

Madrid, 17-19 octubre 2013

1 CONGRESO ESPAÑOL DE LA  
**MAMA**

XXXII CONGRESO de la SESPM  
XIII CONGRESO de la SEDIM  
VII CONGRESO SIBIM

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Sociedad Española  
de Senología y Patología Mamaria



**SIBIM**  
Sociedad Iberoamericana  
de Imagen Mamaria

# Tutorial de imagenología mamaria

## Estudio de los ganglios axilares

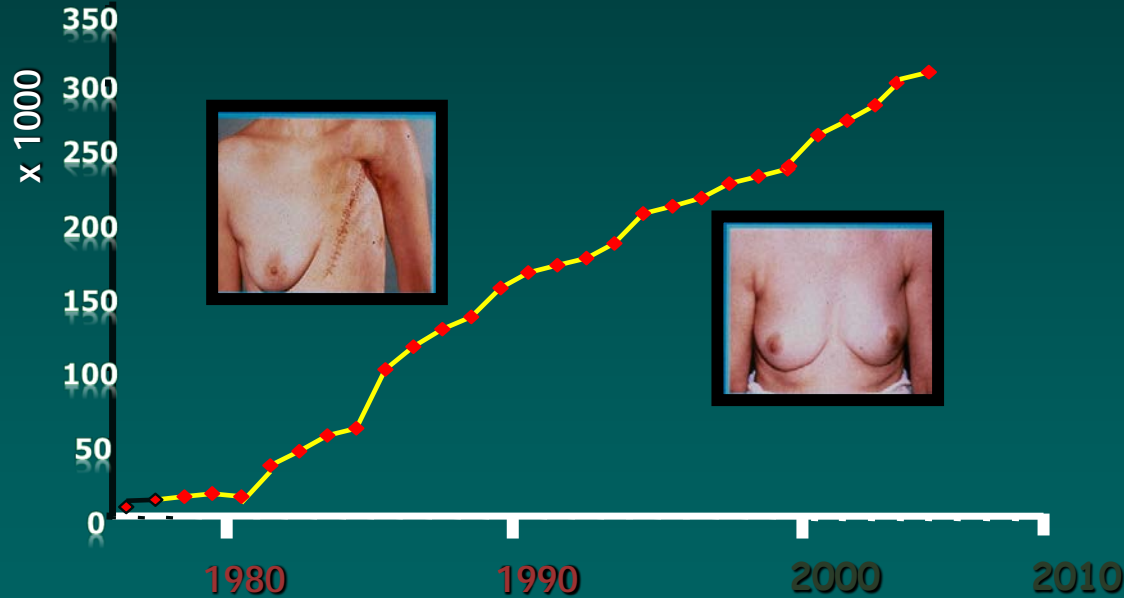
**TENDENCIA ACTUAL A SU CONSERVACIÓN**

Papel de la ecografía en la biopsia selectiva del ganglio centinela

# Historia de la Mastología últimos 30 años

Tendencias menos agresivas y adecuación particular del tto.

Evolución de la cirugía conservadora vs mastectomía

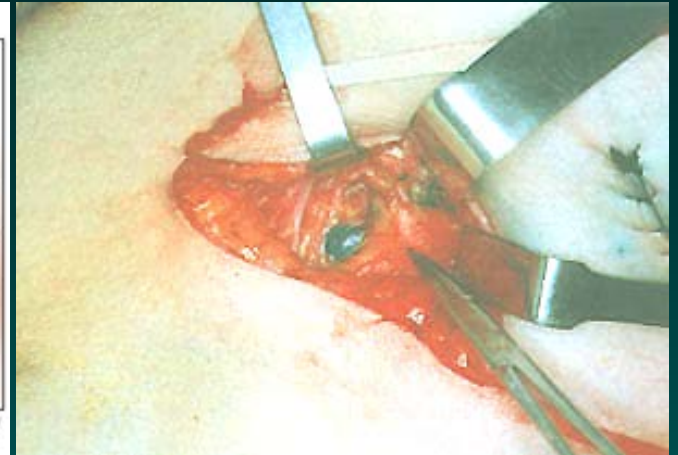
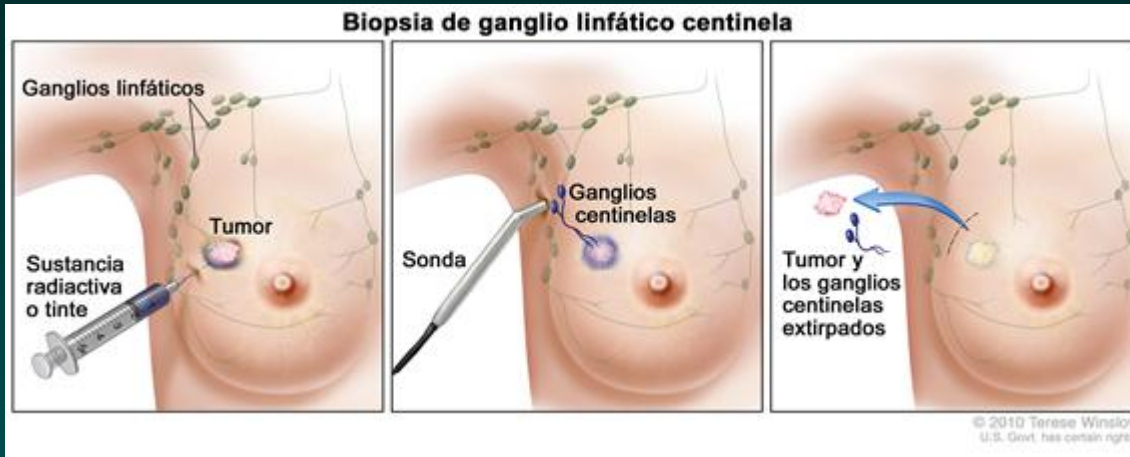


Biopsia de ganglio centinela vs disección axilar

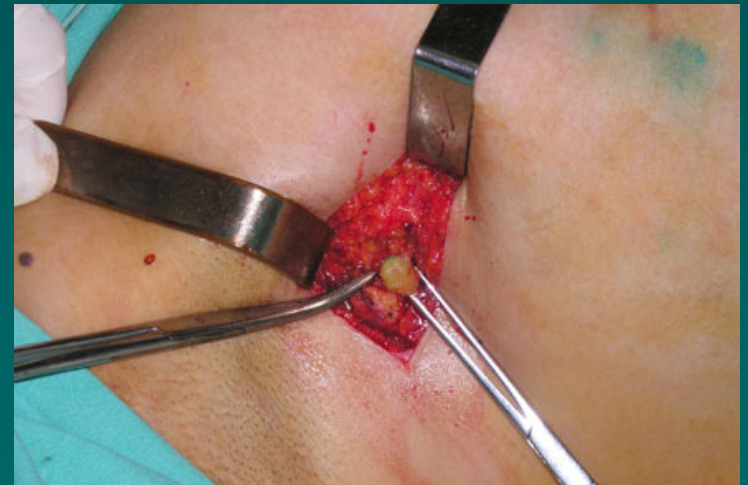
Tratamientos individualizados

Importancia de la estadificación prequirúrgica

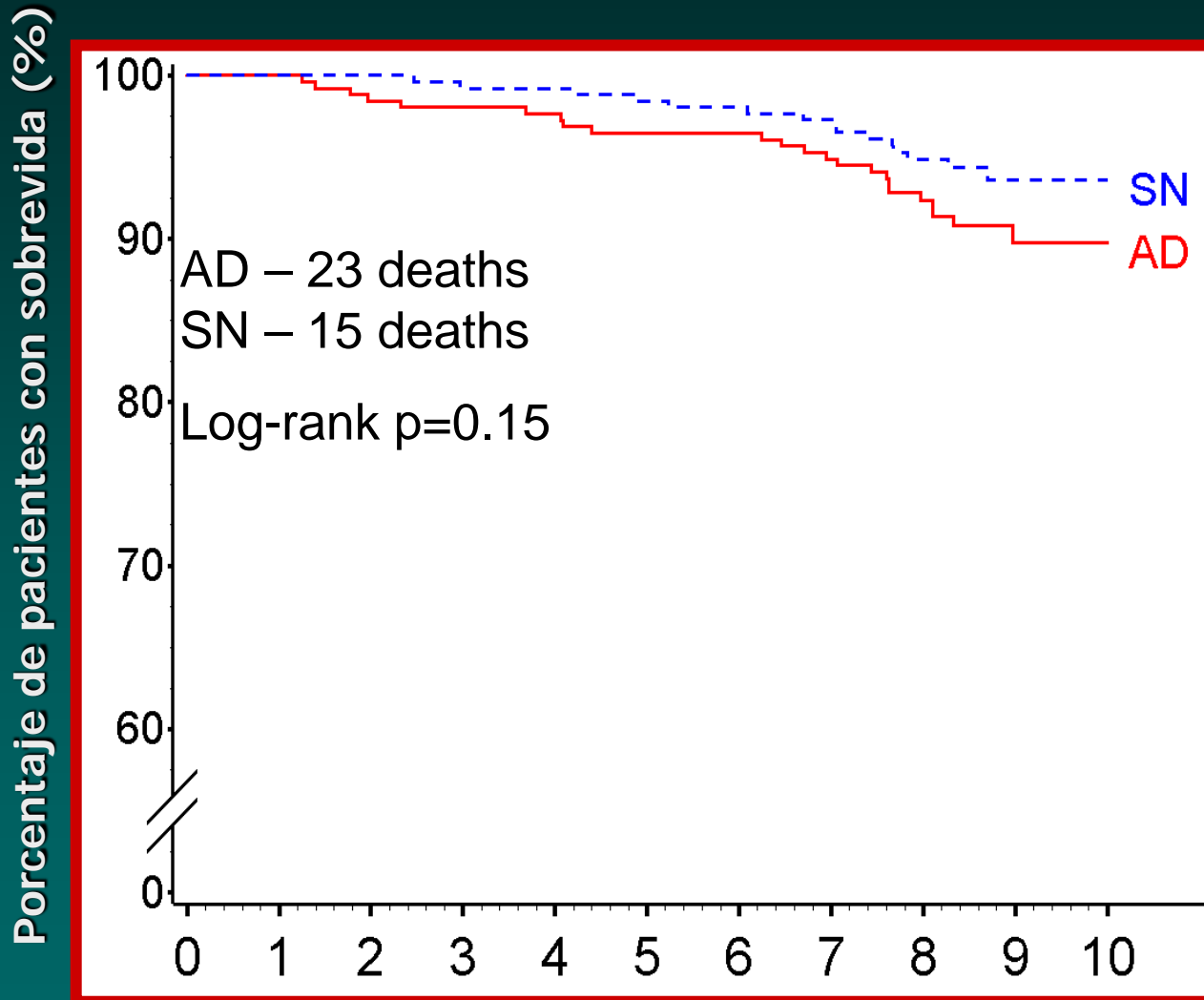
# Biopsia del ganglio centinela



Colorante y/o sustancia radioactiva



# Sobrevidas con GC- y con disección axilar Seguimiento 10 años



*Veronesi U, et al. Lancet 2006*

# ACOSOG Z0010

American College of Surgeons Oncology Group

T1-2

Biopsia Ganglio Centinela  
Biopsia Médula Ósea

Ganglio Centinela  
Negativo (HyE)

Ganglio Centinela  
Positivo (HyE)

No Vaciamiento Axilar  
Radioterapia mama  
Tratamiento adyuvante

Candidata al ensayo  
Z0011



# ACOSOG Z0011

Armando Giulano

American College of Surgeons Oncology Group

Ganglio Centinela Positivo (HyE)

Randomizado

Con disección  
axilar

Sin disección  
axilar

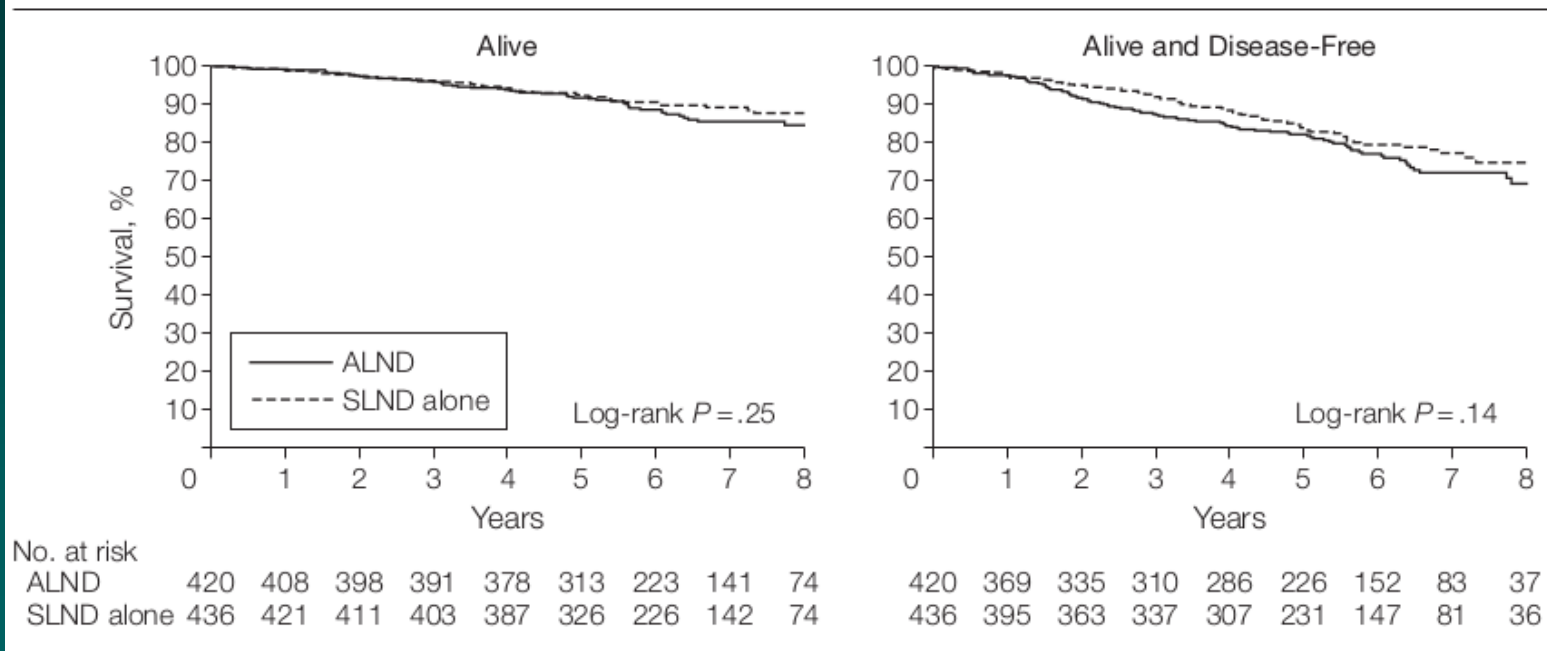
Radioterapia y Quimio adyuvante

Seguimiento

# Axillary Dissection vs No Axillary Dissection in Women With Invasive Breast Cancer and Sentinel Node Metastasis

A Randomized Clinical Trial

**Figure 2.** Survival of the ALND Group Compared With SLND-Alone Group



ALND indicates axillary lymph node dissection; SLND, sentinel lymph node dissection.

Giuliano, Armando E, Kelly K Hunt, Karla V Ballman, Peter D Beitsch, Pat W Whitworth, Peter W Blumencranz, A Marilyn Leitch, Sukamal Saha, Linda M McCall, and Monica Morrow. "Axillary Dissection Vs No Axillary Dissection in Women with Invasive Breast Cancer and Sentinel Node Metastasis: a Randomized Clinical Trial." JAMA: The Journal of the American Medical Association 305, no. 6 (February 9, 2011): 569–575.

doi:10.1001/jama.2011.90.

# Estudio de la axila

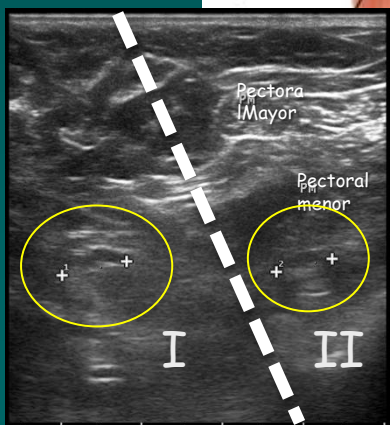
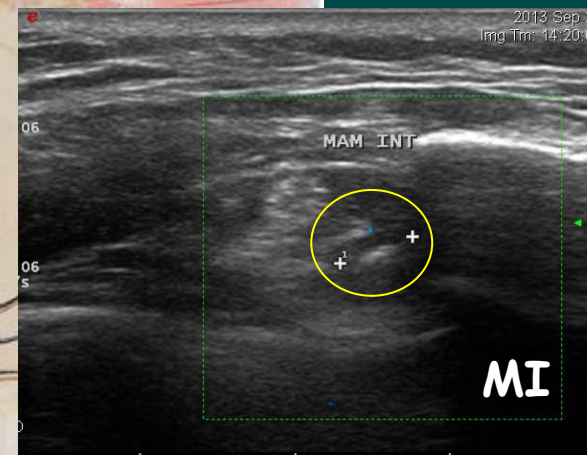
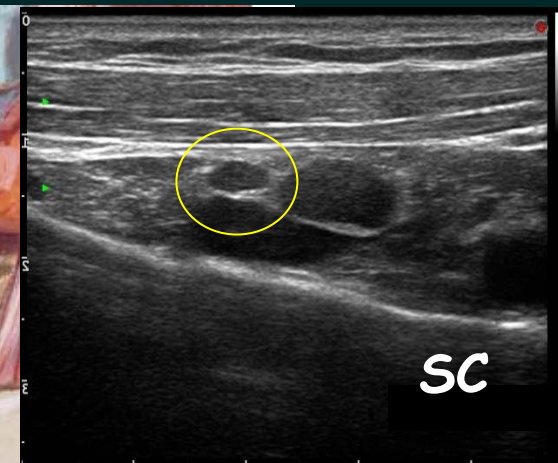
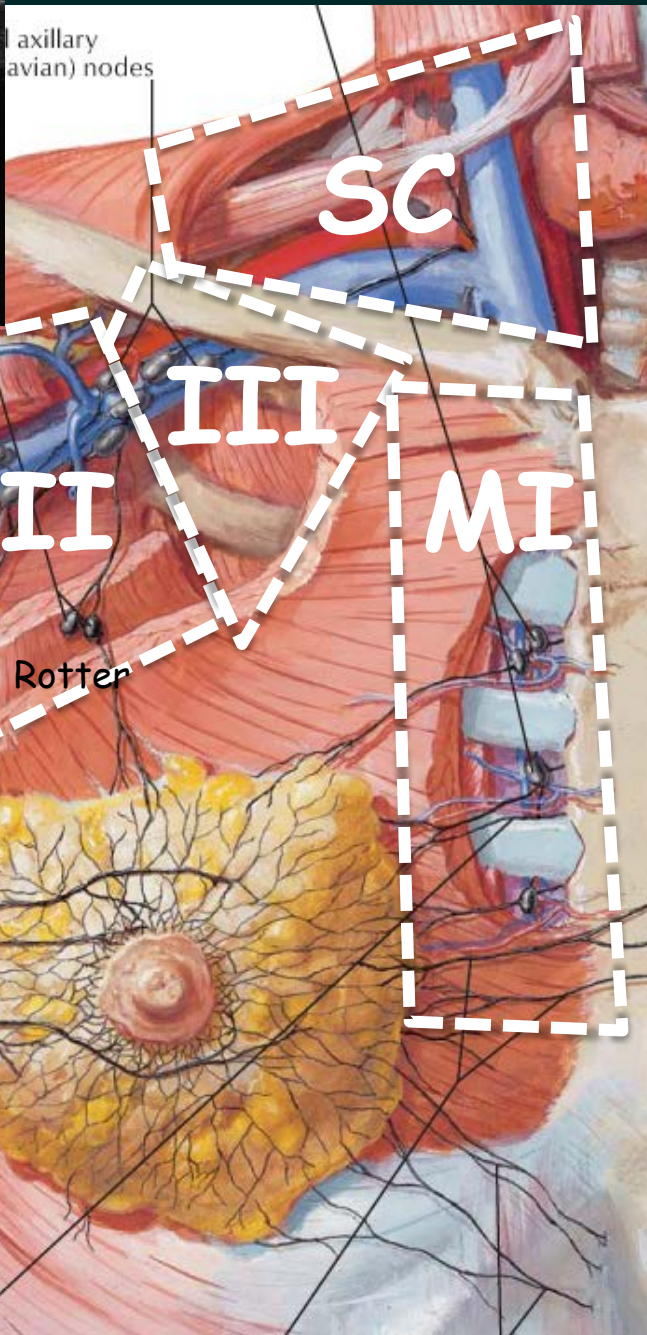
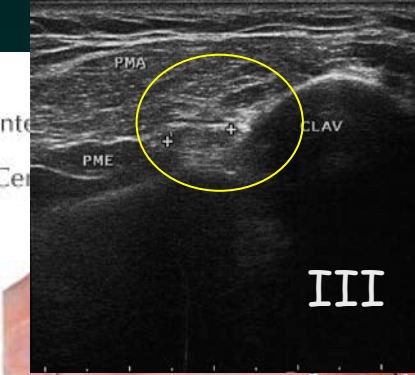
Comparación de Sensibilidad y Especificidad  
en Examen clínico vs. Examen clínico + Ultrasonografía

	Sólo examen clínico	Examen clínico + ultrasonografía
Sensibilidad	31%	58%
Valor P Neg.	63%	73%

**Axillary Ultrasound for Breast Cancer Staging: an Attempt to Identify Clinical/Histopathological Factors Impacting Diagnostic Performance**

[Kubilay Ertan](#),<sup>1</sup> [Christina Linsler](#),<sup>2</sup> [Alexander di Liberto](#),<sup>1</sup> [Mei Fang Ong](#),<sup>3</sup> [Erich Solomayer](#),<sup>2</sup> and [Jan Endrikat](#)<sup>2</sup>

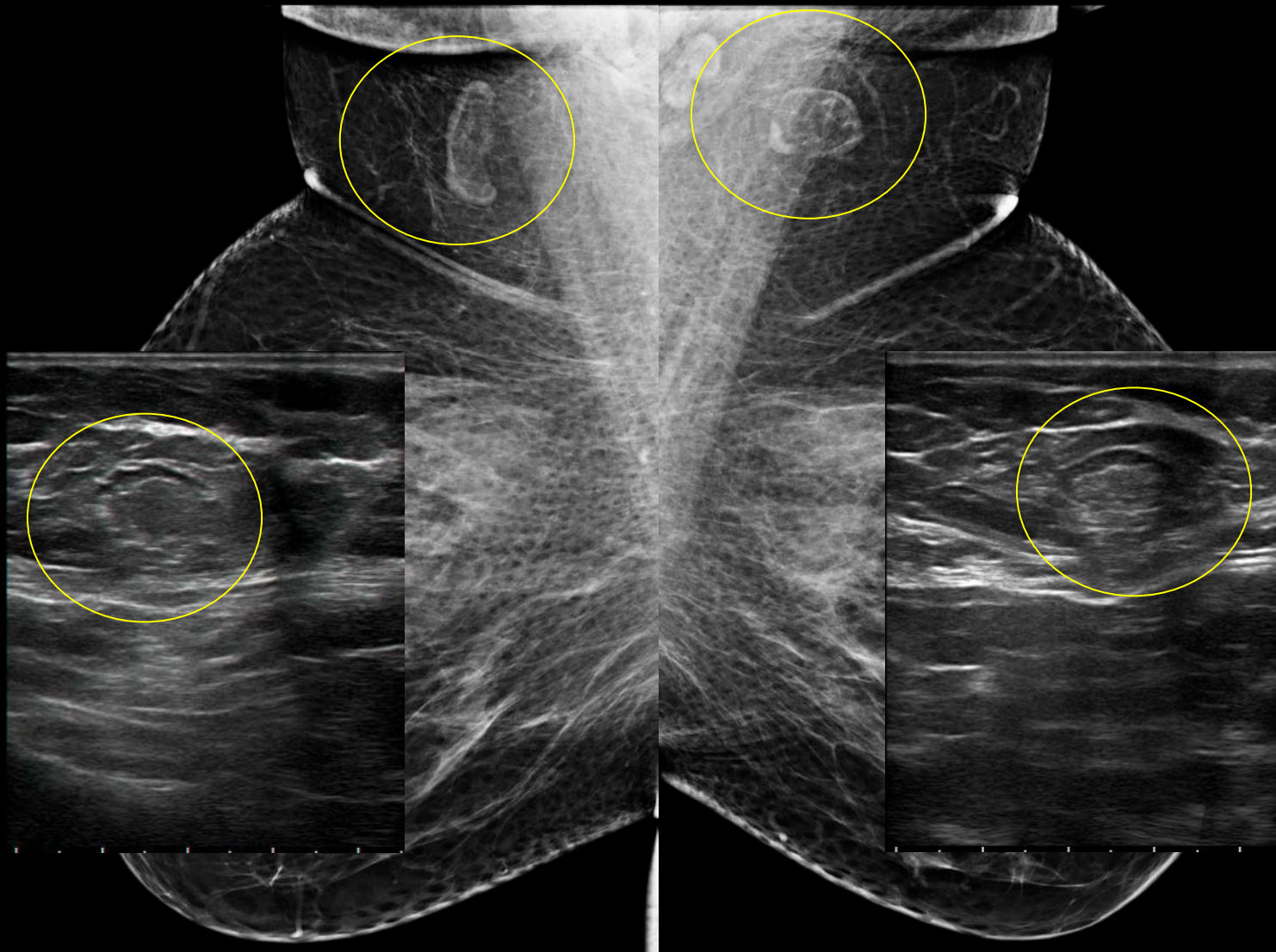


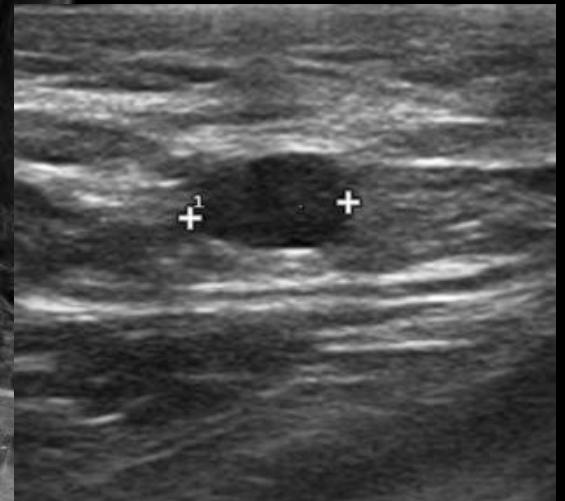


*F. N...*

# Estudio de la axila

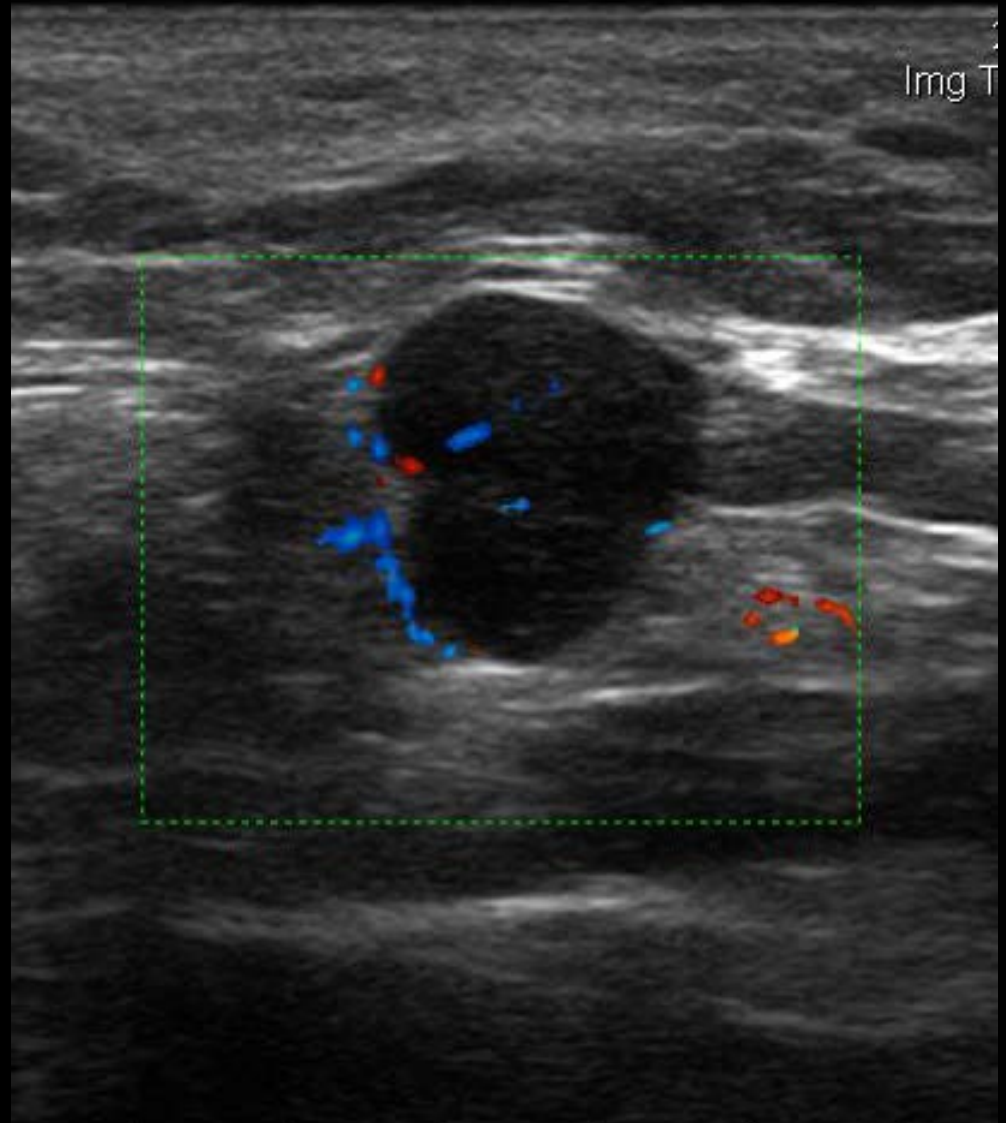
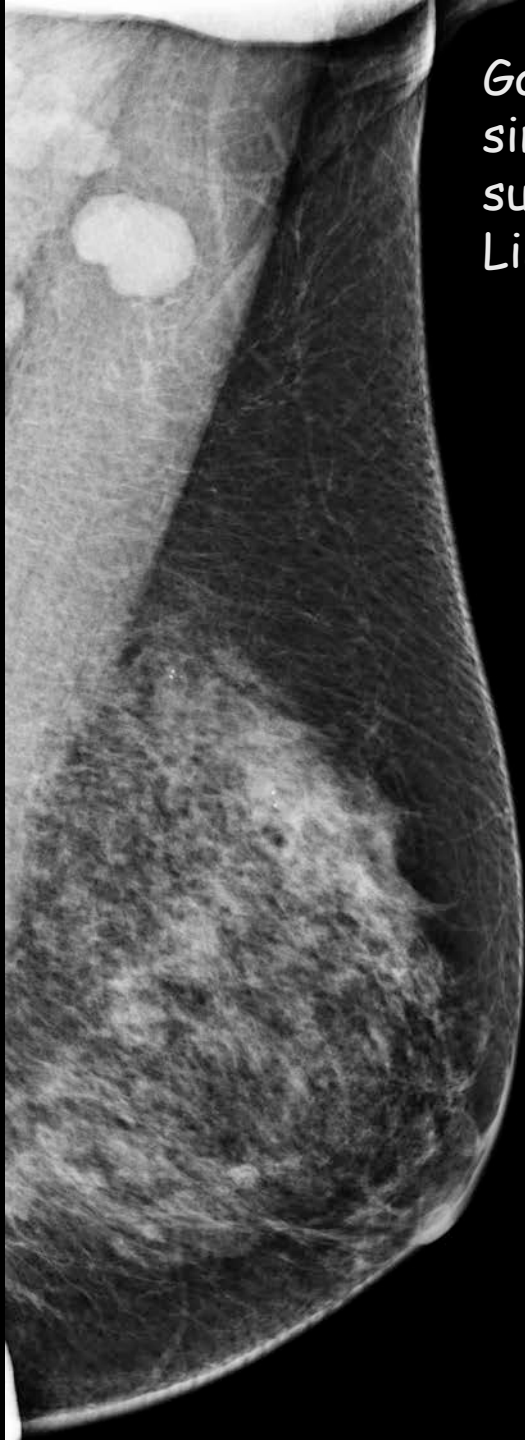
Mamografía y ultrasonografía.





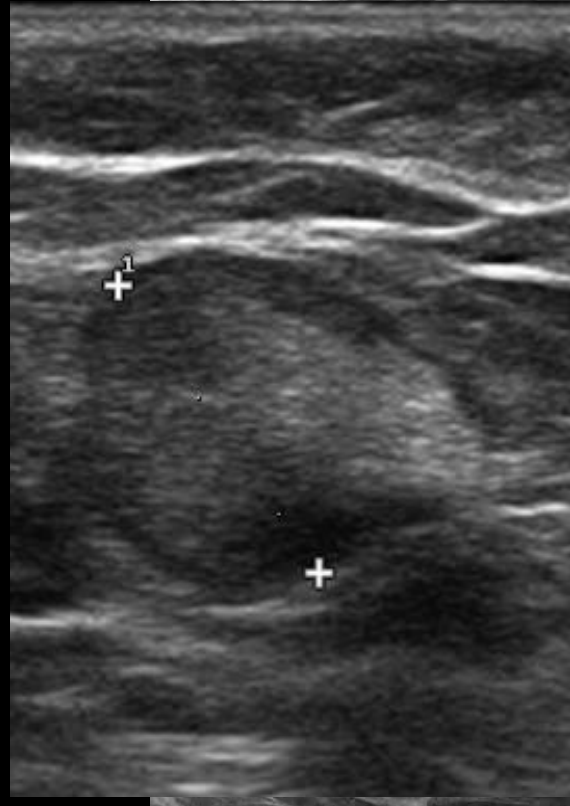
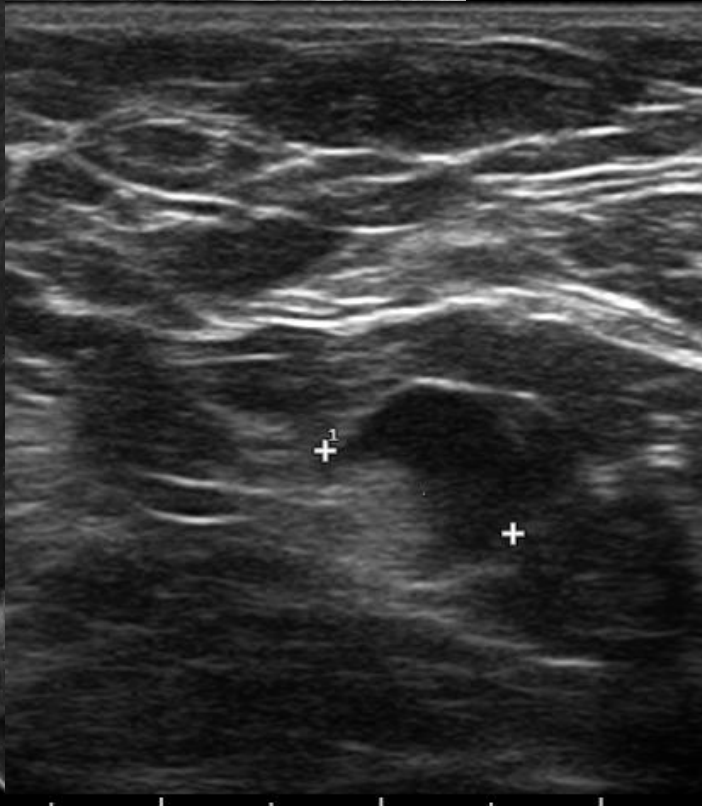
Ganglios patológicos  
sin patología mamaria  
subyacente.  
Ganglios reactivos

Ganglios patológicos  
sin patología mamaria  
subyacente.  
Linfoma

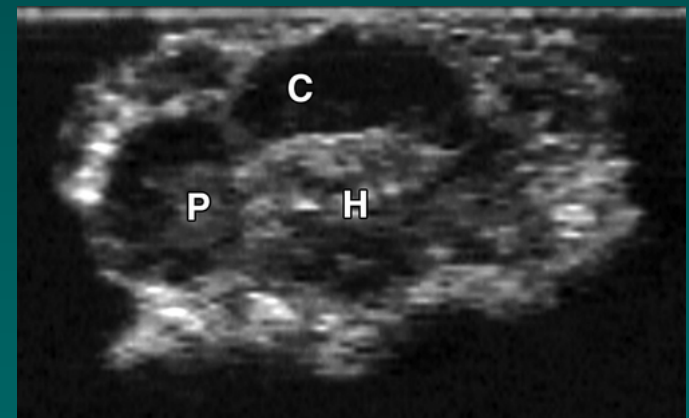
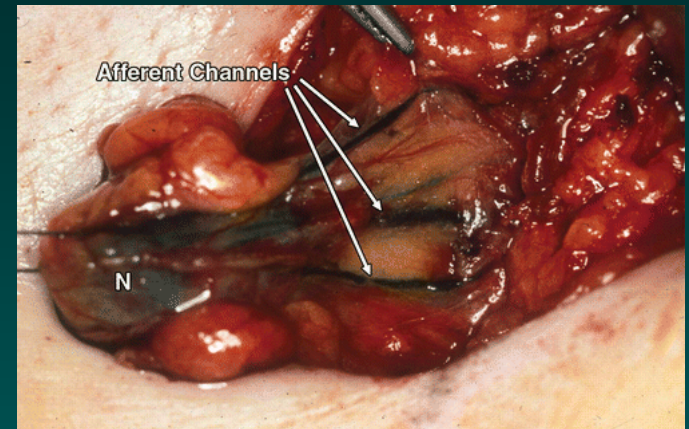
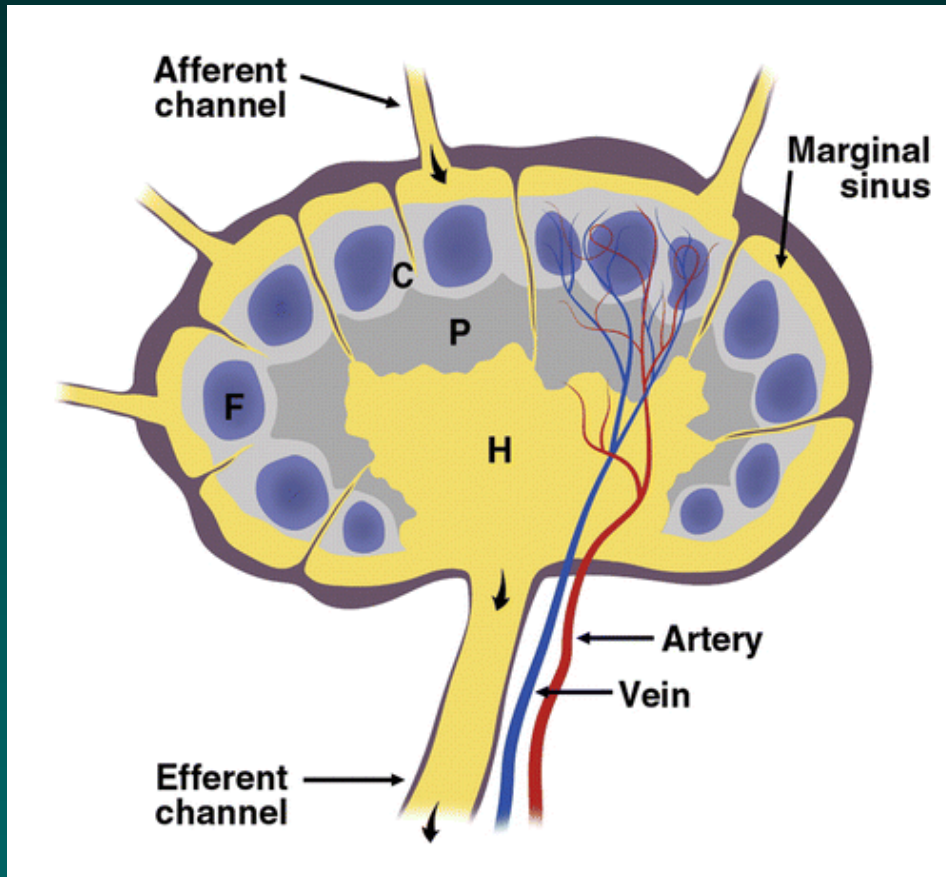


Mx:  
Adenopatías  
inespecíficas

Us:  
Alteración morfológica  
Ganglios metastáticos



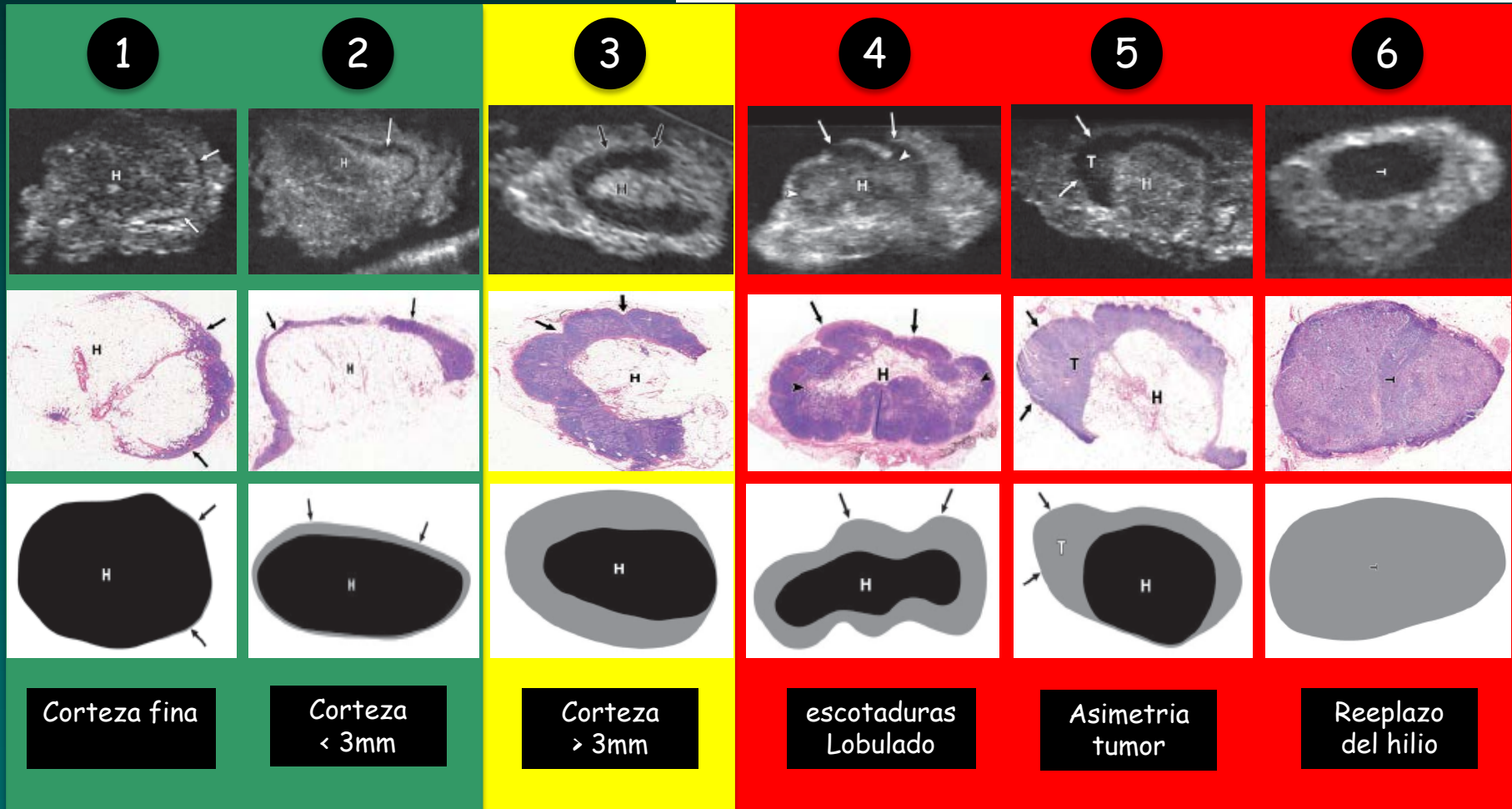
# Aspectos morfológicos de los ganglios linfáticos axilares In Vitro Sonographic Study



Bedi, D. G, R. Krishnamurthy, S. Krishnamurthy, B. S Edeiken, H. Le-Petross, B. D Fornage, R. L Bassett Jr, and K. K Hunt. "Cortical Morphologic Features of Axillary Lymph Nodes as a Predictor of Metastasis in Breast Cancer: In Vitro Sonographic Study." American Journal of Roentgenology 191, no. 3 (2008): 646.

# Clasificación de Bedi

## Cortical Morphologic Features of Axillary Lymph Nodes as a Predictor of Metastasis in Breast Cancer: In Vitro Sonographic Study



Bedi, D. G, R. Krishnamurthy, S. Krishnamurthy, B. S Edeiken, H. Le-Petross, B. D Fornage, R. L Bassett Jr, and K. K Hunt. "Cortical Morphologic Features of Axillary Lymph Nodes as a Predictor of Metastasis in Breast Cancer: In Vitro Sonographic Study." American Journal of Roentgenology 191, no. 3 (2008): 646.

**TABLE 2: Sonographic Classification of Axillary Lymph Nodes and Final Surgical Results After Sonographically Guided Needle Localization**

Grade	Criteria	No. of Cases	Surgical Results, No. (%) of Cases			
			Needle-Localized Node-Based Analysis <sup>a</sup>		Patient-Based Analysis <sup>b</sup>	
			Positive (n = 41)	Negative (n = 150)	Positive (n = 54)	Negative (n = 137)
1	Cortical thickness of $\leq 1.5$ mm	43	1 (2)	42 (98)	3 (7)	40 (93)
2	$1.5 < \text{cortical thickness} \leq 2.5$ mm	80	5 (6)	75 (94)	11 (14)	69 (86)
3	$2.5 < \text{cortical thickness} \leq 3.5$ mm	48	19 (40)	29 (60)	23 (48)	25 (52)
4	Cortical thickness of $> 3.5$ mm and intact fatty hilum	10	7 (70)	3 (30)	7 (70)	3 (30)
5	Cortical thickness of $> 3.5$ mm and loss of fatty hilum	10	9 (90)	1 (10)	10 (100)	0 (0)

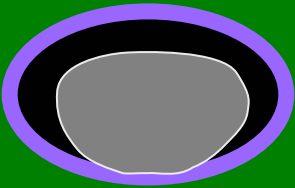
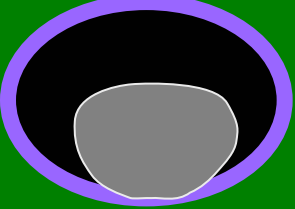
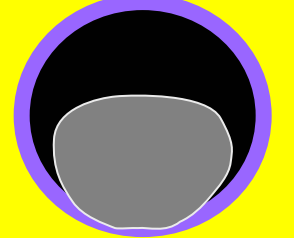
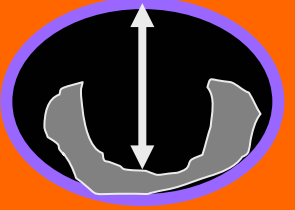
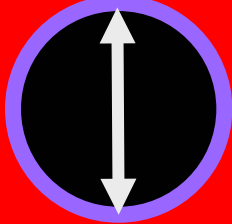
<sup>a</sup>Histologic results were analyzed for sonographically guided needle-localized lymph nodes.

<sup>b</sup>Histologic results were analyzed for all lymph nodes found after sentinel node biopsy or axillary lymph node dissection.



# Clasificación de Ganglios aún no considerada en BIRADS

Sugerencia de clasificación por ultrasonido  
Modificado de los estudios de Nariya Cho y de Bedi...

N-1 (BR-1)	N-2 (BR-2)	N-3 (BR-3)	N-4 (BR-4)	N-5 (BR-5)
[0-1.5] mm	[1.5-2.5] mm	[2.5-3.5] mm	>3.5 mm	
				
Ganglio relación cortico-hiliar y forma conservadas	Ganglio con aumento del espesor cortical y forma conservada	Ganglio con aumento del espesor cortical y <b>forma alterada</b>	Ganglio con aumento del espesor y/o con engrosamiento focal de la cortical.	Con pérdida de la forma y <b>reemplazo total del hilio</b>

# Valores predictivos de las características morfológicas de ganglios axilares

<b>ECO AXILAR</b>	<b>BSGC / LA</b>		<b>VALOR PREDICTIVO</b>	<b>INTERVALOS CONFIANZA del 95%</b>
	<b>POSITIVO</b>	<b>NEGATIVO</b>		
Engrosamiento cortical difuso	72	31	VPP= 69.9% (72/103)	60.5% a 78.2%
Engrosamiento cortical focal o nodular	11	4	VPP= 73.3% (11/15)	47.5% a 90.9%
Engrosamiento multinodular cortical	9	1	<b>VPP= 90%</b> (9/10)	59.7% a 99.5%
Ausencia del hilio graso central	54	4	<b>VPP= 93.1%</b> (54/58)	84.2% a 97.8%
Ganglio normal o negativo	85	316	VPN= 78.8% (316/401)	74.6% a 82.6%

# PUNCIONES BAJO GUIA ECOGRAFICA (PAAF / Us)

Sensibilidad: 2% al 86%

Depende de la categoría punzada (Bedi)

Los falsos negativos dependen del tamaño de la metástasis (Macro, micro o células aisladas)



# Manejo de la axila. Ultrasonografía + PAAF

Multicenter Cooperative Study of the Effectiveness of Fine Needle Aspiration Cytology (FNAC) under Sonographic Guidance of Axillary Lymph Nodes in the Pre-treatment Management in Breast Cancer Patients.

**Results after 792 consecutive cancer cases.**

P.Palañá, J. del Riego, M. Villajos, M. Teixido, M. Vilagran, MJ. Diaz-Ruiz, L. Canales, J. Ribé, M. Sentís.

*MARCH 4<sup>TH</sup>, 2012 - VIENNA*



# Conclusions

## Recommendations

Limitaciones

- Our preliminary data suggest that FNA of axillary nodes has a low diagnostic yield in patients who all the following criteria:

Nodes classified as benign on the Bedi classification (15/464 3.21% positive)

Baja rentabilidad en BEDI 1-2-3

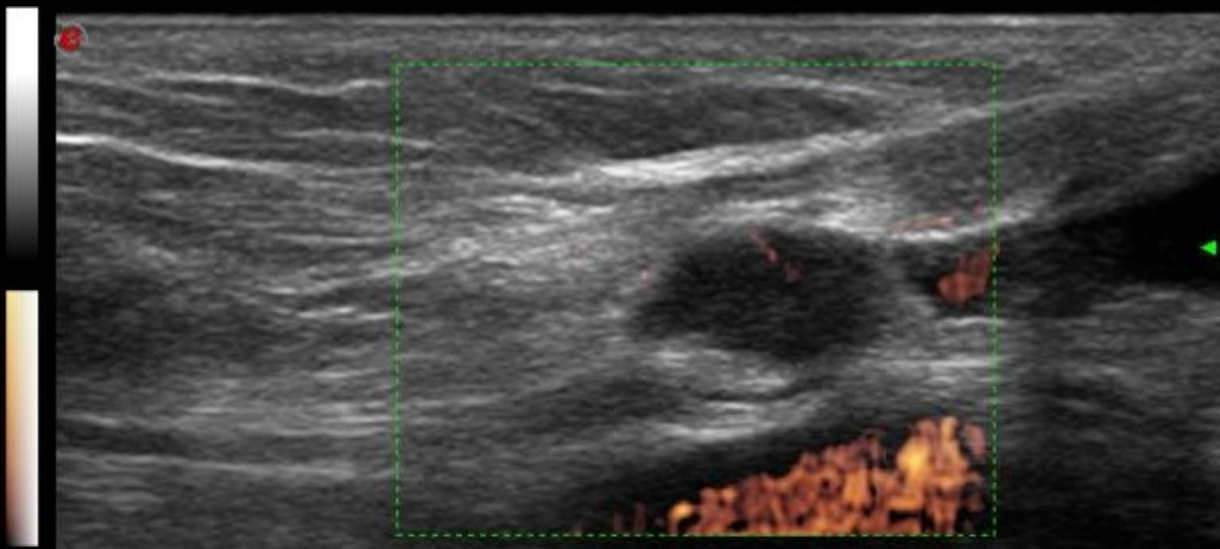
Tumor  $\leq 10$  mm or tumor volume  $\leq 524$  mm<sup>3</sup>, because lymph node involvement is not common and FNA is not very effective (5/104 4.8%)

Baja rentabilidad en tumores  $< 1$  cm

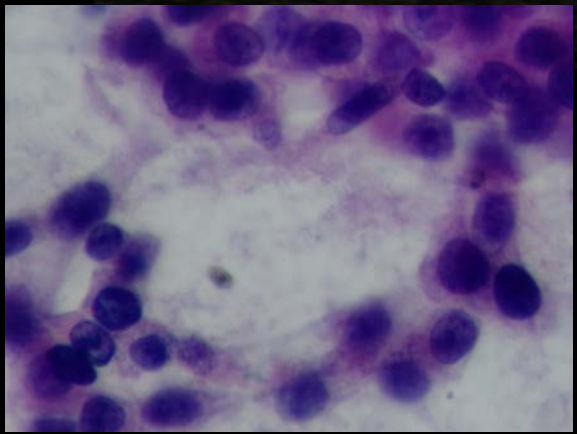
Luminal phenotype

Alta rentabilidad en HER 2 y triple negativos

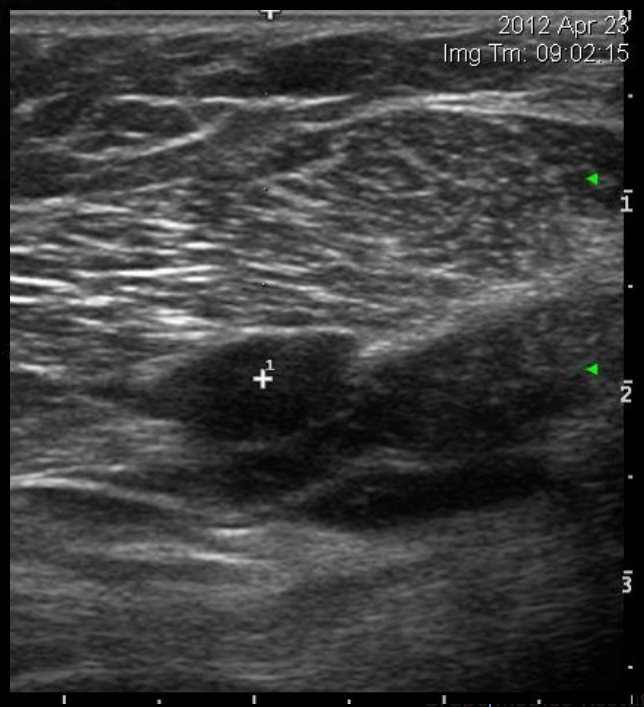




En axila izquierda se reconocen sendas imágenes nodulares vascularizadas hipoeoicas no visibles en estudios previos que miden 6.2 x 4.4mm y 9.5 x 5.8mm, categorizadas N4.



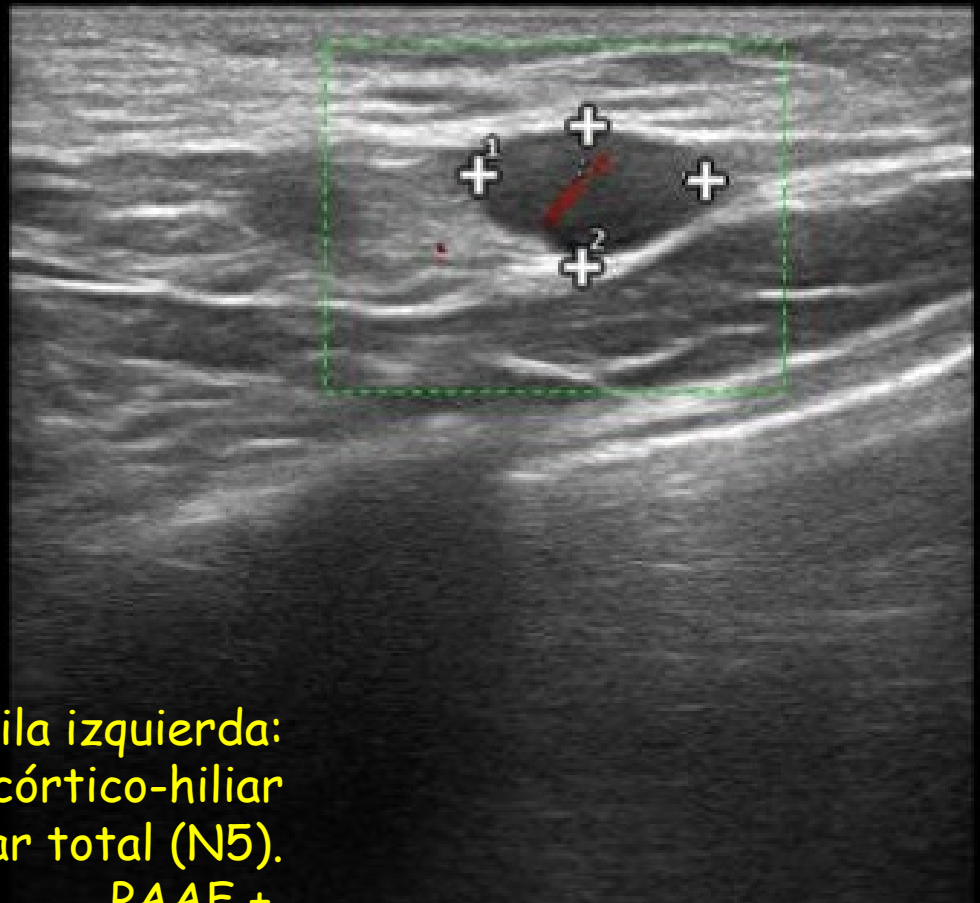
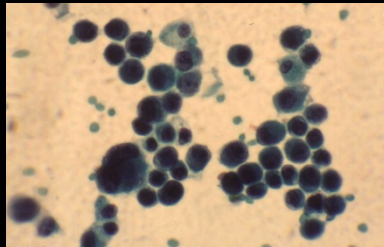
PAAF:  
Cuadro citológico compatible con carcinoma de probable origen mamario



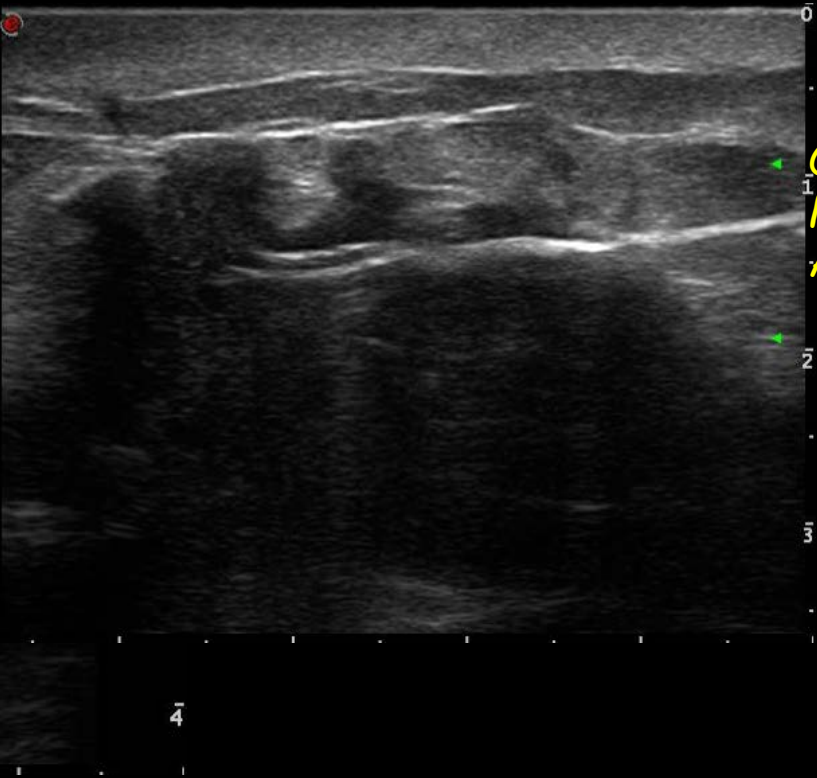
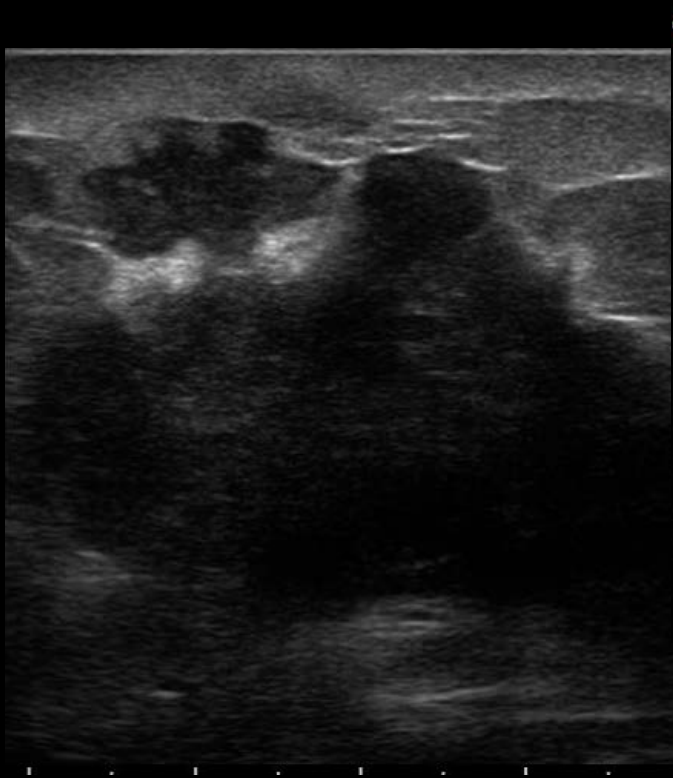


Core Biopsy/Us de  
nódulo BR-5 en MI H3

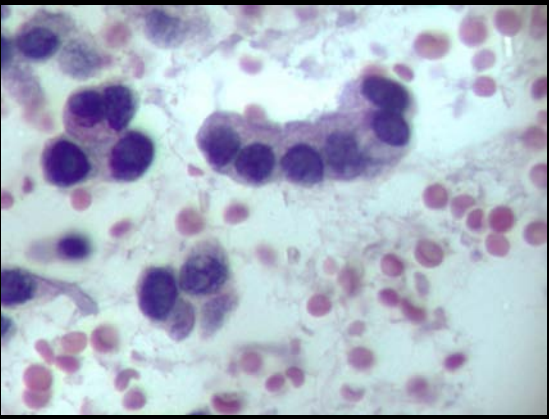
AP: Carcinoma infiltrante, probable  
carcinoma ducto-lobulillar.



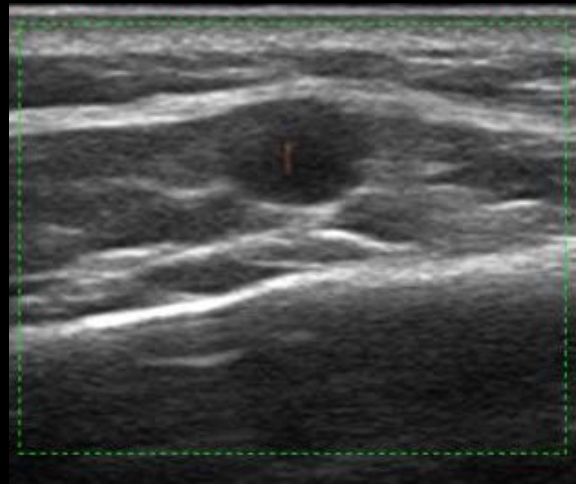
Axila izquierda:  
Ganglios con pérdida de la relación córtico-hiliar  
Reemplazo hiliar total (N5).  
PAAF +.



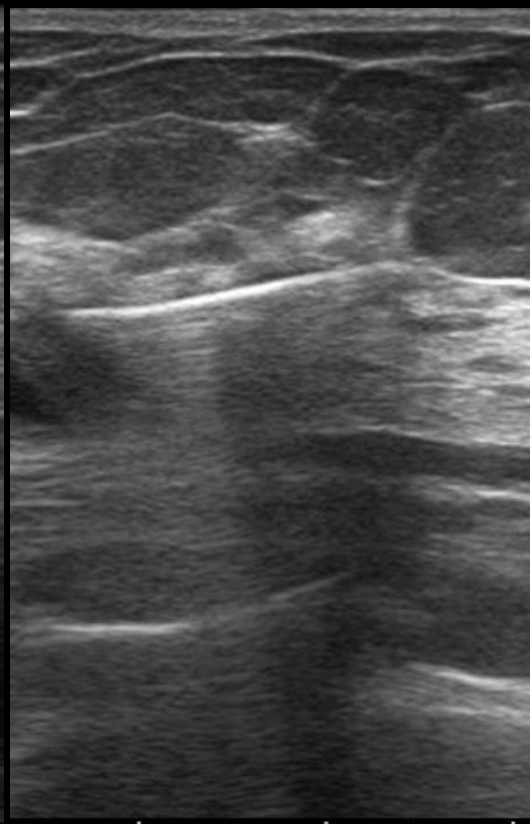
Core Biopsy/Us  
MD H12 rea BR-5  
AP: CDI G2



PAAF  
Ganglio Palpable  
supraclavicular derecho (N5)  
AP: Metástasis ganglionar

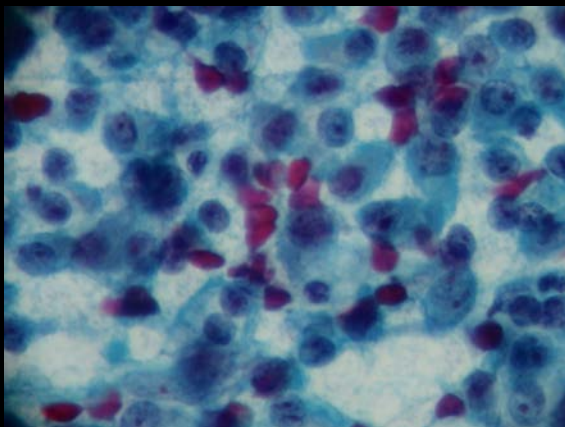
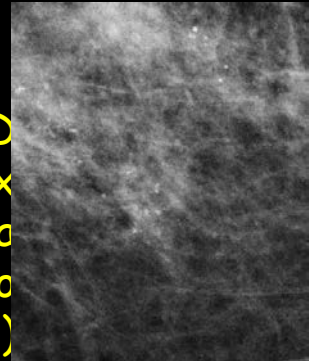




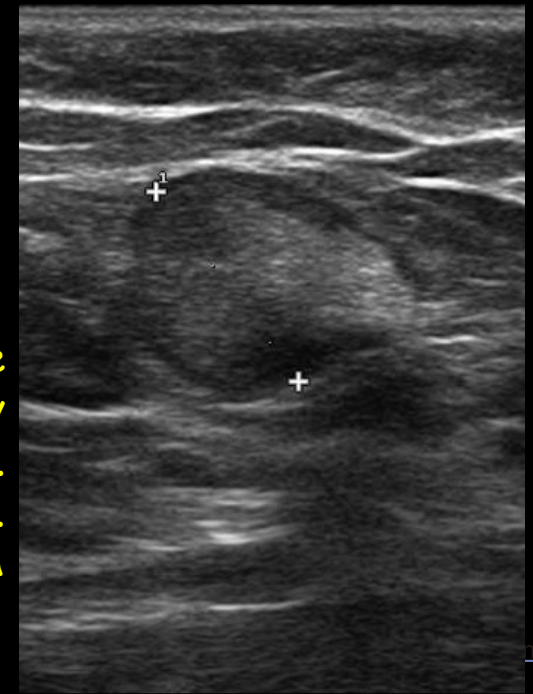


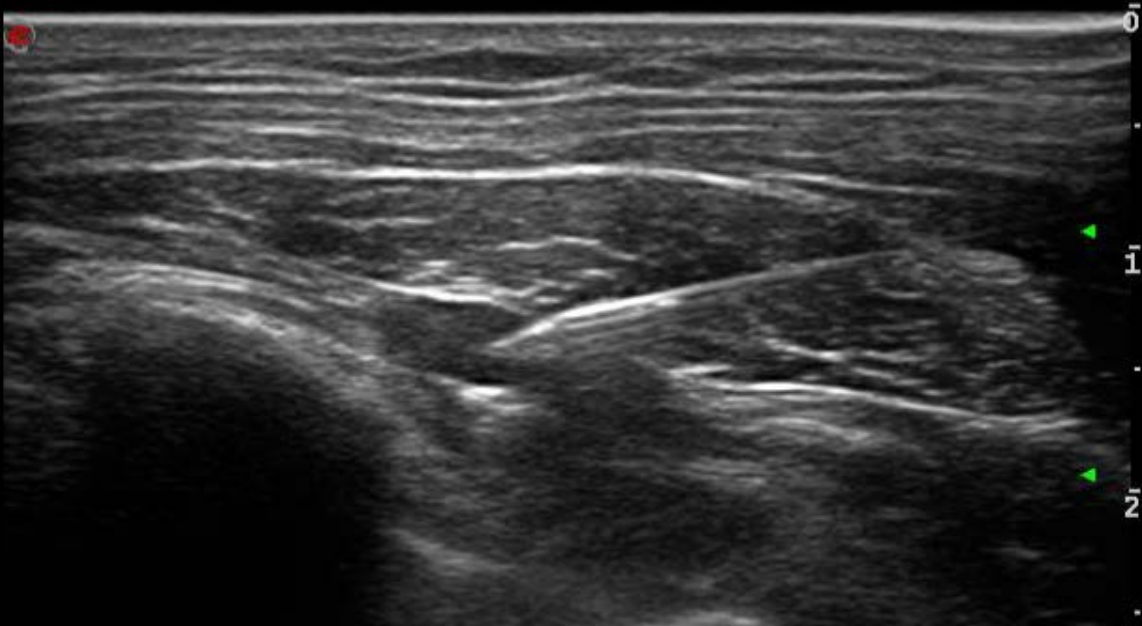
Core Biopsy  
MD CSE nódulo sólido  
lobulado vascularizado que  
mide 7.8 x 4mm, BR-4  
AP: Carcinoma ductal  
invasor G2

Micros eBR-4 en MD  
Suros/stx  
AP: Carcinoma  
intraductal apócrino  
(alto grado)

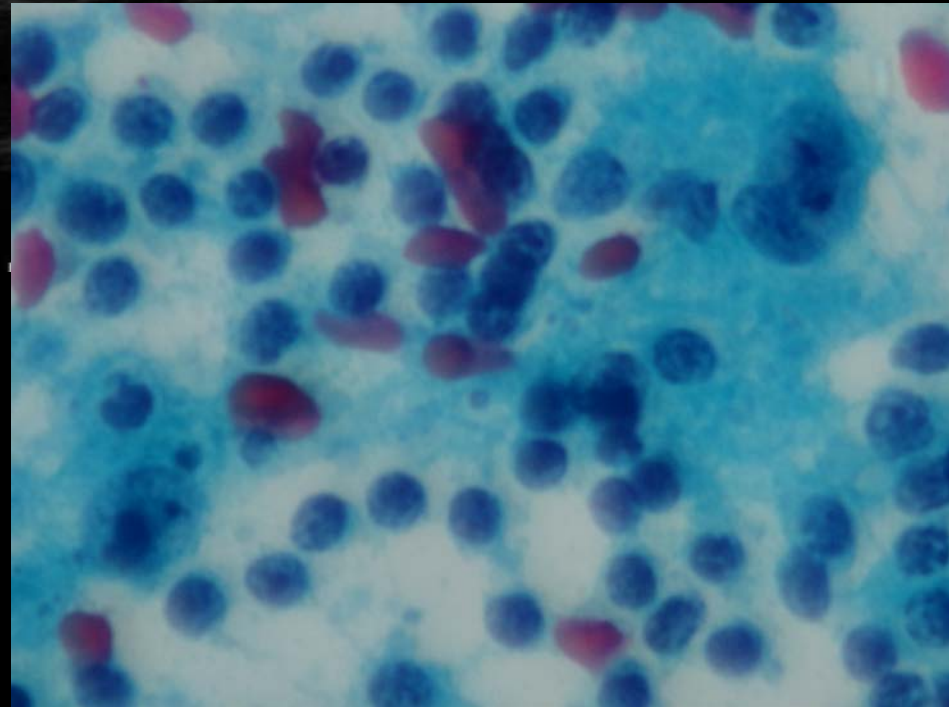


Ganglio en axila derecha de  
9.3mm con deformación y  
agrandamiento (N5).  
PAAF +.  
LINFADENECTOMÍA





Operada CA MI  
Ganglio subclavicular alterado  
PAAF:  
Hiperplasia Linfoide reactiva



# PUNCIÓNES BAJO GUIA ECOGRAFICA

## PAAF vs Core/Biopsy

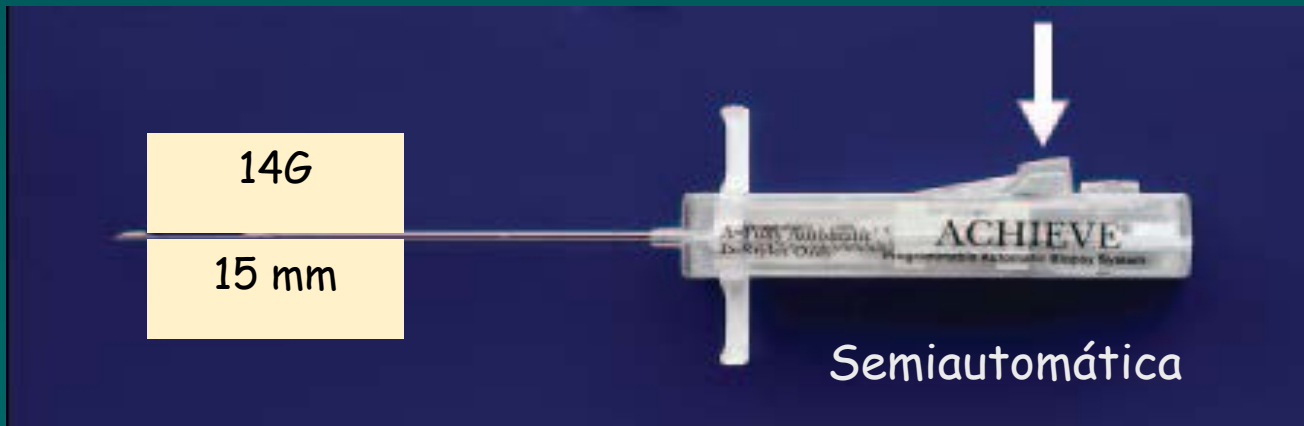
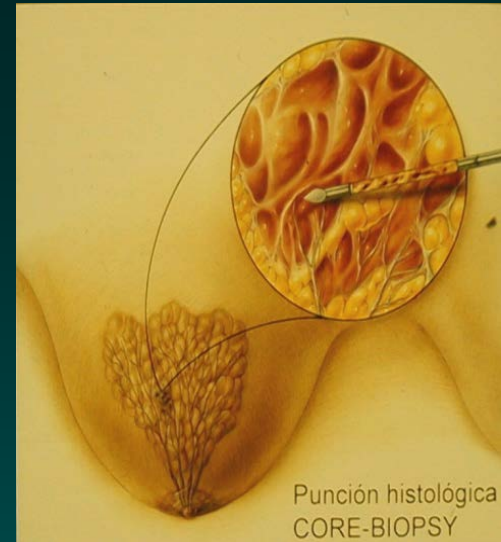
### VENTAJAS

- ✓ Inocua
- ✓ Rápida
- ✓ Económica
- ✓ Resultado inmediato

### DESVENTAJAS

- ✓ Citopatólogo presente y entrenado
- ✓ Menor sensibilidad
- ✓ Menor información
- ✓ Requiere mayor habilidad del operador

# PUNCIONES BAJO GUIA ECOGRAFICA (Core Biopsy/US)





Autores	Año	N° CORE BIOPSIAS	Criterio ecográfico	Sensibilidad y Especificidad	Complicaciones
Damera et al	2003	48 CORE BIOPSIA (14G)	Ganglios sospechosos	S= 42% y E= 100%	
Topal et al	2005	39 CORE BIOPSIA (16G)	Ganglios sospechosos	S= 90% y E= 100%	5 casos (dolor local)
Nathanson et al	2007	121 CORE BIOPSIA (14-18G)	Ganglios sospechosos y normales	S= 85% y E= 100%	
Abe Hiroyuki et al	2009	100 CORE BIOPSIA (14G)	Ganglios sospechosos	S= 94% y E= 100%	3 casos (dolor y sangrado leve)
Britton et al	2009	121 CORE BIOPSIA (16G)	Ganglios sospechosos y normales	S= 53.4%	1 hematoma
<b>Garcia-Ortega, Alvarez Benito et al</b>	<b>Oct.2006 Dic.2008</b>	<b>253 CORE BIOPSIA (14G)</b>	<b>Ganglios sospechosos y normales</b>	<b>S= 69% y E= 100%</b>	<b>2 casos (hematomas leves)</b>

# Manejo de la axila. Ultrasonografía + core/biopsy

Eur J Radiol. 2011 Jul;79(1):64-72. doi: 10.1016/j.ejrad.2009.12.011. Epub 2010 Jan 4.

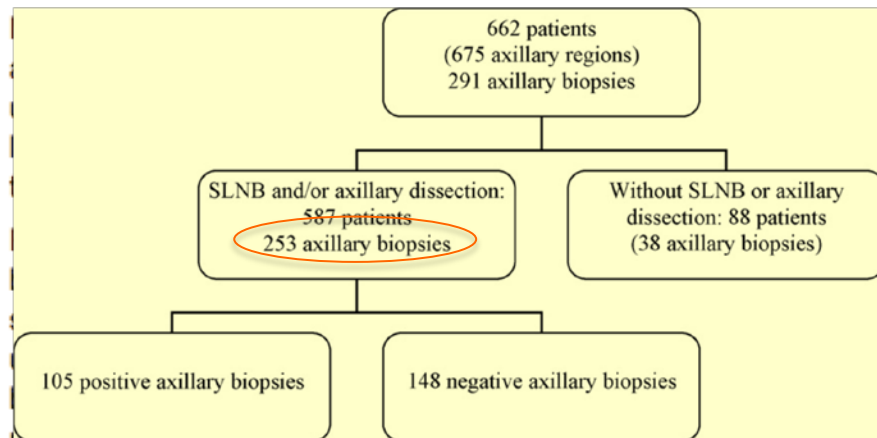
## Pretreatment axillary ultrasonography and core biopsy in patients with suspected breast cancer: diagnostic accuracy and impact on management.

Garcia-Ortega MJ, Benito MA, Vahamonde EF, Torres PR, Velasco AB, Paredes MM.

Breast Imaging Center, Radiology Department, Hospital Universitario Reina Sofia, Avda. Menendez Pidal s/n, 14004 Cordoba, Spain. rserranogan@telefonica.net

### Abstract

Preoperative diagnosis of axillary metastases in breast cancer patients enables treatment planning. We aimed to evaluate the diagnostic accuracy of axillary ultrasonography and percutaneous biopsy, both alone and in combination, in detecting axillary metastases in patients with breast cancer and to assess the impact of these techniques on the patients' management.



	Sensibilidad	Especificidad
Ultrasonido	63%	80%
Core/us	69%	100%

Malignant tumors in other locations were confirmed. The sensitivity and specificity of axillary ultrasonography were 63% and 80%, respectively. The absence of a fatty hilum with a positive axillary core biopsy was the most specific sign for malignancy (93.1%). The sensitivity and specificity of axillary core biopsy was avoided in 33% of initial candidates and immediate breast reconstruction was undertaken in 66.1% of the patients with mastectomy and negative axillary core biopsy.

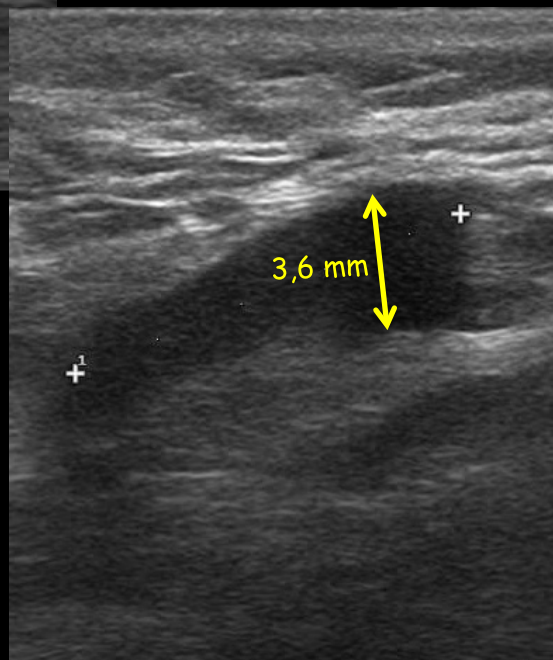
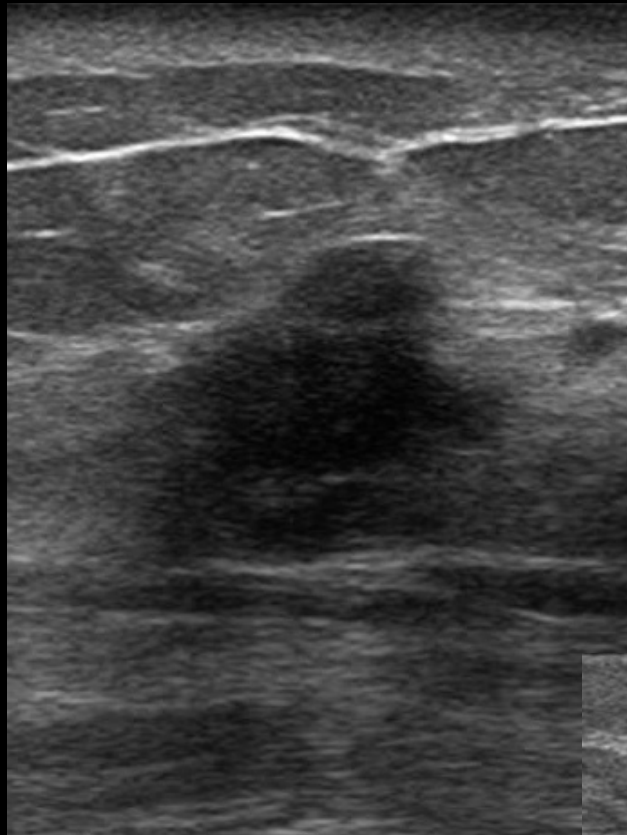
**PPV 93%**

**CONCLUSIONS:** Ultrasonography and axillary core biopsy enable adequate pretreatment staging in patients with breast cancer and has a positive impact on their management.

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PMID: 20047809 [PubMed - indexed for MEDLINE]

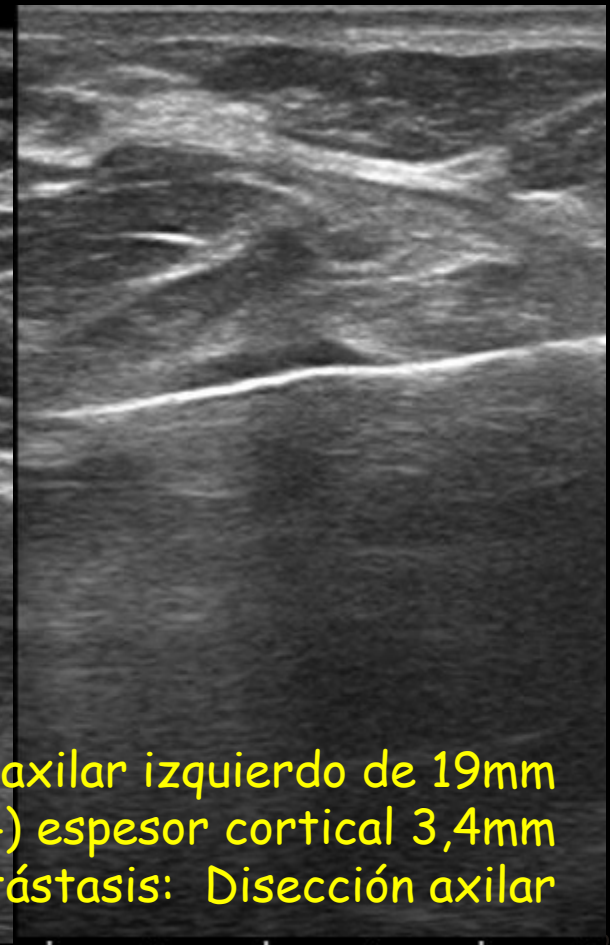
Core Biopsy  
nódulo en MI  
periareolar  
H12 BR-5  
AP: Carcinoma ductal  
invasor, con rasgos  
histológicos  
apócrinos G2



En axila izquierda se reconocen  
ganglios linfáticos  
(N4) espesor cortical (>3 mm)  
**LINFADENECTOMÍA**

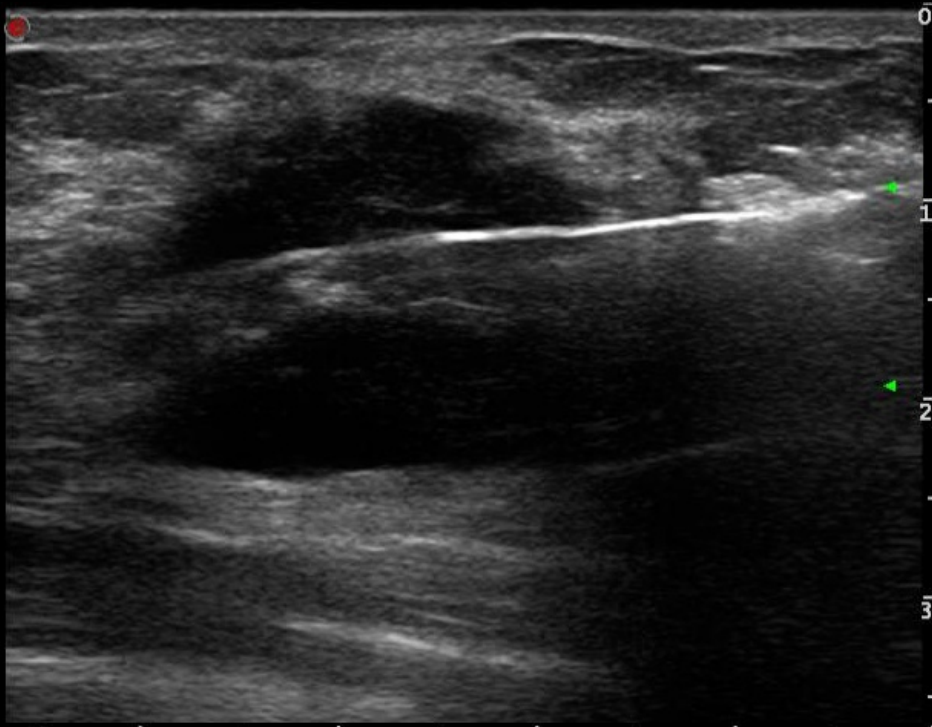


Core biopsy/Us  
Nódulo MI  
retroareolar  
AP: Carcinoma ductal  
invasor G2



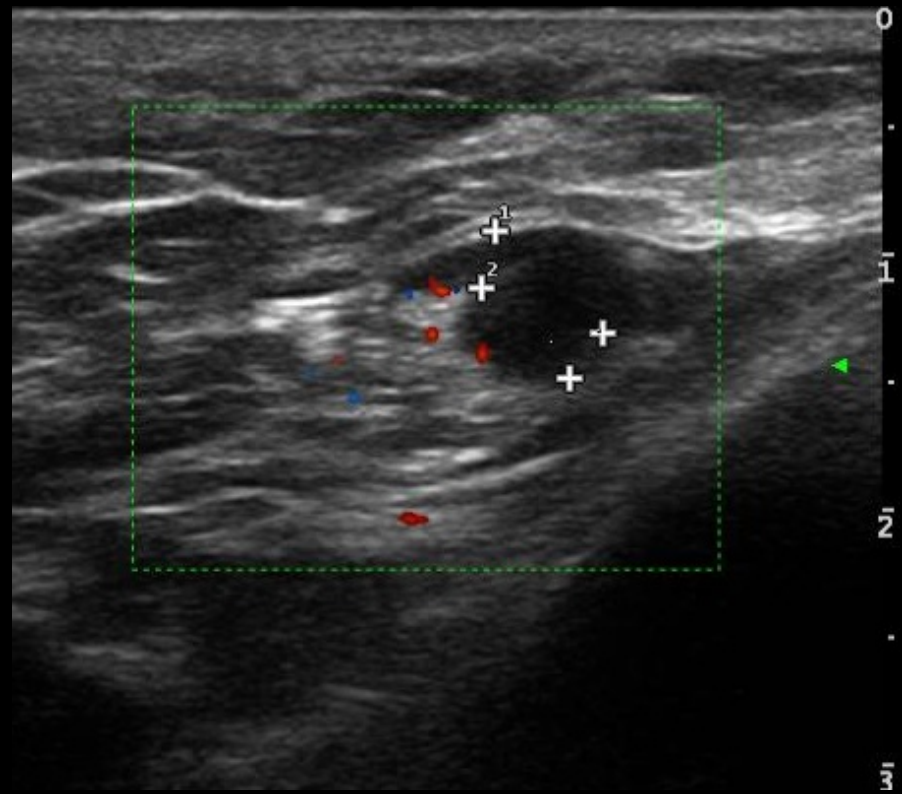
Ganglio axilar izquierdo de 19mm  
(N4) espesor cortical 3,4mm  
Metástasis: Disección axilar





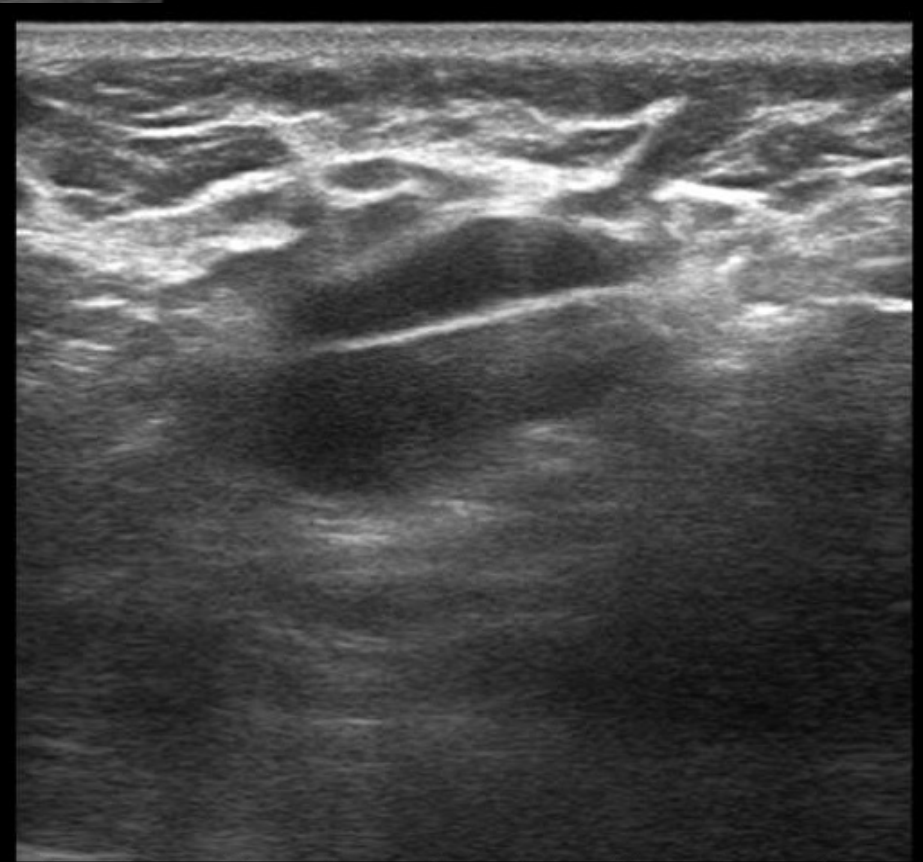
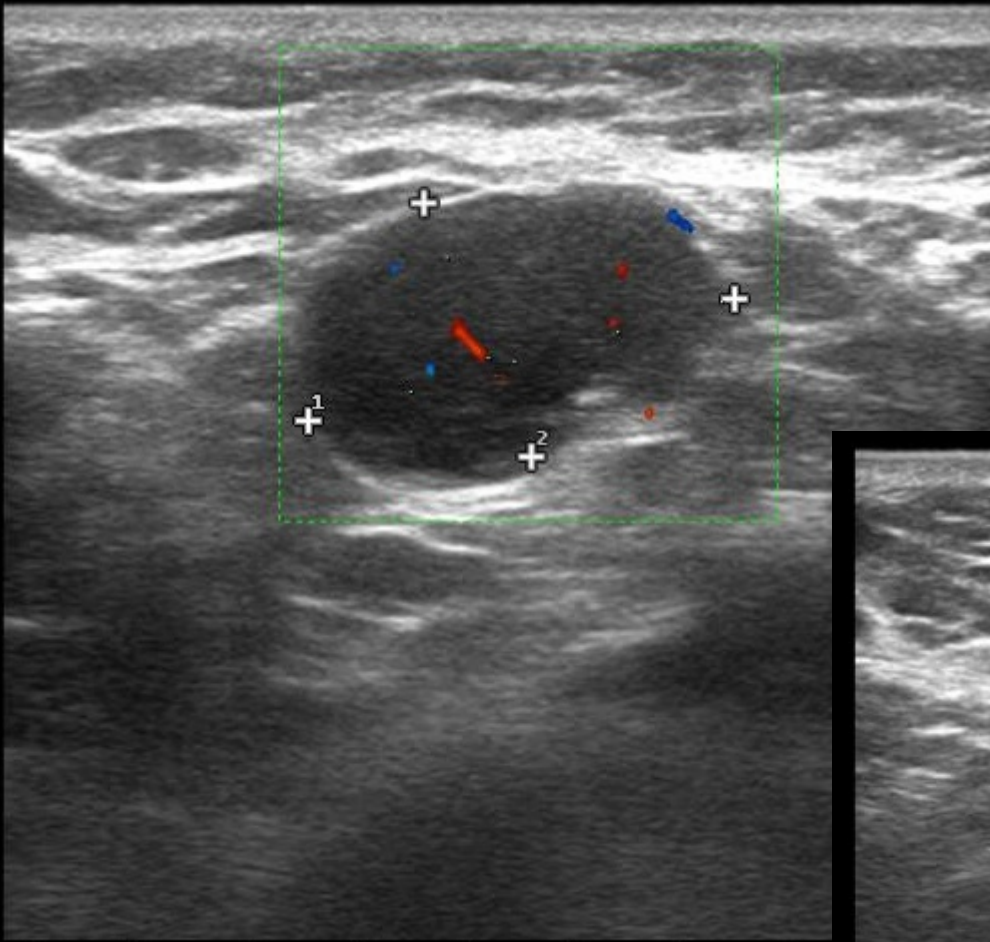
Core Biopsy/Us de  
nódulo BR-5 en MI H12

AP: Carcinoma ductal invasor poco  
diferenciado G3, con marcado  
pleomorfismo citológico y moderado  
número de mitosis (GN3 - GM2) Score  
de Nottingham 3+3+2 = 8, G3

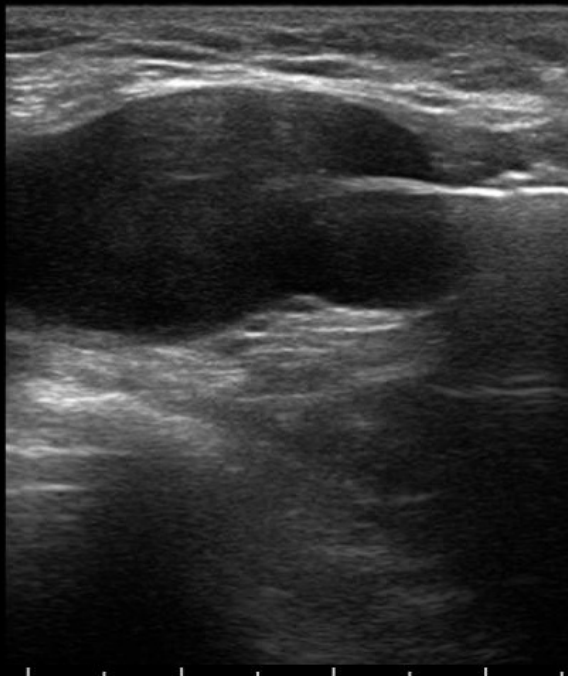


Axila Izquierda:  
Ganglio linfático de 6.5mm  
deformación y reemplazo hiliar. (N5)  
Sin GC, Linfadenectomía: confirmado

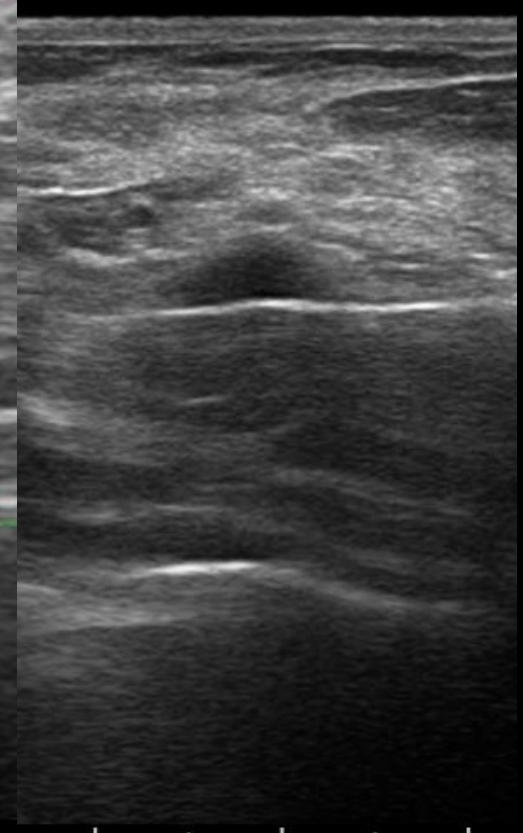
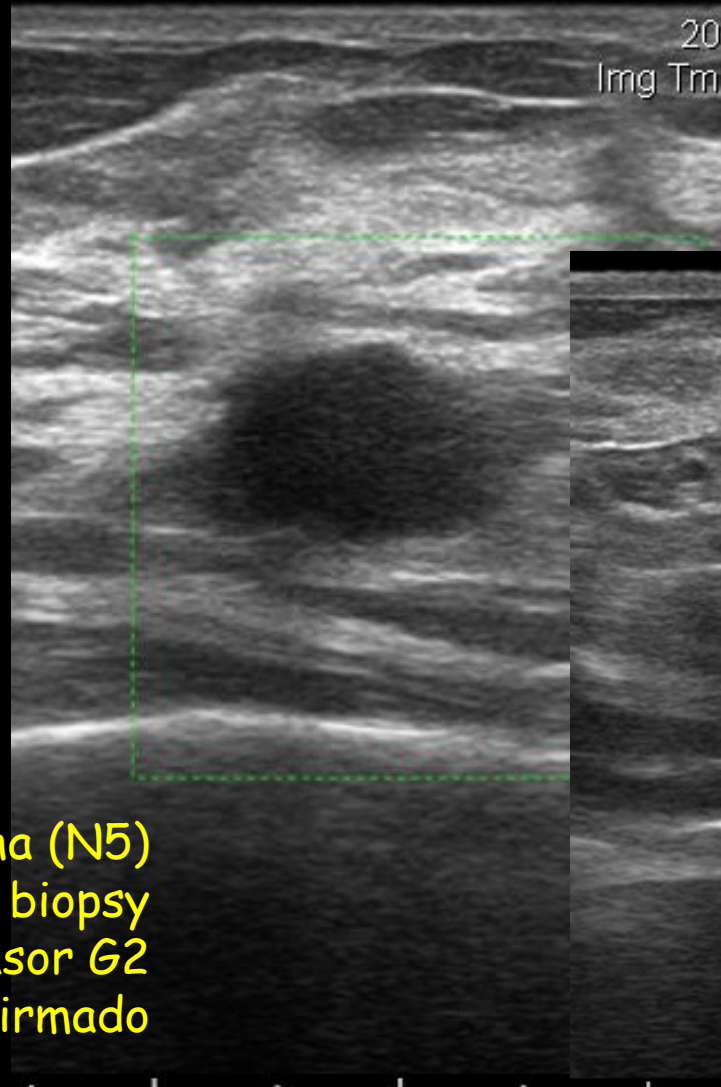
Adenopatía axilar izquierda  
Reemplazo hiliar total (N5)  
Doppler positivo.



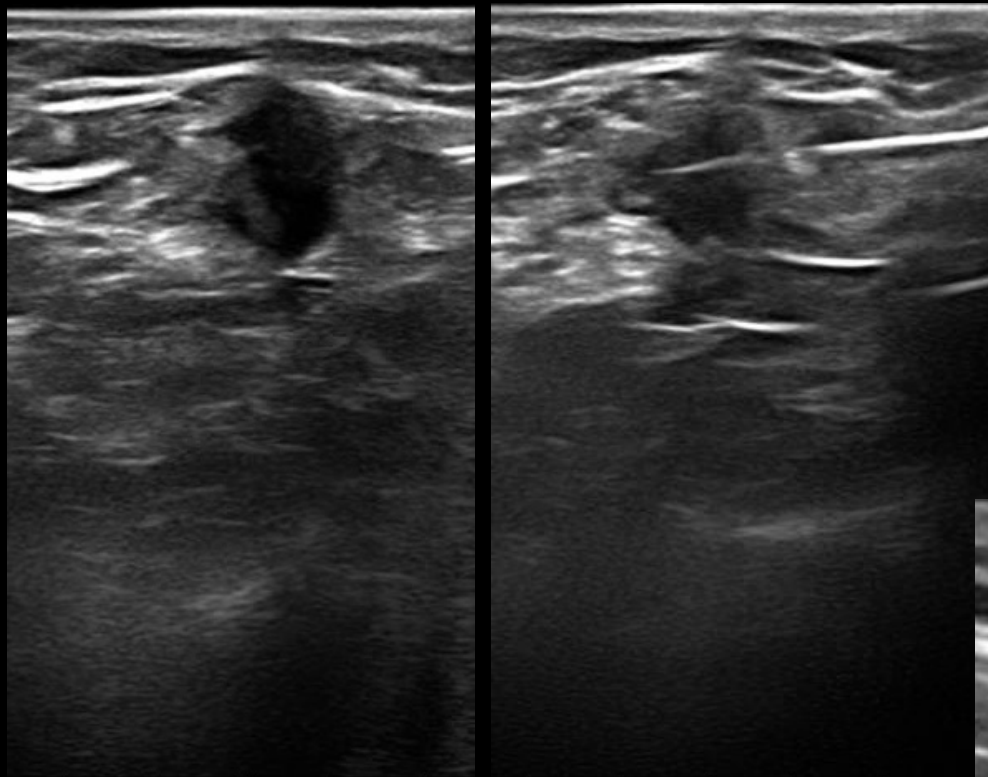
Adenopatía axilar izquierda  
Core biopsy/us  
AP: Infiltración por neoplasia maligna  
Sin GC, Linfadenectomía: confirmado



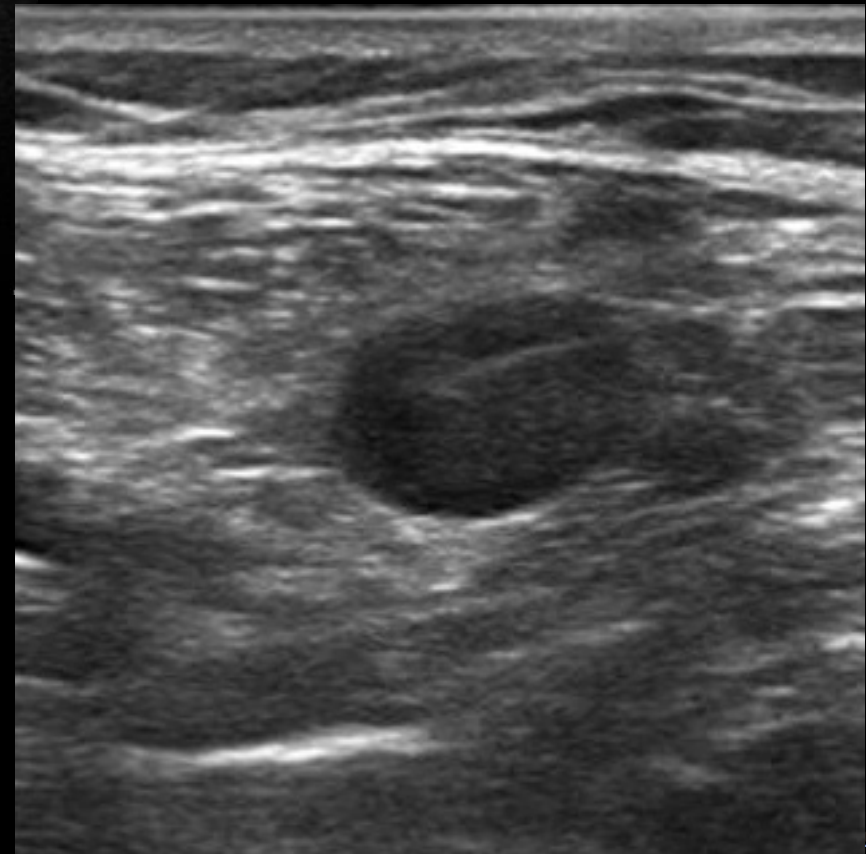
Core biopsy  
nódulo MD CSE  
AP: Carcinoma ductal invasor G2



Adenopatía axilar derecha (N5)  
Core biopsy  
AP: Carcinoma ductal invasor G2  
Sin GC, Linfadenectomía: confirmado



Adenopatía axilar derecha superficial (N5)  
Core Biopsy  
AP: Metástasis ganglionar de un carcinoma ductal de origen mamario



Adenopatía axilar derecha profunda. (N5)  
Core Biopsy  
AP: Infiltración por carcinoma de probable origen mamario  
RMI: Detección (RM Only)

## Estudio de la axila

# Metástasis en ganglios no centinelas de acuerdo al volúmen tumoral

Size of SLN metastases	Tumor size	No. of patients	Incidence of non-SLN metastases (%)
<b>Macrometastasis</b>			
<b>&gt; 2mm</b>			
Chu et al. <sup>21</sup>	T1	40	48
	T2-3	49	59
Reynolds et al. <sup>22</sup>	T1	18	50
	T2	15	87
Viale et al. <sup>23</sup>	T1-2	794	50%
Menes et al. <sup>24</sup>	T1-3	63	46
<b>Micrometastasis</b>			
<b>[200µ, 2mm]</b>			
Chu et al. <sup>21</sup>	T1	46	4
	T2-3	23	13
Reynolds et al. <sup>22</sup>	T1	18	0
	T2	9	67
Viale et al. <sup>23</sup>	T1	93	22
	T2	17	24
den Bakker et al. <sup>24</sup>	T1	22	14
	T2-3	10	80
Viale et al. <sup>23</sup>	T1-2	318	21%
Menes et al. <sup>24</sup>	T1-3	30	20
<b>Isolated tumor cells</b>			
<b>&lt; 200µ</b>			
Viale et al. <sup>23</sup>	T1-2	116	5%
Menes et al. <sup>24</sup>	T1-3	31	19

SLN: sentinel lymph nodes.

# Estudio de la axila

Sensibilidad de la Core/Us según tamaño de metástasis

**Sensibilidad  
macrometástasis  
60%**

**Sensibilidad  
micrometástasis  
26.7%**

Britton PD, Goud A, Godward S, et al. Use of ultrasound-guided axillary node core biopsy in staging of early breast cancer. European radiology. 2009 Mar;19(3):561-9.

Los resultados de Giuliano (aún cuando el G.C. es positivo, la disección axilar no es necesaria) abren nuevas líneas de investigación.

En efecto, la biopsia del G.C. nació para decidir si se debe realizar vaciamiento (BGC +) o no (BGC -) de los ganglios axilares.

Si aún en los casos con G.C.positivo, los ganglios no son disecados, el rol de BGC pierde sentido. **A continuación el IEO (Veronesi) toma en consideración al ultrasonido...**

[Breast](#). 2012 Oct;21(5):678-81. doi: 10.1016/j.breast.2012.06.013. Epub 2012 Jul 25.

## **Abandoning sentinel lymph node biopsy in early breast cancer? A new trial in progress at the European Institute of Oncology of Milan (SOUND: Sentinel node vs Observation after axillary UltraSOUND).**

[Gentilini O](#), [Veronesi U](#).

Division of Breast Surgery, European Institute of Oncology, Milano, Italy. oreste.gentilini@ieo.it

### **Abstract**

Sentinel lymph node biopsy (SLNB) is the standard approach for axillary staging in patients with early breast cancer. Recent data showed no outcome difference in patients with positive sentinel node between axillary dissection vs no further axillary surgery, raising doubts on the role of

Therefore, a new trial was designed comparing SLNB vs observation when axillary ultra-sound is negative in patients with small breast cancer candidates to breast conserving surgery.

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PMID: 22835916 [PubMed - indexed for MEDLINE]

**SOUND: Sentinel vs Observation Ultrasound, No Dissection?**  
U. Veronesi 2012

# ACOSOG Z0010

American College of surgeons oncology group

T1-2

Biopsia Ganglio Centinela  
Biopsia Médula Ósea

Ganglio Centinela  
Negativo (HyE)

Ganglio Centinela  
Positivo (HyE)

No Vaciamiento Axilar  
Radioterapia mama  
Tratamiento adyuvante

Candidata al ensayo  
Z0011



# ACOSOG Z0011

Armando Giulano

American College of surgeons oncology group

Ganglio Centinela Positivo (HyE)

Randomizado

Con disección  
axilar

Sin disección  
axilar

Radioterapia y Quimio adyuvante

Seguimiento



ENSAYOS 2010 Y 2011: Analizan el impacto de la LA en el control local y la supervivencia de mujeres con GC afectado:  
NO HAY BENEFICIO

## Ensayo ACOSOG Z0011

### **Axillary Dissection vs No Axillary Dissection in Women With Invasive Breast Cancer and Sentinel Node Metastasis**

A Randomized Clinical Trial

Armando E. Giuliano, MD

**Axillary dissection versus no axillary dissection  
in patients with sentinel-node micrometastases  
(IBCSG 23–01): a phase 3 randomised controlled  
trial**

Galimberti V.

# Ensayo ACOSOG Z0011

- Mujeres Ca mama <5cm (T1yT2)
- No afectación clínica axilar
- Tto quirúrgico conservador
- GC con macrometástasis: UNO-DOS

1. Linfadenectomía axilar
2. Observación

- Menor n pacientes previstas.
- 80% estrógeno+
- Mínima carga tumoral axila.
- No estudios Erb B2
- Casos más avanzados en LA

TODAS RADIOTERAPIA MAMA(campos tangenciales optimizados a axila)

RESULTADOS a los 6 AÑOS

- . No diferencias en recurrencia local (3.1% y 1.6%) ni axilar (0.9% y 0.5%)
- . Sólo el grado tumoral y edad se asociaban a recaída regional

Ann Surg Oncol. 2013 Aug 22. [Epub ahead of print]

## **Axillary Dissection Can Be Avoided in the Majority of Clinically Node-Negative Patients Undergoing Breast-Conserving Therapy.**

Dengel LT, Van Zee KJ, King TA, Stempel M, Cody HS, El-Tamer M, Gemignani ML, Sclafani LM, Sacchini VS, Heerdt AS, Plitas G, Junqueira M, Capko D, Patil S, Morrow M.

Breast Service, Department of Surgery, Memorial Sloan-Kettering Cancer Center, New York, USA.

**CONCLUSIONS:** ALND was avoided in 84 % of a consecutive series of patients having BCT, suggesting that most patients meeting ACOSOG Z0011 eligibility have a low axillary tumor burden. Age, ER, and HER2 status were not predictive of ALND, and the criteria used for ALND ( $\geq 3$  SNs, ECE) reliably identified patients at high risk for residual axillary disease.

Radiology. 2010 Nov;257(2):335-41. doi: 10.1148/radiol.10100296. Epub 2010 Aug 31.

## **Can preoperative axillary US help exclude N2 and N3 metastatic breast cancer?**

Neal CH, Daly CP, Nees AV, Helvie MA.

Department of Radiology, University of Michigan Health System, 1500 E Medical Center Dr, SPC 5326, Ann Arbor, MI 48109, USA.

**CONCLUSION:** Preoperative axillary US excluded 96% of N2 and N3 invasive ductal metastases. The false-negative rate for N2 and N3 invasive lobular cancer was significantly higher than that for invasive ductal cancer, which suggests that axillary US cannot be used to exclude N2 and N3 metastases in these patients.

© RSNA, 2010.

# Trial SOUND

## Sentinel node vs Observation after axillary Ultra-souND

- Patients with breast cancer  $\leq 2.0$  cm
  - Any age
- Candidates to Breast Conserving Surgery
- Negative preoperative axillary assessment (negative ultra-sound of the axilla or negative FNAC of a single doubtful axillary lymph node)

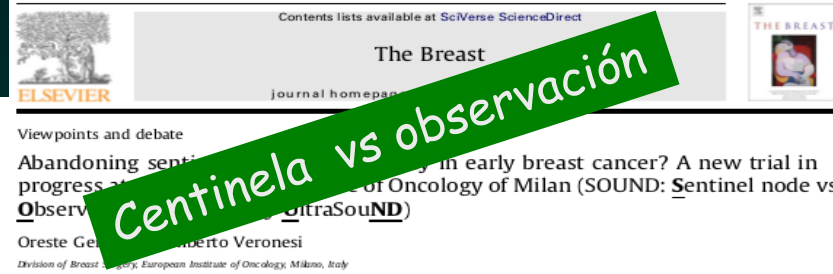


**Randomization**



SNB policy

No axillary surgery



**Centinela vs observación**

### SOUND trial: Eligibility criteria.

**Elegidos**

- Breast cancer  $\leq 2$  cm, and a clinically negative axilla
- Any age
- Candidates to receive breast conserving surgery + radiotherapy
- Negative preoperative assessment of the axilla (ultrasound with or without FNAC in case one doubtful node is found)
- Written informed consent must be signed and dated by the patient and the investigator prior to inclusion.
- Patients must be accessible for follow-up.

### SOUND trial: exclusion criteria.

**Excluidos**

- Synchronous distant metastases
- Previous malignancy
- Bilateral breast cancer
- Multicentric or multifocal breast cancer
- Previous primary systemic therapy
- Pregnancy or breastfeeding
- Pre-operative diagnosis (cytology or histology) of axillary lymph node metastases
- Pre-operative radiological evidence of multiple involved or suspicious nodes
- Patients with psychiatric, addictive, or any disorder, which compromises ability to give informed consent for participation in this study.

Gentilini, Oreste, and Umberto Veronesi. "Abandoning Sentinel Lymph Node Biopsy in Early Breast Cancer? A New Trial in Progress at the European Institute of Oncology of Milan (SOUND: Sentinel Node Vs Observation after Axillary UltraSouND)." The Breast 21, no. 5 (October 2012): 678–681. doi:10.1016/j.breast.2012.06.013.

Nuevos ensayos en marcha...

## LAS UNIDADES DE MAMA ESTÁN CAMBIANDO SUS PROTOCOLOS.

Nosotros lo hemos cambiado en Enero de 2013

En pacientes con tumores < 3 cm y cirugía conservadora:  
No linfadenectomía axilar, si 1-2 GC+

Marina Alvarez Benito, Sept 2013, Bs. As.

## Axillary management in breast cancer: What's new for 2012?

En el Z0011

Memorial Sloan-Kettering sugiere core/us para múltiples gánglios (mas de dos)

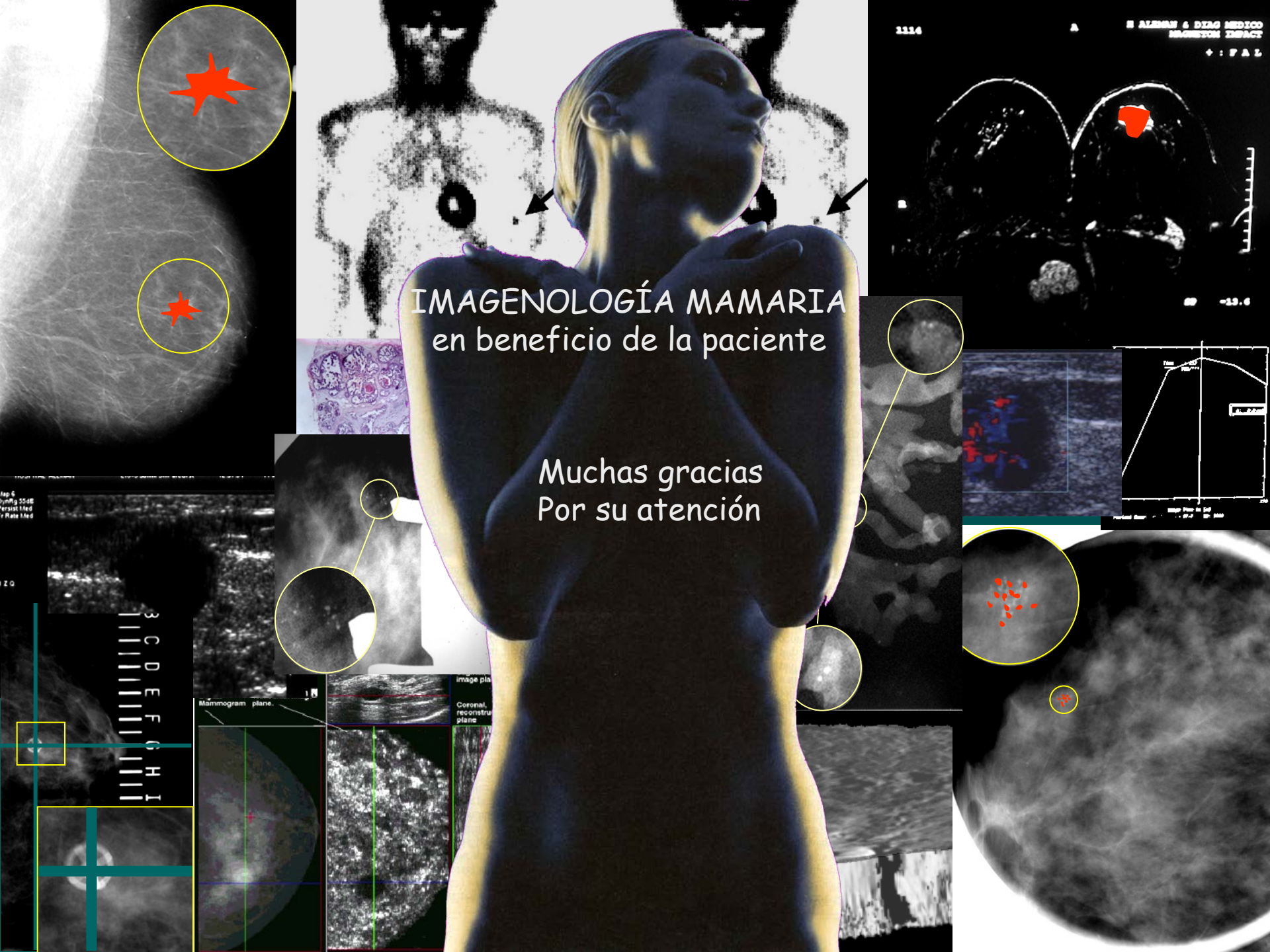
1) *Preoperative axillary ultrasound (US) with ultrasound-guided needle biopsy.* US-guided needle biopsy identifies a significant fraction of node-positive patients, and in the past has allowed them to avoid SLN biopsy and be triaged directly to ALND.<sup>5</sup> It now appears that, *for the subgroup of patients who meet the Z0011 criteria*, SLN biopsy alone may be adequate treatment for many patients with axillary node metastases, and as a consequence we suggest that US-guided needle biopsy could be limited to patients with multiple abnormal nodes (rather than those with 1 or 2 abnormal nodes).

# Conclusión

En esta tendencia ecológica del tratamiento quirúrgico es esencial la evaluación ecográfica de la axila por:

- El reconocimiento de ganglios sospechosos por morfología y cantidad.
- Eventual certificación con biopsias percutáneas.
- El alto valor predictivo negativo

En el futuro la ecografía axilar puede ser excluyente.



IMAGENOLÓGIA MAMARIA  
en beneficio de la paciente

Muchas gracias  
Por su atención

1114

B ALBARRAN & DIAZ MEDICO  
MAGNETOM IMPACT

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SP -13.6

Step 6  
SynMRg 55dB  
Version 1.00  
F-Ratio 1.00

129

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Mammogram plane.

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Coronal,  
reconstru  
plane