The prevalence of lymph node metastases in low-grade endometrial carcinoma

Pernille Bjerre Trent, MD
Norwegian Radium Hospital, Oslo University Hospital
University of Oslo
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Karolinska Insitutet, Stockholm, Sweden

Oslo University Hospital

NSGO

UiO : University of Oslo

Conflict of interests

- None

Background

Surgical Pathologic Spread Patterns of Endometrial Cancer

A Gynecologic Oncology Group Study

WILLIAM T. CREASMAN, MD,* C. PAUL MORROW, MD,† BRIAN N. BUNDY, PHD,‡
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- 43 institutions
- Central review
- Clinical stage I
- TAH, BSO, selective PLND + PALND+ peritoneal cytology
- n= 621 patients (1977-1983)

Creasman et al. 1987, GOG-33

Background

TABLE 4. Frequency of Nodal Metastasis Among Risk Factors

Risk factor		Pelvic No. (%)	Pelvic Significance (p-value)	Aortic No. (%)	Aortic Significance (p-value)
Stage					
Ia	(N = 346)	23 (7%)	0.01	11 (3%)	0.008
Ib	(N = 275)	35 (13%)		23 (8%)	
Histology					
Adenocarcinoma	(N = 459)	40 (9%)		21 (5%)	
Adenocanthoma	(N = 41)	4 (10%)	0.8	0 (0%)	0.006
Adenosquamous	(N = 99)	12 (12%)		9 (9%)	
Others	(N = 99)	2 (9%)		4 (18%)	
Grade					
1 Well	(N = 180)	5 (3%)		3 (2%)	
2 Moderate	(N = 288)	25 (9%)	<0.0001	14 (5%)	<0.0007
3 Poor	(N = 153)	28 (18%)		17 (11%)	
Myometrial Invasion					
Endometrial only	(N = 87)	1 (1%)		1 (1%)	
Superficial	(N = 279)	15 (5%)	<0.0001	8 (3%)	<0.0001
Middle	(N = 116)	7 (6%)		1 (1%)	
Deep	(N = 139)	35 (25%)		24 (17%)	
Peritoneal Cytology					
Negative	(N = 537)	38 (7%)	<0.0001	20 (4%)	<0.0001
Positive	(N = 75)	19 (25%)		14 (19%)	
Site of Tumor Location					
Fundus	(N = 524)	42 (8%)	0.01	20 (4%)	0.0001
Isthmus-Cervix	(N = 97)	16 (16%)		14 (14%)	
Adnexal Involvement					
Positive	(N = 34)	11 (32%)	0.0001	7 (20%)	0.0003
Negative	(N = 587)	47 (8%)		27 (5%)	
Other Extrauterine Metastasis					
Positive	(N = 35)	18 (51%)	0.0001	8 (23%)	0.0001
Negative	(N = 586)	40 (7%)		26 (4%)	
Capillary-Like Space Involvement					
Positive	(N = 93)	21 (27%)	0.0001	15 (19%)	0.0001
Negative	(N = 528)	37 (7%)		19 (9%)	
Menopausal status					
Premenopause	(N = 58)	4 (7%)	0.6	1 (2%)	0.3
Postmenopause	(N = 549)	54 (10%)		32 (6%)	

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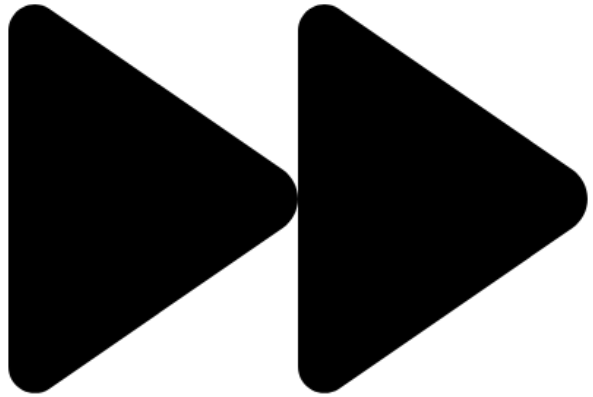
Fast forward



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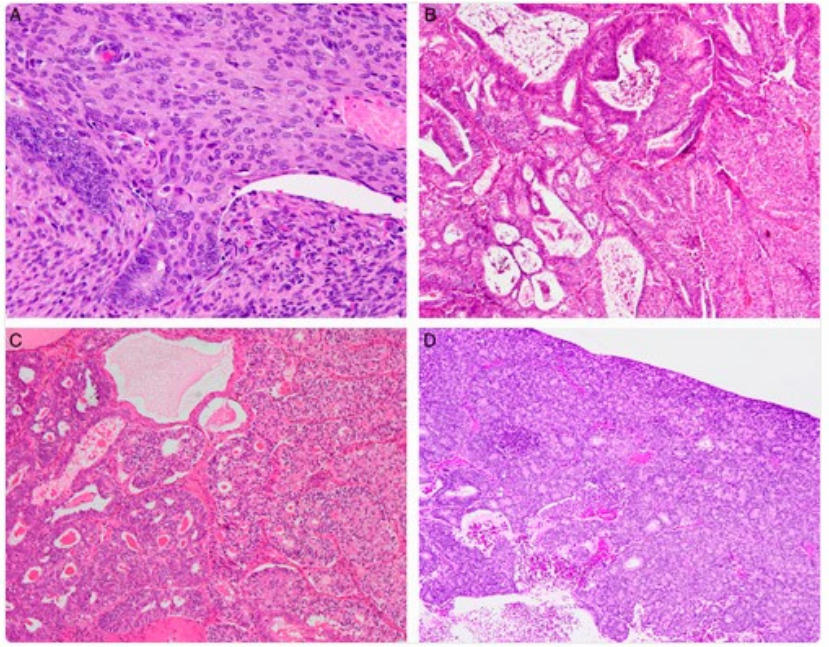
What is low-grade?

- Endometroid grade 1 and 2 = low-grade



Soslow et al. 2018

What is low risk?

- Low-grade≠low risk
- Endometroid grade 1 and 2 = low-grade
- Myoinvasion?
- LVSI?
- Molecular features?

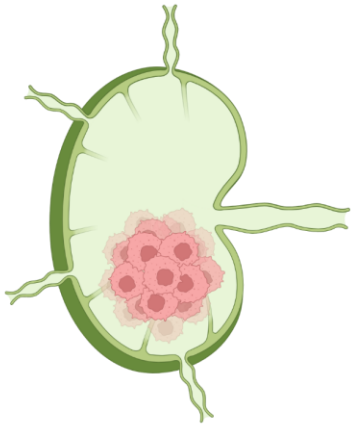
TABLE 8. Determination of Risk Factors for Nodal Metastasis Using Multivariant Analysis

Risk factor	Lymph node metastasis: Pelvic	Lymph node metastasis: Aortic
Low Risk (No moderate or high risk factors)		
Grade 1, endometrium only, no intraperitoneal disease	0/44 (0%)	0/44 (0%)
Moderate Risk (Inner mid invasion, Grade 2 or 3—no intraperitoneal disease)		
Only one factor	4/158 (3%)	3/158 (2%)
Both factors	15/268 (6%)	6/268 (2%)
High Risk (Intraperitoneal disease, deep myometrial invasion)		
Deep invasion only	21/116 (18%)	17/116 (15%)
Intraperitoneal disease only	4/12 (33%)	1/12 (8%)
Both	14/23 (61%)	7/23 (30%)

Creasman et al. 1987, GOG-33

What is a metastasis?

What is a metastasis?



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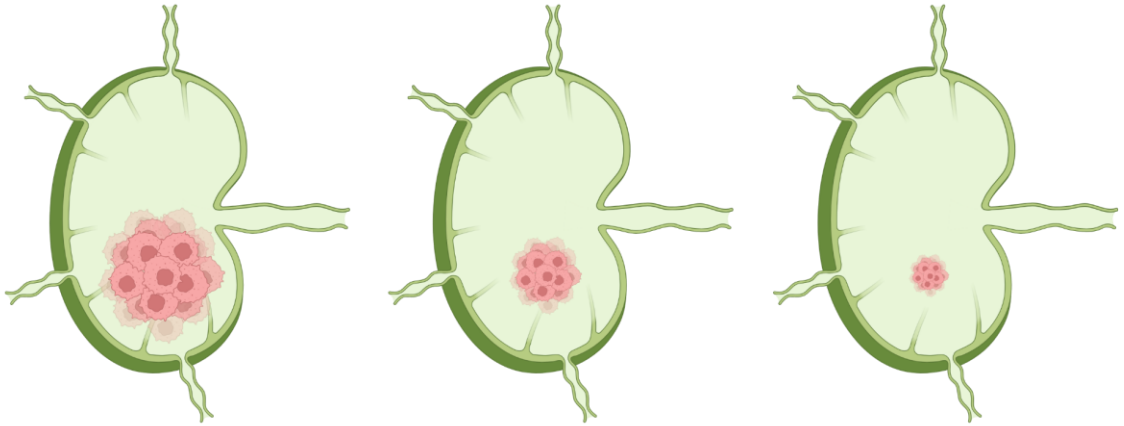
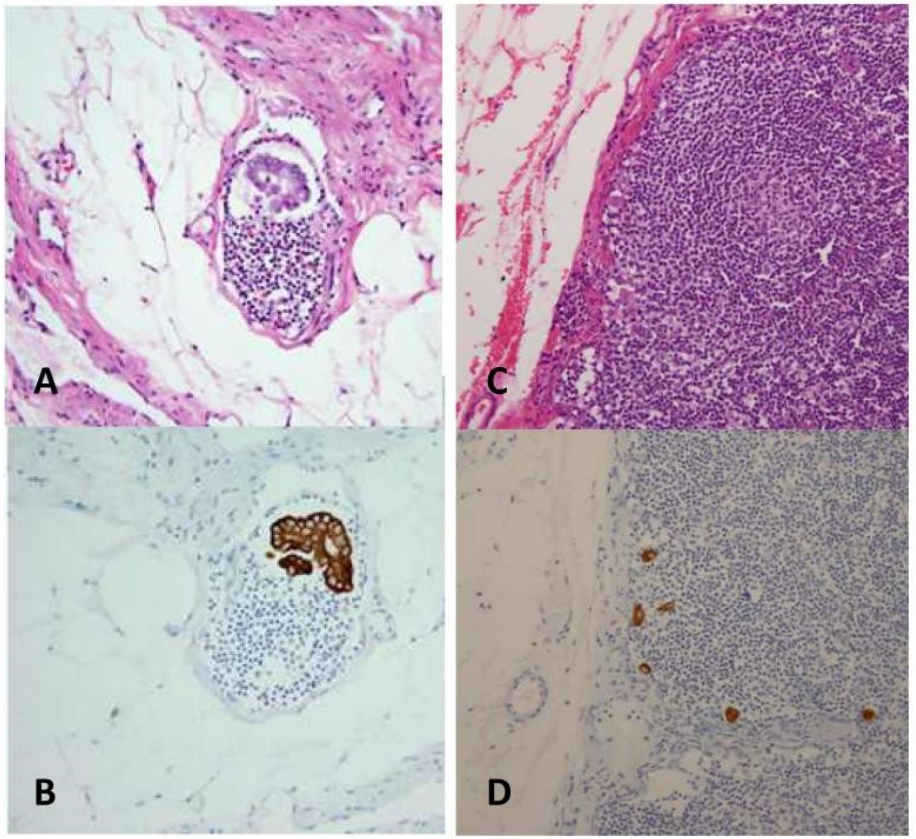


Macrometastasis: >2mm

Micrometastasis: ≤2mm - >0.2mm

Isolated tumor cells (ITC): a small cluster of cancer cells with a diameter of no greater than 0.2 mm or 200 cells



H&E stain vs immunohistochemistry

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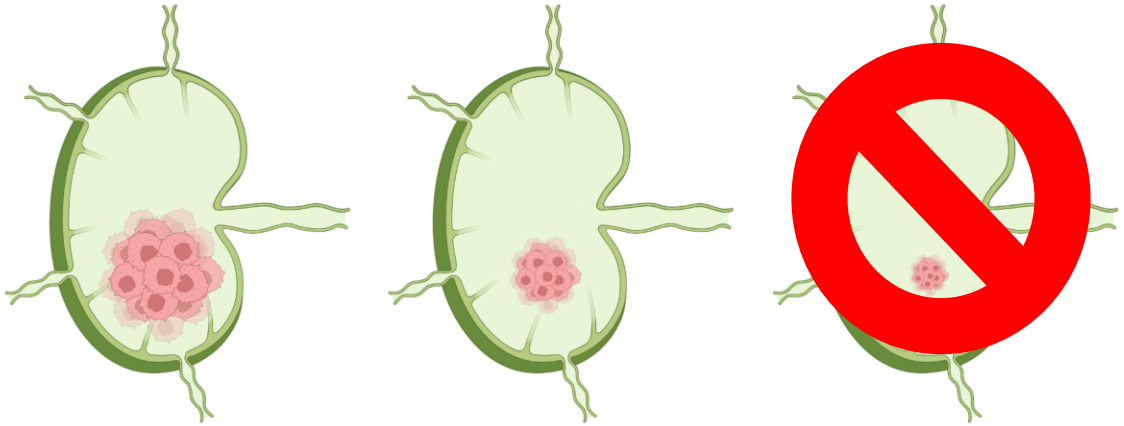
Kim et al. 2013

What is a metastasis?



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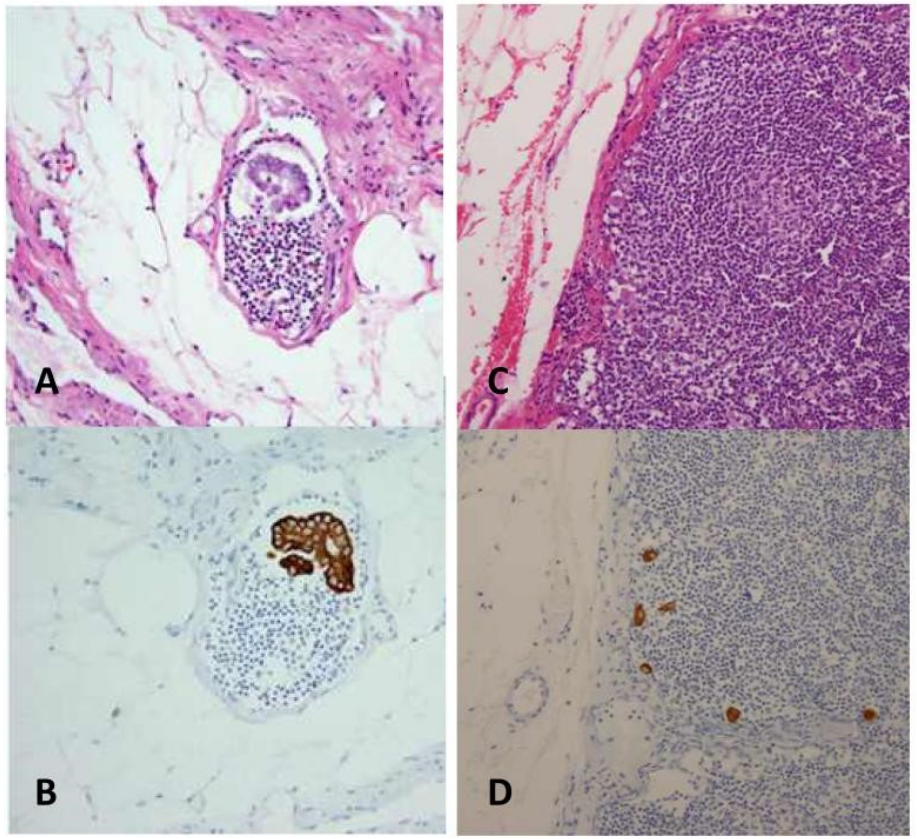

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Why is it important to know the lymph node status also in low-grade tumors?

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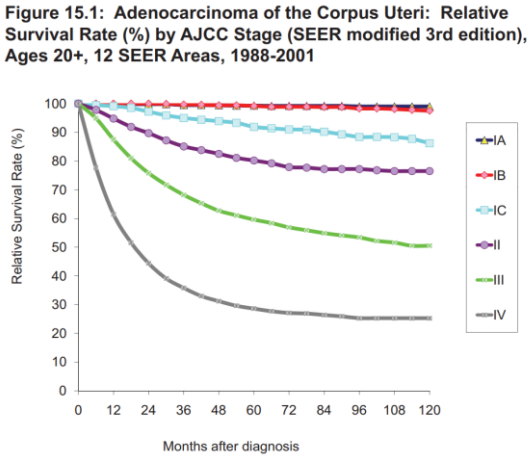
- Define risk groups
- Compare
- Allocate patients towards correct adjuvant therapy

Why is it important to know the lymph node status also in low-grade tumors?

- Define risk groups
- Compare
- Allocate patients towards correct adjuvant therapy
- Stage remains an important prognostic factor

- Role of ITCs remain unknown



Cancer Survival Among Adults: U.S. SEER Program, 1988-2001

Sample

- Large, unselected population

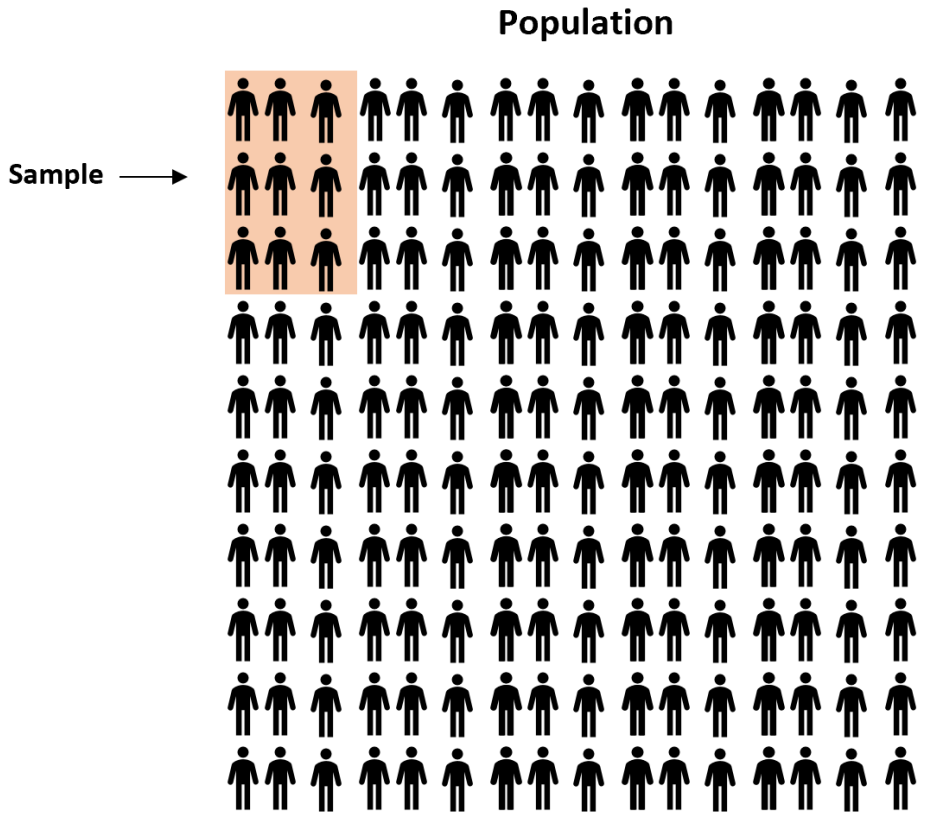


Image: statology.org

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Lymph node metastases in staged patients

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*Pelvic only

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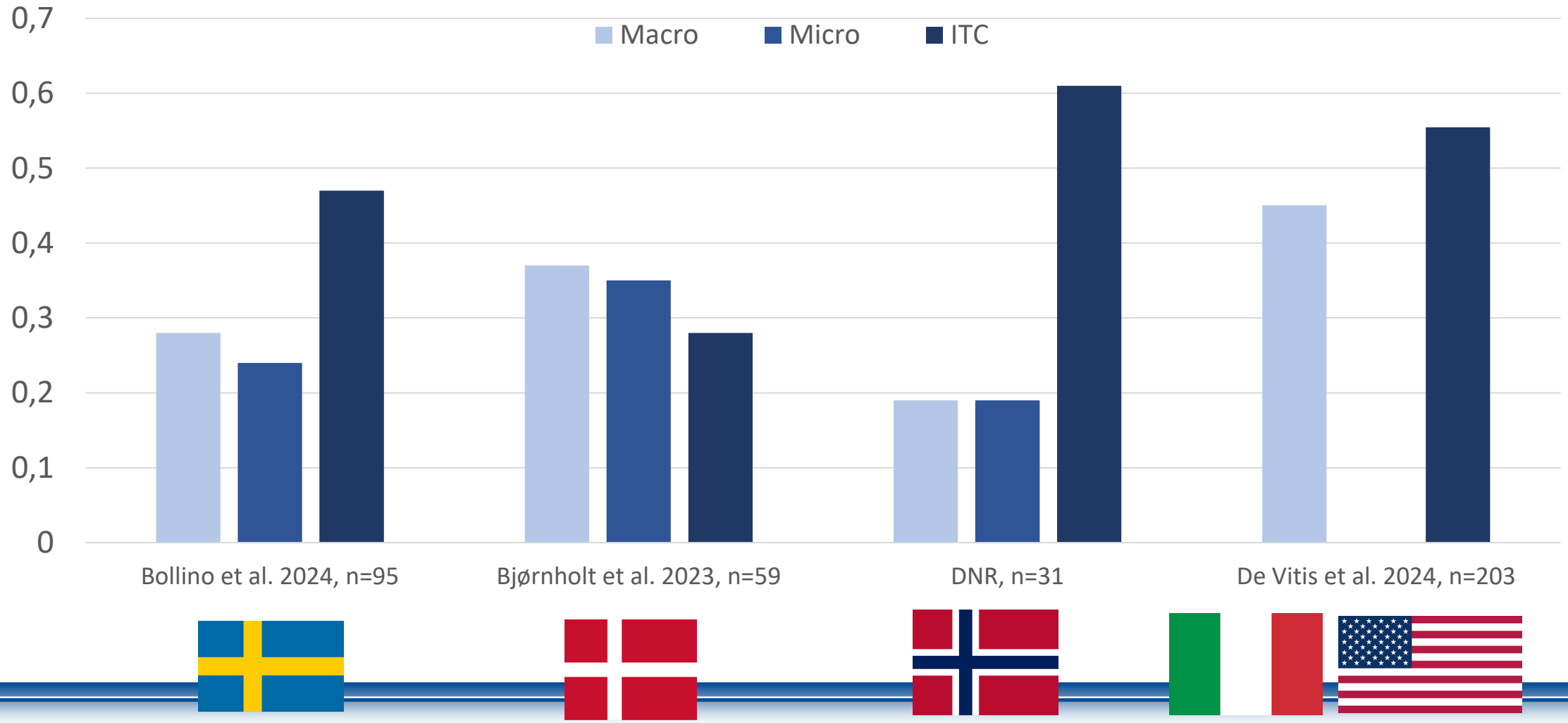
Size of metastases



Conclusion

- The prevalence of macro- or micrometastases in low-grade endometrial carcinoma is 2-18% depending on myometrial invasion
- Including ITCs the prevalence is 6-34% depending on myometrial invasion

- To be established: the role of ITCs

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Thank you!

uxbjpa@ous-hf.no

+47 93840710

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