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NSMP Endometrial Stratification Tool

Grup de Recerca en Patologies Ginecològiques i de la Mama

Alba Farrés, Ramon Rovira, Silvia Martorell, Andrea Amadeo, Miguel Ángel Rios,
Nicolás Martínez, Elisa Llurba, Silvia Cabrera.

#BitsxlaMarató
12 Desembre 2024

Endometrial cancer: the molecular era

Most common gynecologic cancer in developed countries; incidence **rising**

Typical age: 60–65 years

Key symptom: postmenopausal **abnormal uterine bleeding**

Risk factors: **obesity, nulliparity, metabolic syndrome/diabetes**

Histology: mainly **endometrioid**; **serous/clear cell** less common but more aggressive

Primary treatment: surgery; adjuvant therapy per **risk stratification**

Prognosis: ~75% diagnosed at **stage I-II**; **5-year OS** in stage I >80–90%

Endometrial cancer: the molecular era

Two Pathogenetic Types of Endometrial Carcinoma

JAN V. BOKHMAN, M.D.

Department of Gynecology, N. N. Petrov Research Institute of Oncology, USSR Ministry of Health, Leningrad, USSR
Received May 6, 1981

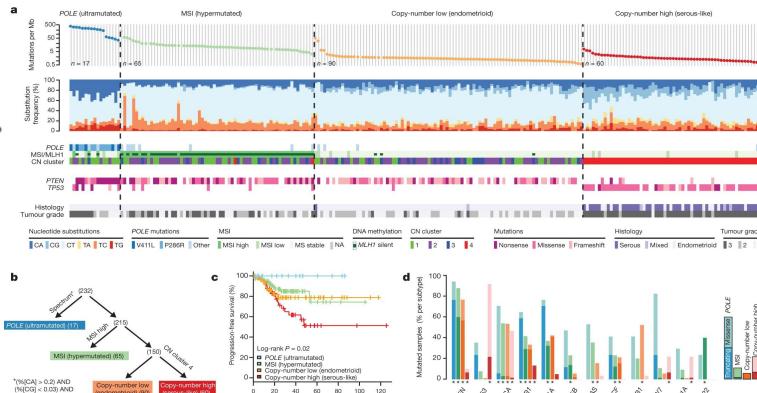
TABLE 2
INFLUENCE OF PATHOGENETIC TYPE OF THE DISEASE ON TUMOR PECULIARITIES

Tumor peculiarity	I	II
Duration of symptoms	Usually long duration	Usually short duration
Degree of tumor differentiation	Highly or moderately differentiated (more frequent G ₁ or G ₂)	Poorly differentiated (more frequent G ₃)
Depth of invasion in the myometrium	Frequent prevalence of superficial invasion	Frequent prevalence of deep invasion
Potentiality for lymphogenic metastatic spread	Not high	High
Sensitivity to progestogens	High	Not high
Primary multiple tumors	Ovaries, breast, colon	Not characteristic
Prognosis	Favorable	Doubtful

Gynecol Oncol. 1983 Feb;15(1):10-7. doi: 10.1016/0090-8258(83)90111-7

Integrated genomic characterization of endometrial carcinoma

The Cancer Genome Atlas Research Network*

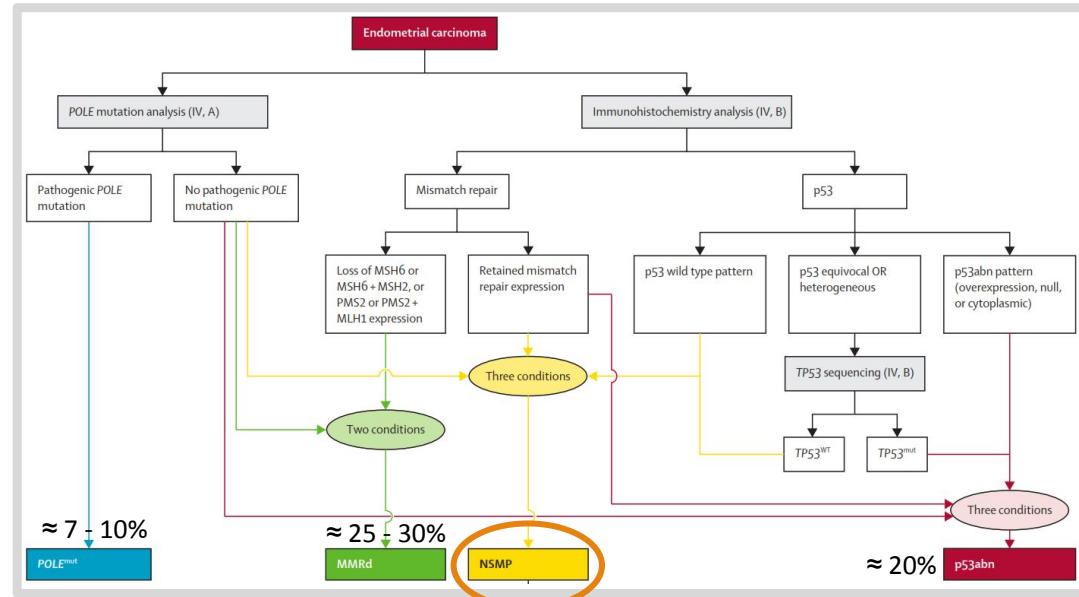
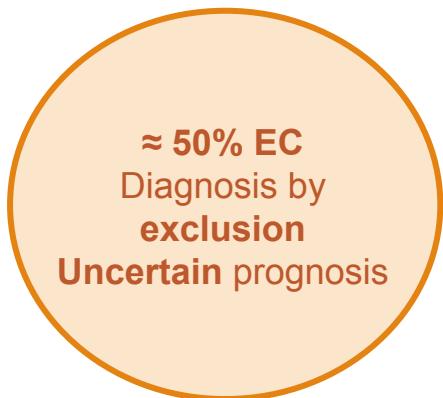


Nature 497, 67–73 (2013). https://doi.org/10.1038/nature12113

Endometrial cancer: the molecular era

ESGO-ESTRO-ESP guidelines for the management of patients with endometrial carcinoma: update 2025

Nicole Concin, Xavier Matias-Guiu, David Cibula, Nicoletta Colombo, Carin L Creutzberg, Jonathan Ledermann, Mansoor Raza Mirza, Ignace Vergote, Nadeem R Abu-Rustum, Tjalling Bosse, Cyrus Chagari, Sophie Espenel, Anna Fogatti, Christina Fotopoulou, Sonia Gatius, Antonio González-Martin, Sigurd Lax, Bar Levy, Domenica Lorusso, Gabriella Macchia, Christian Marth, Philippe Morice, Ana Oaknin, Maria Rosaria Raspollini, Richard Schwameis, Jalid Sehouli, Alina Sturdza, Alexandra Taylor, Anneke Westermann, Pauline Wimberger, François Planchamp, Remi A Naut

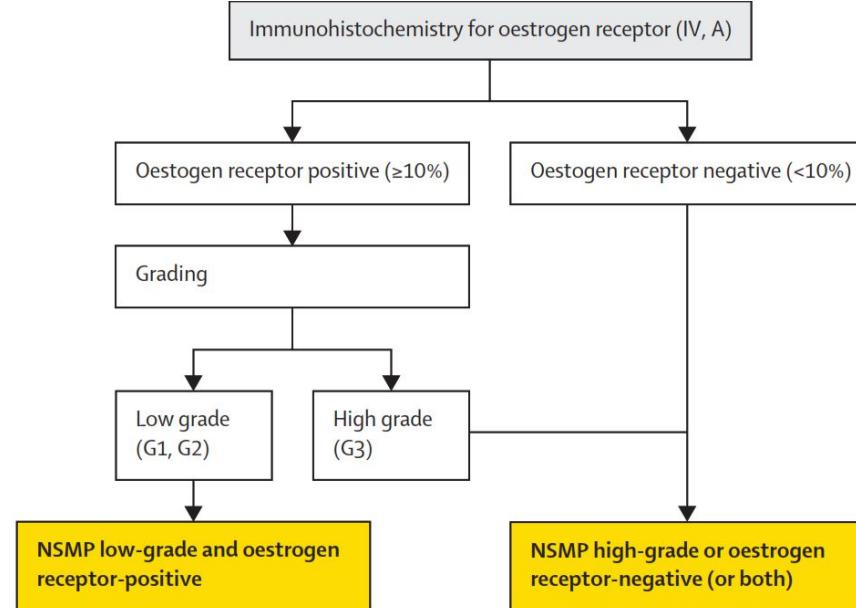


Algorithm for assessment of molecular classification of endometrial carcinoma

Endometrial cancer: the molecular era

ESGO-ESTRO-ESP guidelines for the management of patients with endometrial carcinoma: update 2025

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Algorithm for assessment of molecular classification of endometrial carcinoma

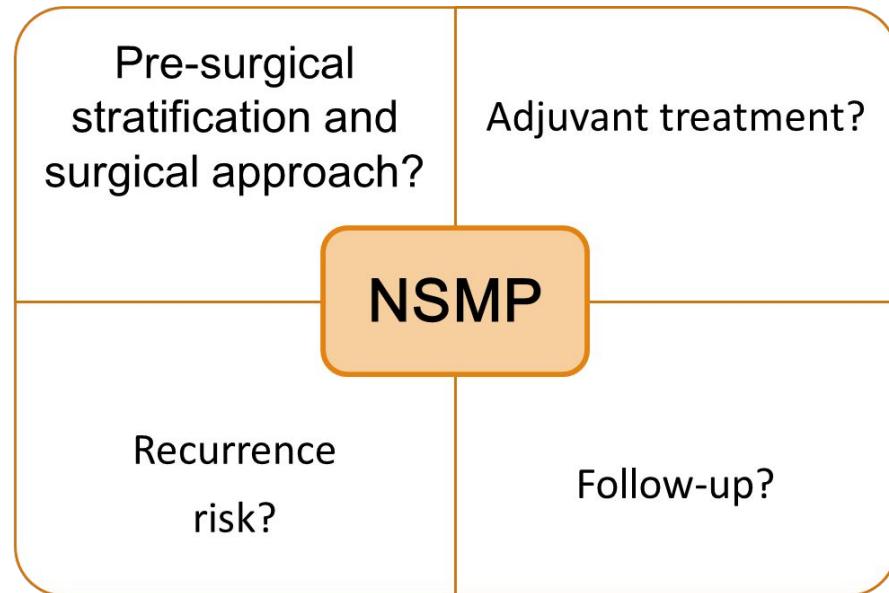
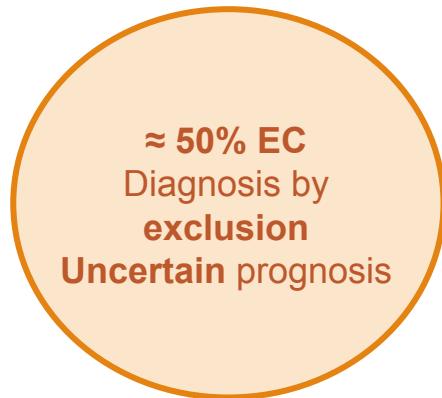
2023 FIGO staging*		Molecular classification†			
		POLE ^{mut}	MMRd	Low-grade Rc Es +	High-grade Rc Es -
I	Confined to the uterine corpus				
IA	IA1 Low-grade endometrioid, confined to polyp or endometrium (no myoinvasion)	IAm POLE ^{mut}			IIcm p53abn
	IA2 Low-grade endometrioid, myoinvasion <50%, no or focal lymphovascular space invasion	IAm POLE ^{mut}			IIcm p53abn
	IA3 Low-grade endometrioid carcinoma of the endometrium and ovaries				
IB	Low-grade endometrioid, myoinvasion ≥50%, no or focal lymphovascular space invasion	IAm POLE ^{mut}			IIcm p53abn
IC	High-grade histologies‡, limited to polyp or endometrium	IAm POLE ^{mut}		NA	
II	Confined to the uterus				
IIA	Low-grade endometrioid, invasion of the cervical stroma	IAm POLE ^{mut}			IIcm p53abn
IIB	Low-grade endometrioid, substantial lymphovascular space invasion	IAm POLE ^{mut}			IIcm p53abn
IIIC	High-grade histologies‡, myoinvasion	IAm POLE ^{mut}	Myoinvasion <50%, no or focal lymphovascular space invasion	NA	IIcm p53abn
		IAm POLE ^{mut}	Myoinvasion ≥50%, no or focal lymphovascular space invasion		
		IAm POLE ^{mut}	Cervical stromal invasion, no or focal lymphovascular space invasion		
		IAm POLE ^{mut}	Substantial lymphovascular space invasion		
III	Local spread, regional spread, or both				
IIIA	IIIA1 Spread to ovary or fallopian tube (except when meeting stage IA criteria)				
	IIIA2 Involvement of uterine serosa or spread through the uterine serosa				
IIIB	IIIB1 Metastasis or direct spread to the vagina, parametria, or both				
	IIIB2 Metastasis to the pelvic peritoneum				
IIIC	IIIC1 Pelvic lymph node metastasis				
	IIIC1i Micrometastasis				
	IIIC1ii Macrometastasis				
	IIIC2 Para-aortic lymph node metastasis (up to renal vessels)				
	IIIC2i Micrometastasis				
	IIIC2ii Micrometastasis				

Endometrial cancer: the molecular era

FIGO staging of endometrial cancer: 2023

Jonathan S. Berek¹ | Xavier Matias-Guiu² | Carien Creutzberg³ | Christina Fotopoulou⁴ | David Gaffney⁵ | Sean Kehoe⁶ | Kristina Lindemann⁷ | David Mutch⁸ | Nicole Concin^{9,10} | Endometrial Cancer Staging Subcommittee, FIGO Women's Cancer Committee

Why We Need a Prognostic Tool for NSMP

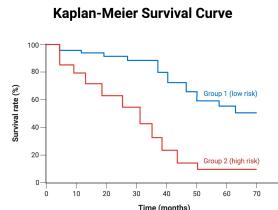


Our Proposal: Developing a Prognostic Model

We aim to improve risk stratification for NSMP endometrial cancer
through a robust and validated prognostic model

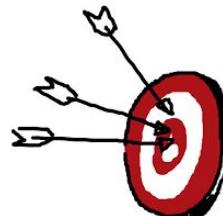
Developing a Prognostic Model:

Clinico – pathological and Molecular Tool



Developing a Prognostic Model:

Clinico – pathological and Molecular Tool



- Support personalized treatment decisions
- Improve accuracy of risk stratification
- Provide a practical tool for clinicians

Study Design and Potential Digital Health Integration

Study design

- Retrospective observational cohort study
- Development cohort: $N \approx 150$
- Validation: internal (testing the model) + external (multicenter cohort)
- Outcomes: recurrence-free survival, overall survival

Digital Health

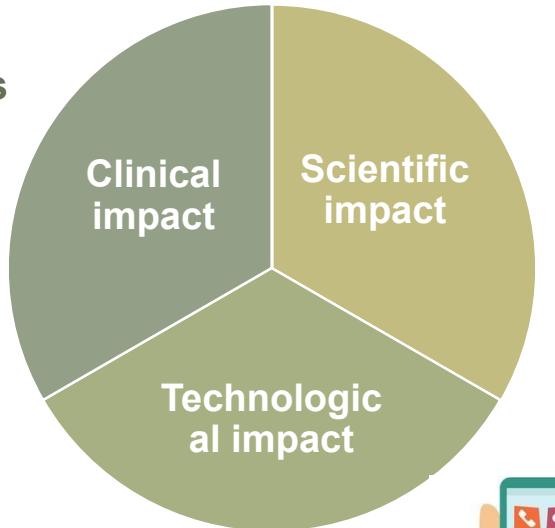
- Goal: translate the model into a practical tool
- Potential forms: web-based calculator, Mobile interface, Integration into clinical workflow

Variables of interest

- Fecha nacimiento
 - Edad
 - INC
 - Fecha diagnóstico (RP)
 - Tipo histológico
 - Grado
 - Infiltración miometrial
 - Metástasis a distancia
 - Riesgo preIQ ?? Estadioje preIQ ??
 - Tratamiento neoadyuvante
 - Tratamiento lo quirúrgico
 - RSA
 - Tipo histológico definitivo
 - Grado histológico
 - Tamaño tumoral
 - Infectación linfovascular
 - RP centinela pélvico
 - RP ganglios pélvicos
 - RP ganglios parabórticos
-
- Receptores Estrogenos
 - Receptores Progesterona
 - Estudio genético
 - Estadio Quirúrgico FICO 2018 / 2023
 - Grupo de riesgo definitivo (???)
 - Tributaria a radioterapia / braquiterapia / sistémico
 - Fecha ultima visita
 - Recidiva
 - Estado actual paciente
 - Causa muerte
 - Fecha muerte
 - Libre enfermedad
 - Número recidiva
 - Fecha recidiva
 - Diagnóstico, número, lugar
 - Tratamiento recibido para la recidiva
 - Tratamiento quirúrgic recidiva
 - Resección macroscopica completa
 - Tratamiento RT / sistémico

Expected Impact: Towards Personalized Care

More personalized treatment decisions



Digital tool
ready for clinical
use



First NSMP-specific prognostic model externally validated



Thank you for your attention
