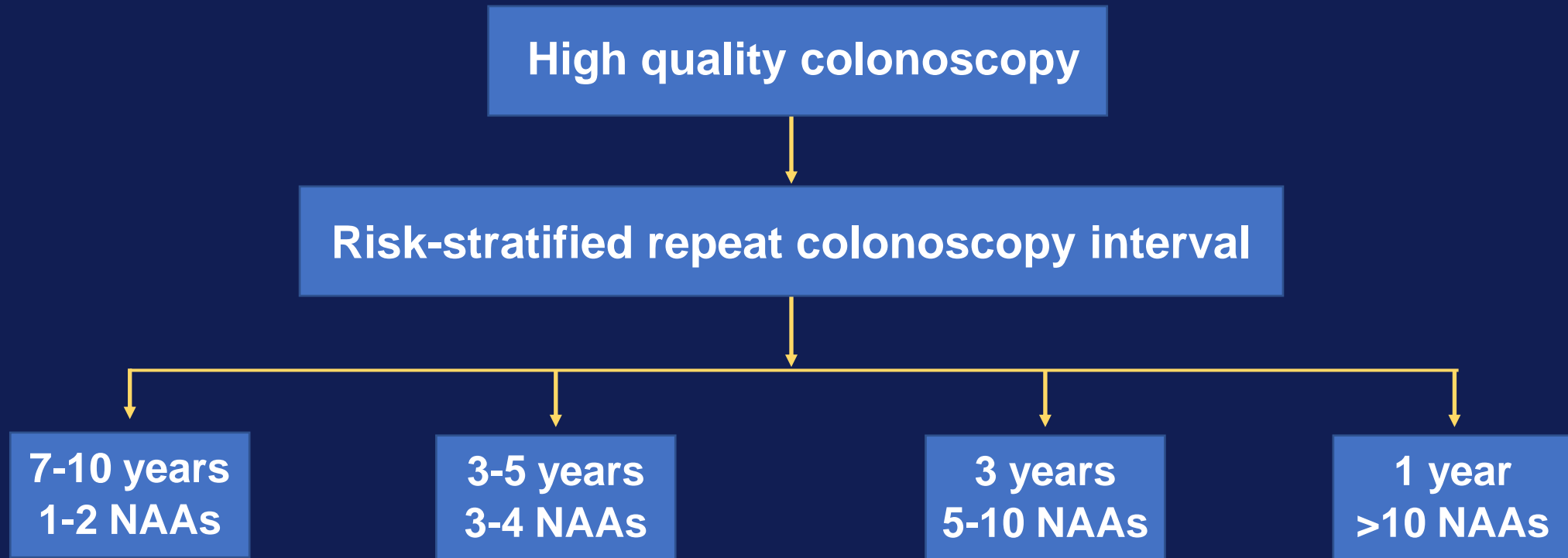
Chi-Huang Wu,⁴ Yen-Lin Kuo,¹ Tsuo-Hsuan Chien,²

Jui-Hsiang Tang,³ Mu-Hsien Lee,⁴ Nai-Jen Liu⁴

Evergreen General Hospital, Taoyuan, Taiwan,¹ Keelung Chang Gung Memorial Hospital, Keelung, Taiwan,²
Taipei Medical University Hospital, Taipei, Taiwan,³ Linkou Chang Gung Memorial Hospital, Taoyuan, Taiwan,⁴



Background: USMSTF 2020 Consensus



NAA: conventional adenoma with low-grade dysplasia, size <10 mm



Study Hypothesis

Detection of diminutive (1-5 mm) NAAs is increasing

Guidelines treat 1-9 mm NAAs as carrying the same level of risk for future neoplasia

Diminutive and small (6-9 mm) NAAs may have different risks

Study Aims and Design

- To evaluate the risk of metachronous advanced colorectal neoplasia (ACRN) between small and diminutive NAAs
- A retrospective analysis
- 6 endoscopists from 4 hospitals performed index colonoscopies
- Index colonoscopy enrolled: July 2011 - June 2019
- Colonoscopy data were obtained via administrative claims
- Demographic and pathology data were accessed via chart review

Study Cohort

Inclusion

Index colonoscopy removal of ≥ 1 NAAs and had follow-up study at least 1 year apart

Exclusion

- Age <40 years at index exam
- Familial genetic syndromes
- Colorectal surgery
- IBD
- Personal history of CRC
- AA or >10 NAAs at index exam
- Failed colonoscopy
- Incomplete polypectomy
- Poor preparation

Exposure Variables

Group 1

1-2 NAAs
all ≤ 5 mm

Group 2

1-2 NAAs
at least
one 6-9
mm

Group 3

3-4 NAAs
all ≤ 5 mm

Group 4

3-4 NAAs
at least
one 6-9
mm

Group 5

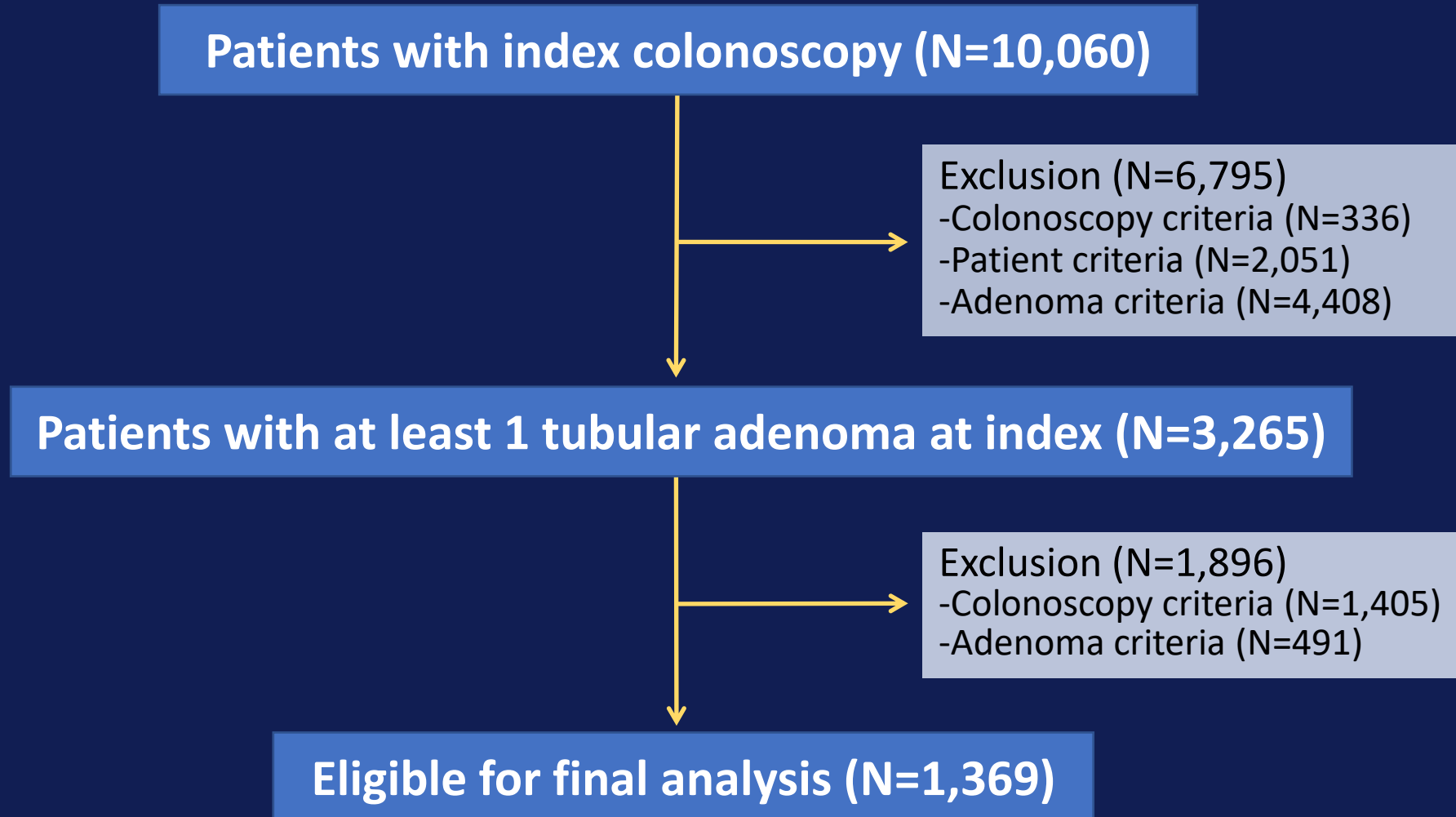
5-10 NAAs

Risk stratification based on size and number of index findings

Potential Confounders of Study Outcomes

- Age
- Gender
- Body mass index
- Family history of CRC in first-degree relatives
- Smoking habit
- Bowel preparation
- Indication of colonoscopy
- Presence of clinically significant serrated polyps (CSSP)
- Time to follow-up

Study Flowchart



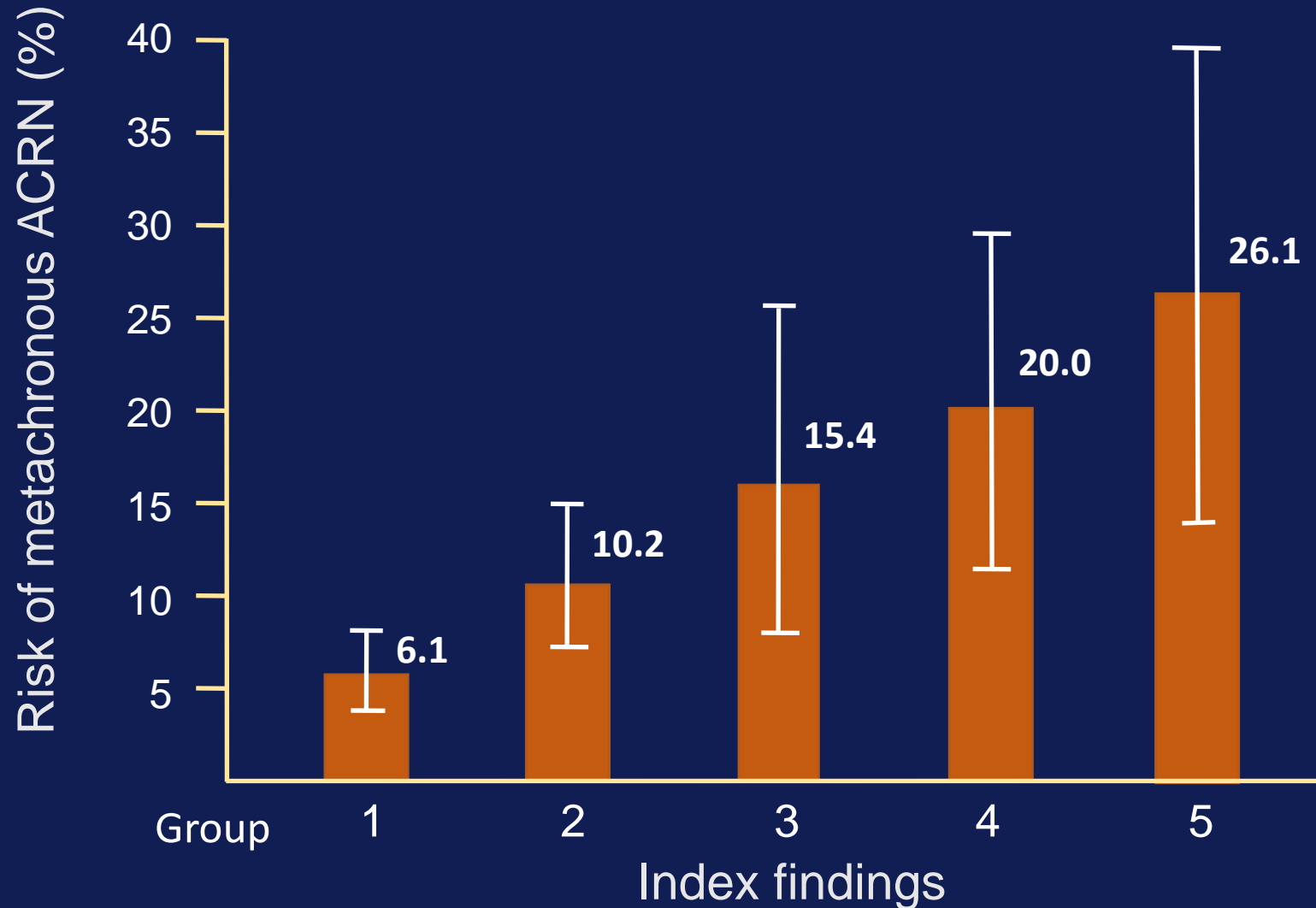
Small NAA has a higher ACRN risk than diminutive NAA

	Total	Patients with diminutive NAAs only	Patients with at least 1 small NAAs	<i>P</i> value
Patient number	1369	747	622	
Age (years), mean \pm SD	56.2 \pm 10.1	55.4 \pm 9.7	57.2 \pm 10.4	0.012
Male, n (%)	732 (53.5)	391 (52.3)	341 (54.8)	0.384
Screening indication, n (%)	1099 (80.3)	602 (80.6)	497 (79.9)	0.247
Months to surveillance, mean \pm SD	37.5 \pm 19.4	38.2 \pm 18.9	36.7 \pm 20.0	0.146
ACRN at follow-up, n (%)	130 (9.5)	54 (7.2)	76 (12.2)	0.002

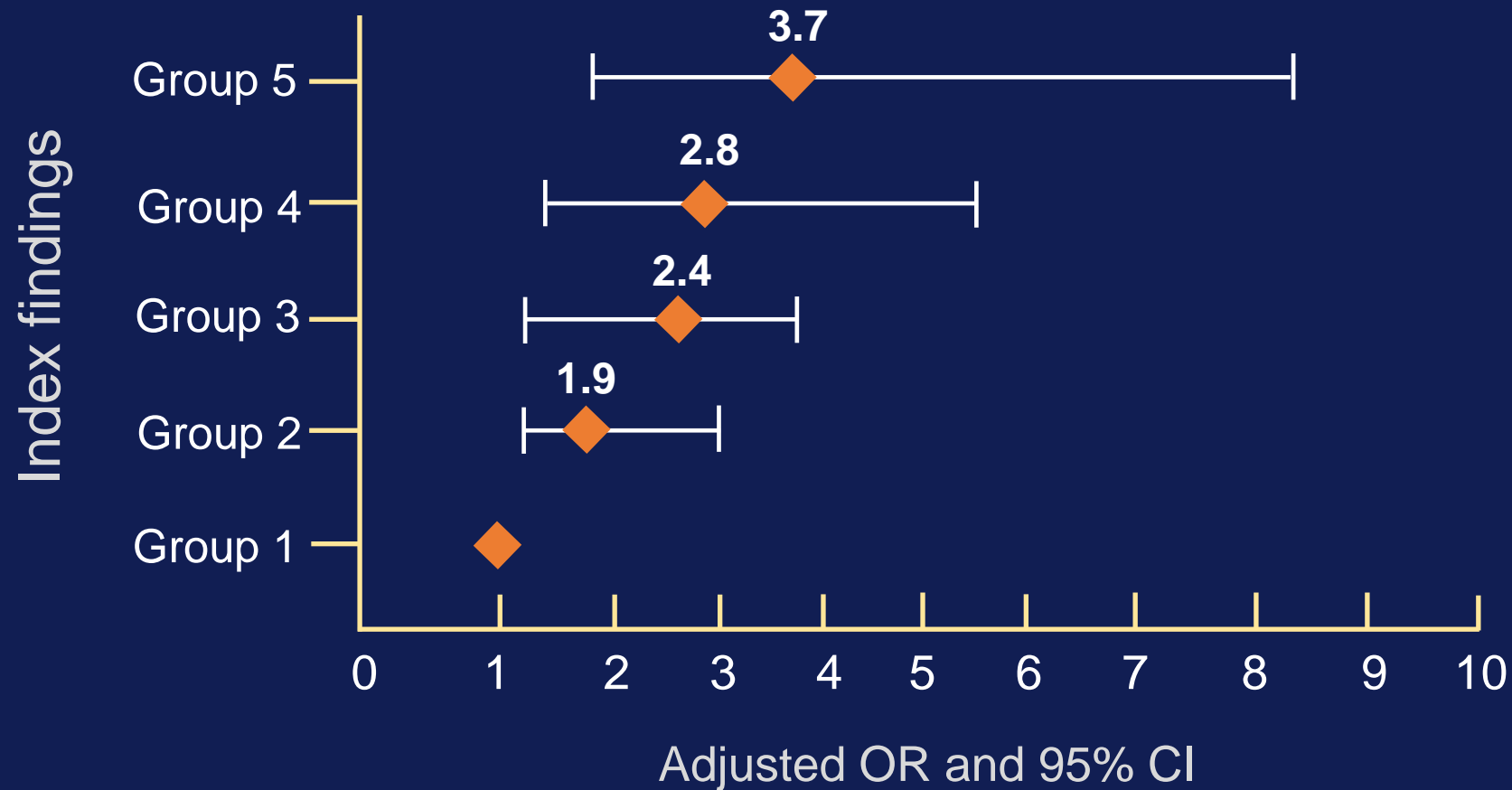
Patient/Colonoscopy Data Stratified by Index NAAs

	Group 1	Group 2	Group 3	Group 4	Group 5
Number	655	529	78	65	42
Age, mean	55.3 ± 9.8	56.6 ± 10.6	56.4 ± 9.1	59.6 ± 9.0	60.2 ± 8.3
Male, n (%)	329 (50.2)	282 (53.3)	49 (62.8)	40 (61.5)	32 (76.2)
BMI, mean	24.7 ± 3.4	24.8 ± 3.4	25.6 ± 2.8	25.7 ± 3.6	27.3 ± 4.2
CRC family history, n (%)	68 (10.4)	26 (4.9)	10 (12.8)	15 (23.1)	3 (7.1)
Current smoker, n (%)	78 (11.9)	95 (18.0)	16 (20.5)	15 (23.1)	11 (26.2)
CSSP at index, n (%)	88 (13.4)	61 (11.5)	13 (16.7)	14 (21.5)	5 (11.9)
Months to follow, mean	38.6 ± 19.0	37.9 ± 20.3	35.8 ± 19.1	30.4 ± 17.2	28.5 ± 12.2

Absolute Risk for Metachronous ACRN Stratified by Index NAAs



Adjusted Odds Ratio for Metachronous ACRN Stratified by Index NAAs



Conclusions

- In patients with 1-10 NAAs, those with any small NAAs have an increased risk of metachronous ACRN than those with all diminutive NAAs.
- NAAs represent a large portion of all adenomas detected on index colonoscopy.
- This high burden supports the consideration of further risk stratification between small and diminutive adenomas in postpolypectomy guidelines.