



Centro di Riferimento per l'Epidemiologia
e la Prevenzione Oncologica in Piemonte

Torino 3 dicembre 2014



Workshop

**"PROGRAMMA REGIONALE DI SCREENING MAMMOGRAFICO
PREVENZIONE SERENA" Workshop 2014**

Novità dalla letteratura

**FRANCESCA PIETRIBIASI
ANATOMIA PATOLOGICA**

ASLTO 5



1) MICROCALCIFICAZIONI

Composizione

Origine



Verso il futuro senza
dimenticare il passato.

SIAPEC-IAP 2014

22-25 Ottobre 2014

Palazzo degli Affari, FIRENZE

VENERDÌ, 24 OTTOBRE 2014

SALA DONATELLO 2° PIANO

PATOLOGIA MAMMARIA - 2

Moderatori: F. Pietriliasi - A. Rizzo

14.30 EDX MICROANALYSIS OF BREAST CANCERS: ELEMENTAL AND PHENOTYPIC CHARACTERIZATION AND RELATIONSHIP TO RADIODENSITY OF MICROCALCIFICATIONS

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ORALI

RESEARCH ARTICLE

Open Access

Microcalcifications in breast cancer: an active phenomenon mediated by epithelial cells with mesenchymal characteristics

Manuel Scimeca¹, Elena Giannini¹, Chiara Antonacci¹, Chiara Adriana Pistolese², Luigi Giusto Spagnoli¹ and Elena Bonanno^{1*}

1) relazione tra composizione delle calcificazioni e tipo di lesione mammaria

(microanalisi ultrastrutturale)

2) microcalcificazioni come processo attivo mediato dalle cellule epiteliali che acquisiscono caratteristiche mesenchimali

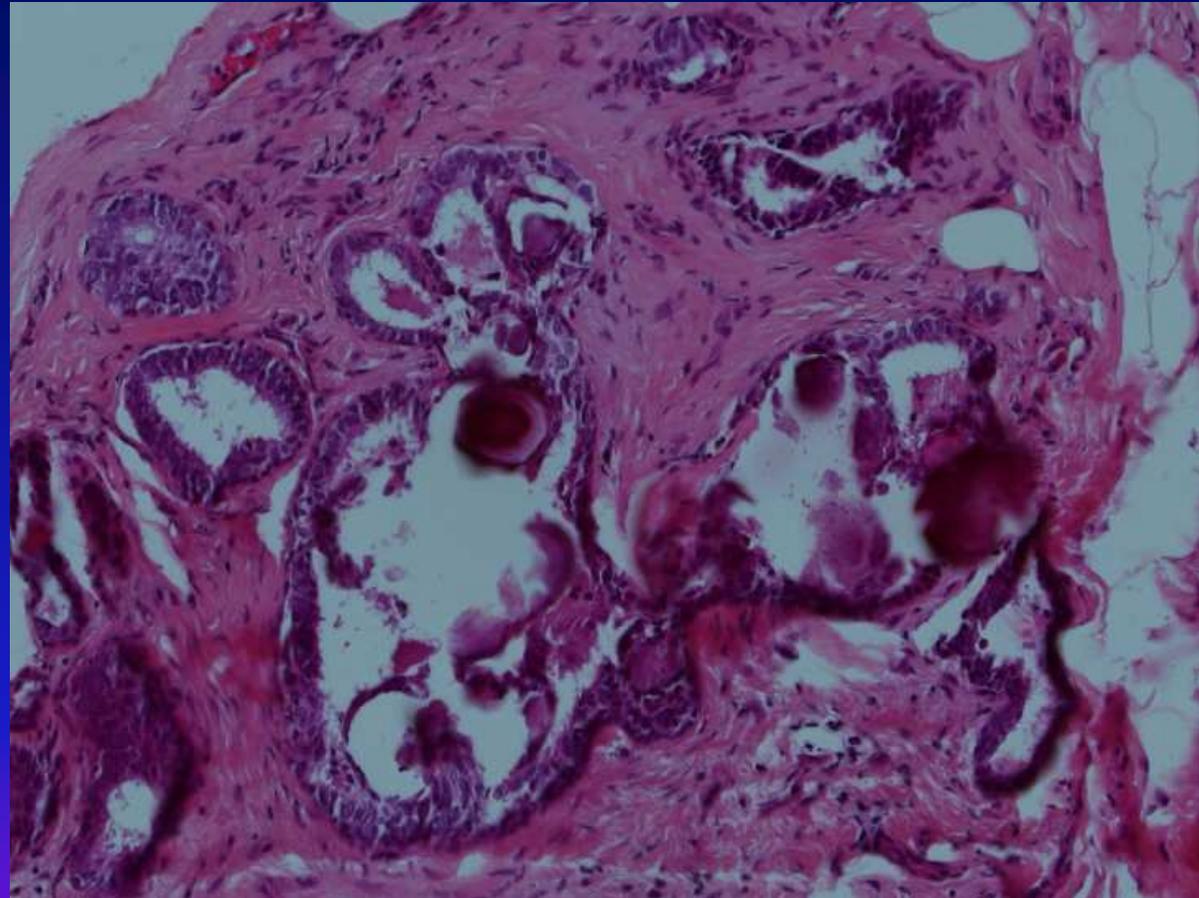
(immunoistochimica e ME)

22 LB con mc

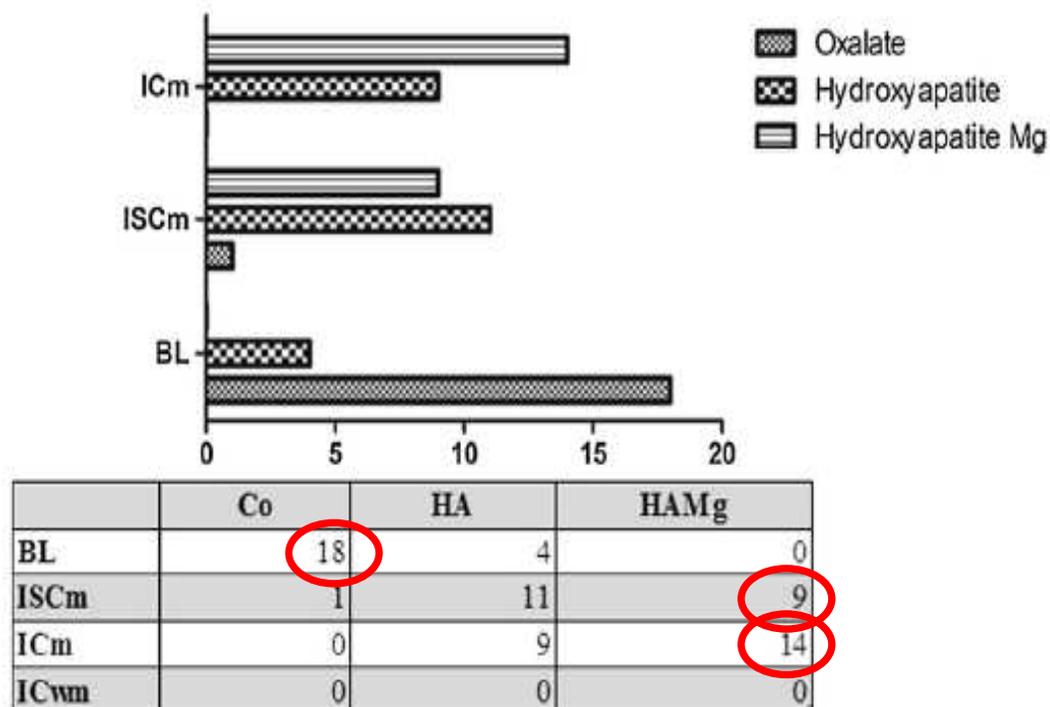
21 cdis con mc

23 cdi con mc

**20 cdi senza
mc**



elemental composition of microcalcifications and breast lesions



Chi-square test	
Chi-square, df	48.38, 4
P value	P<0.0001
P value summary	***
One- or two-sided	N/A
alpha value	<0.05
CO vs HA Fisher's exact test	
P value	P<0.0001
P value summary	***
One- or two-sided	Two-sided
alpha value	<0.05
CO vs HAMg Fisher's exact test	
P value	P<0.0001
P value summary	***
One- or two-sided	Two-sided
alpha value	<0.05

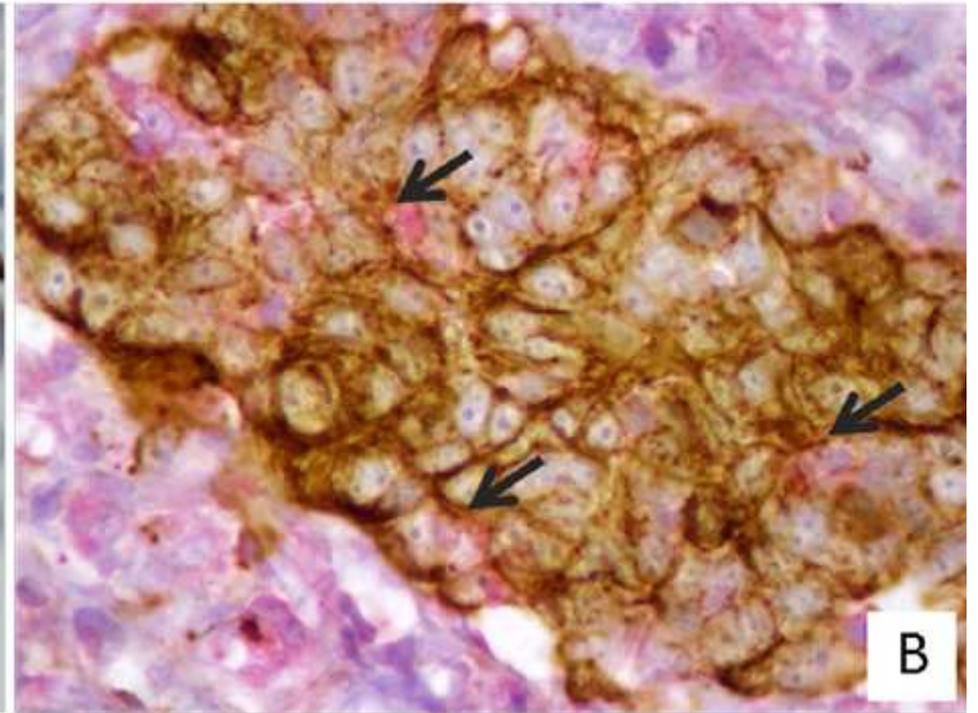
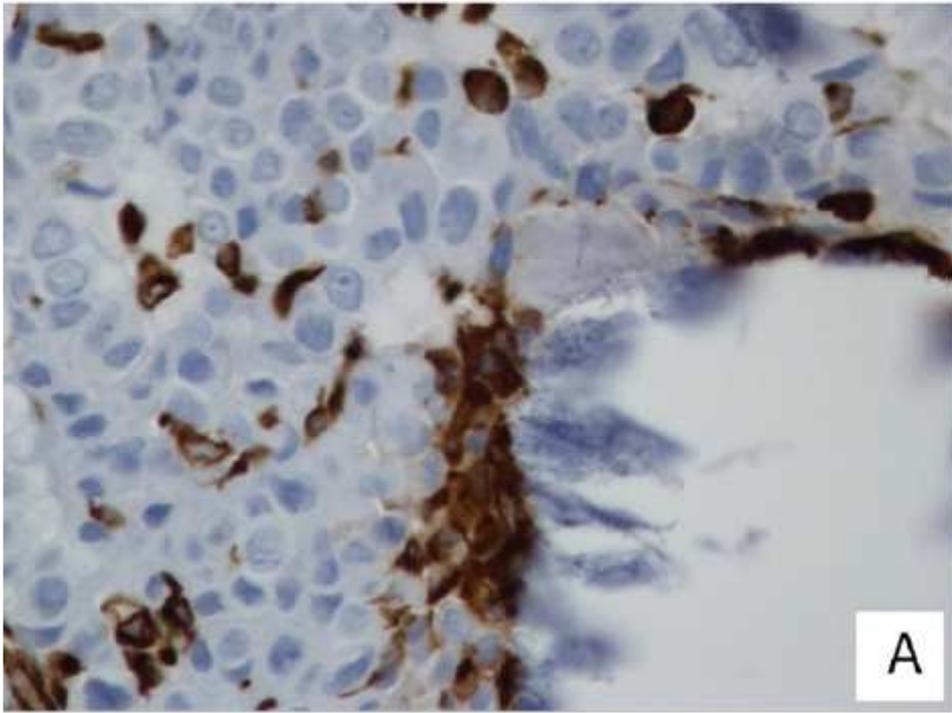
Figure 1 Elemental composition of calcification in breast pathology. (A) Microcalcifications (arrow) in BLm (fibroadenoma). (B) Electron micrograph by TEM of the microcalcification indicated in (A). (C) EDX spectra obtained by microanalysis of commercial standard sample utilized as a control. (D) EDX spectrum revealed that microcalcifications were composed of calcium oxalate (CO). (E) Microcalcifications (arrow) in an ISCm (comedocarcinoma). (F) Electron micrograph by TEM of the microcalcification indicated in (E). (G) EDX spectra obtained by microanalysis of commercial standard sample utilized as a control. (H) EDX spectrum revealed that this microcalcification was composed of magnesium-substituted hydroxyapatite (Mg-Hap). (I) Microcalcification type related to breast pathology by statistical analysis.

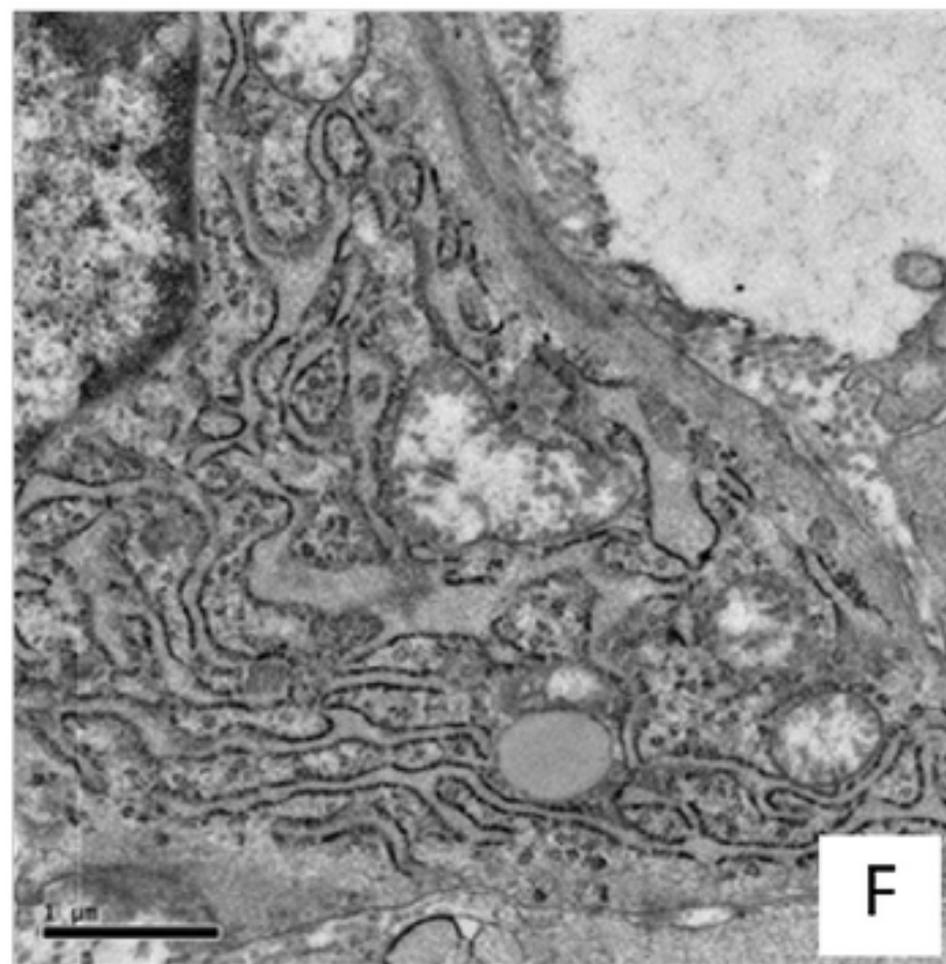
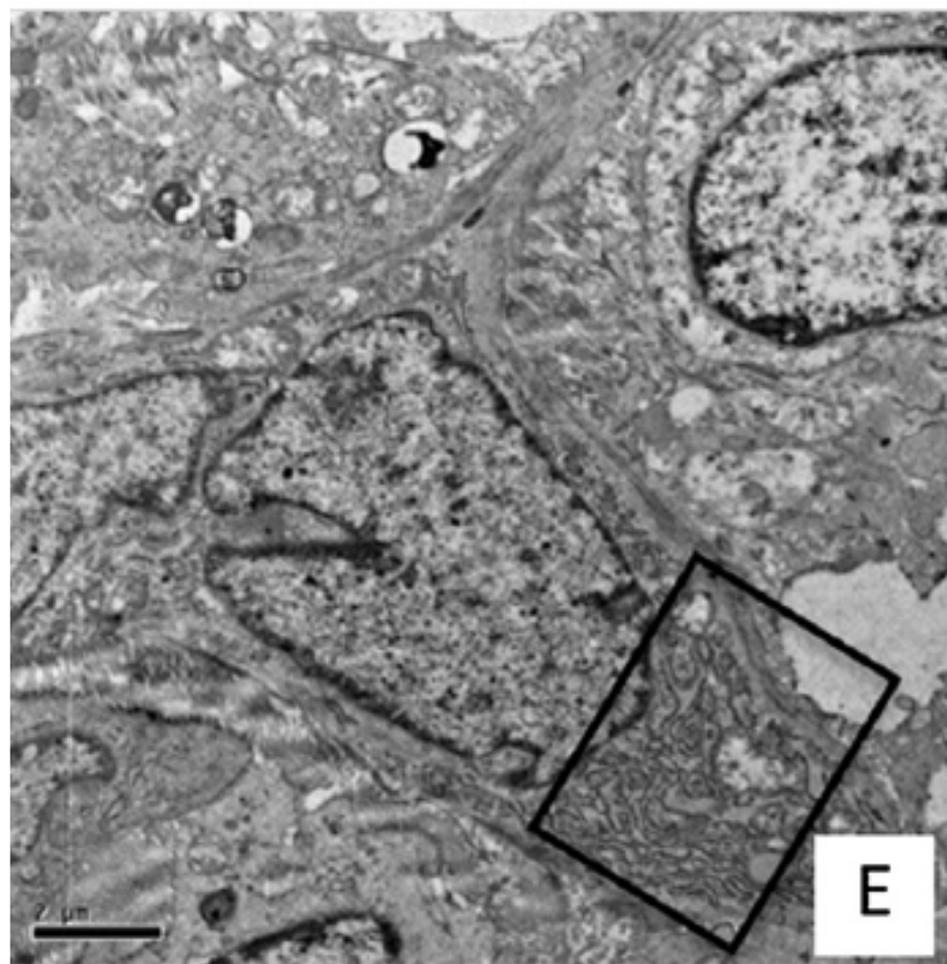
1) Studiare la relazione tra composizione delle calcificazioni e tipo di lesione mammaria

(microanalisi ultrastrutturale)

2) Indagare se le microcalcificazioni sono un processo attivo mediato dalle cellule epiteliali che acquisiscono caratteristiche mesenchimali

(immunoistochimica e ME)





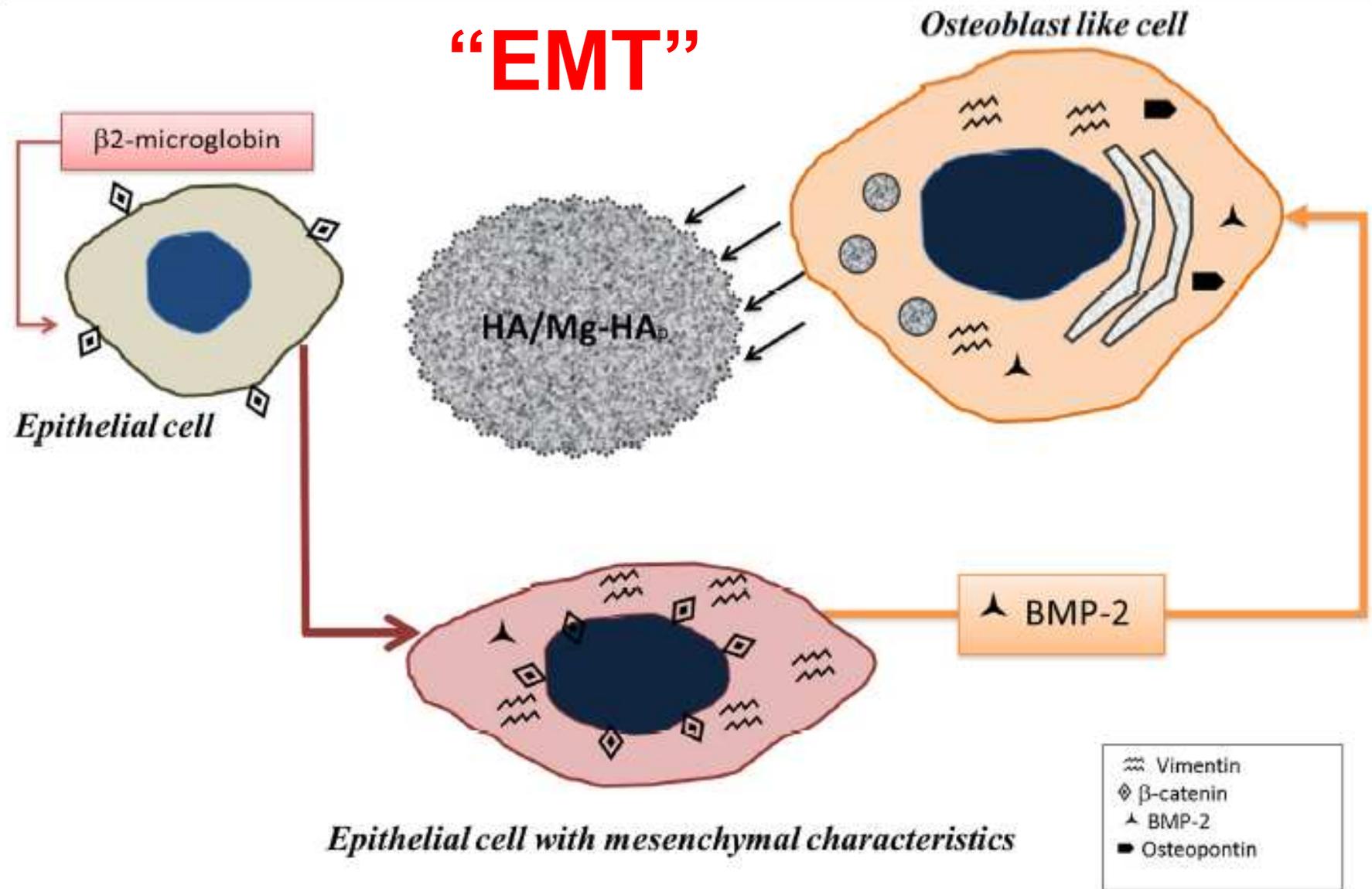


Figure 5 Model for mesenchymal transformation and calcium deposition in breast cancer. Physiological bone mineralization involves mesenchymal cells expressing vimentin and cytoplasmic/nuclear β -catenin. In our hypothesis, epithelial cells acquire mesenchymal characteristics in a microenvironment conditioned by $\beta 2$ -microglobulin. Under BMP-2-induction, epithelial cells that have acquired the mesenchymal phenotype could assume an osteoblast-like phenotype and behave as a producer of complex forms of calcification.

SI CONCLUDE CHE:

- 1) ci sono differenze significative nella composizione delle calcificazioni tra lesioni benigne e maligne**
- 2) Le cellule mammarie possono acquisire caratteristiche mesenchimali, trasformarsi in cellule con fenotipo osteoblastico e contribuire alla produzione delle calcificazioni**

2) NEOPLASIA LOBULARE

E-caderina

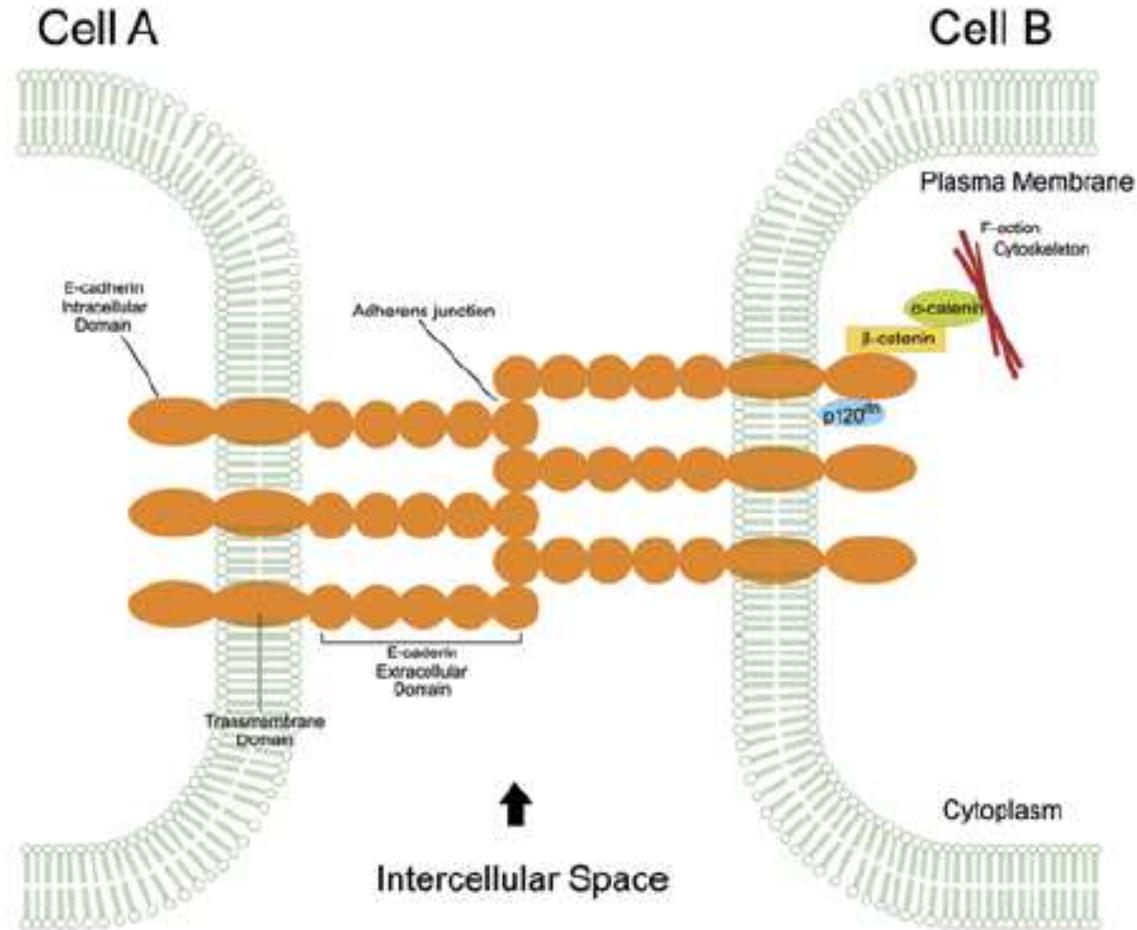
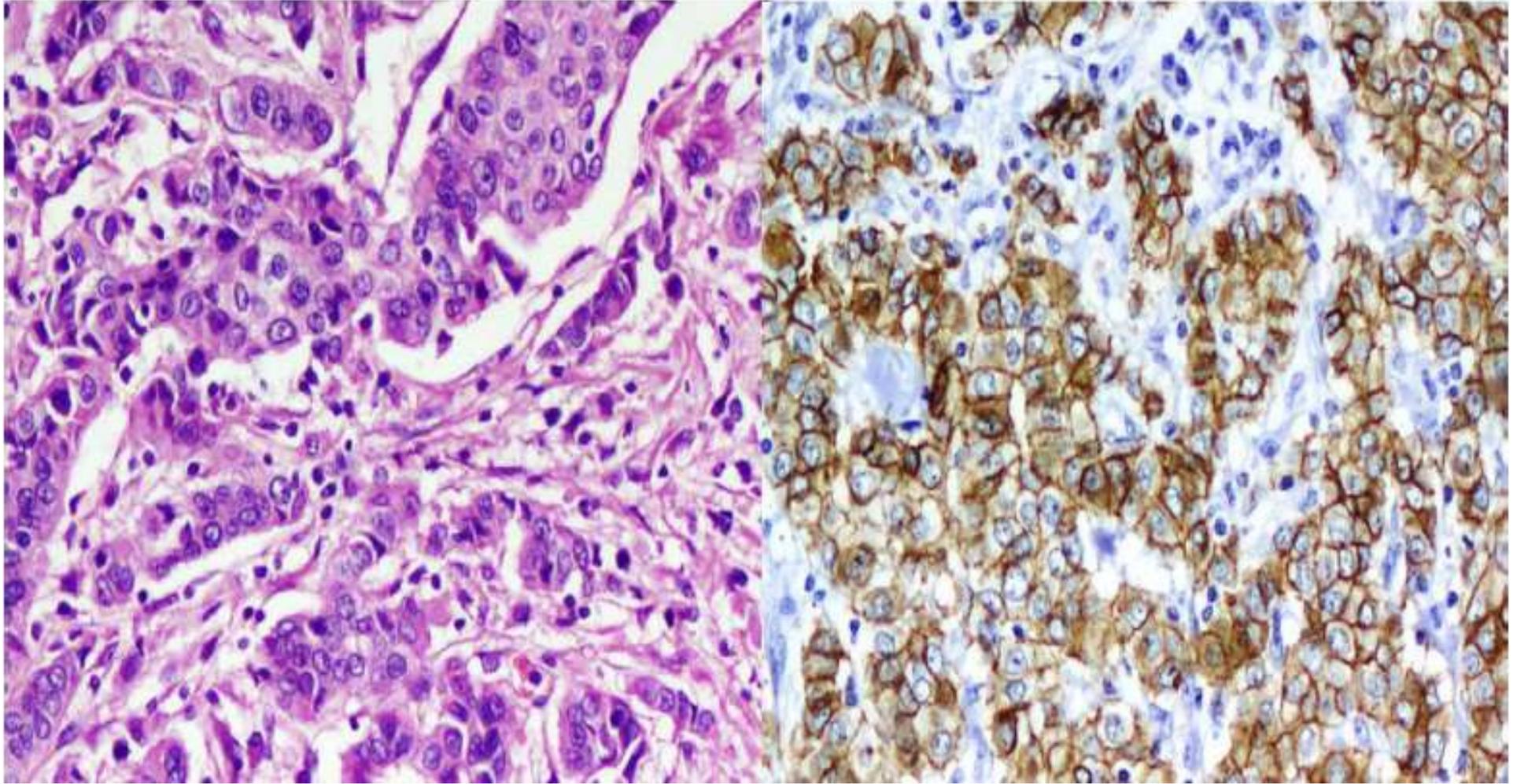
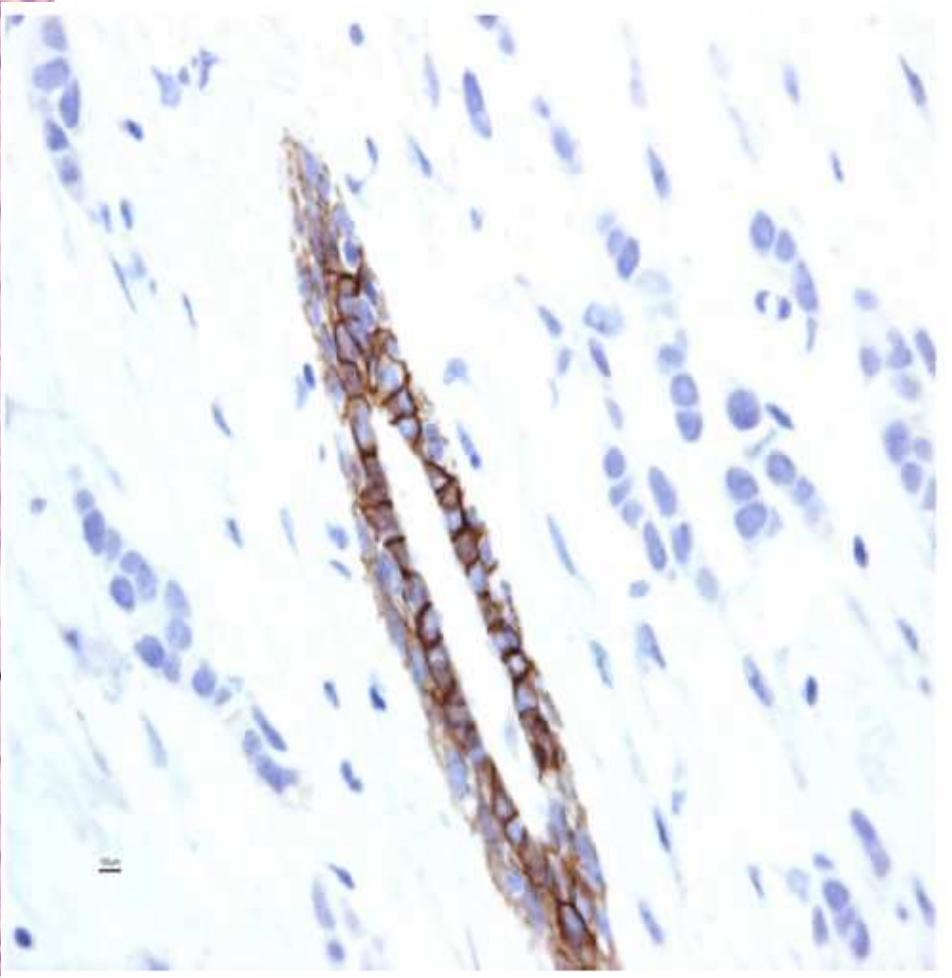
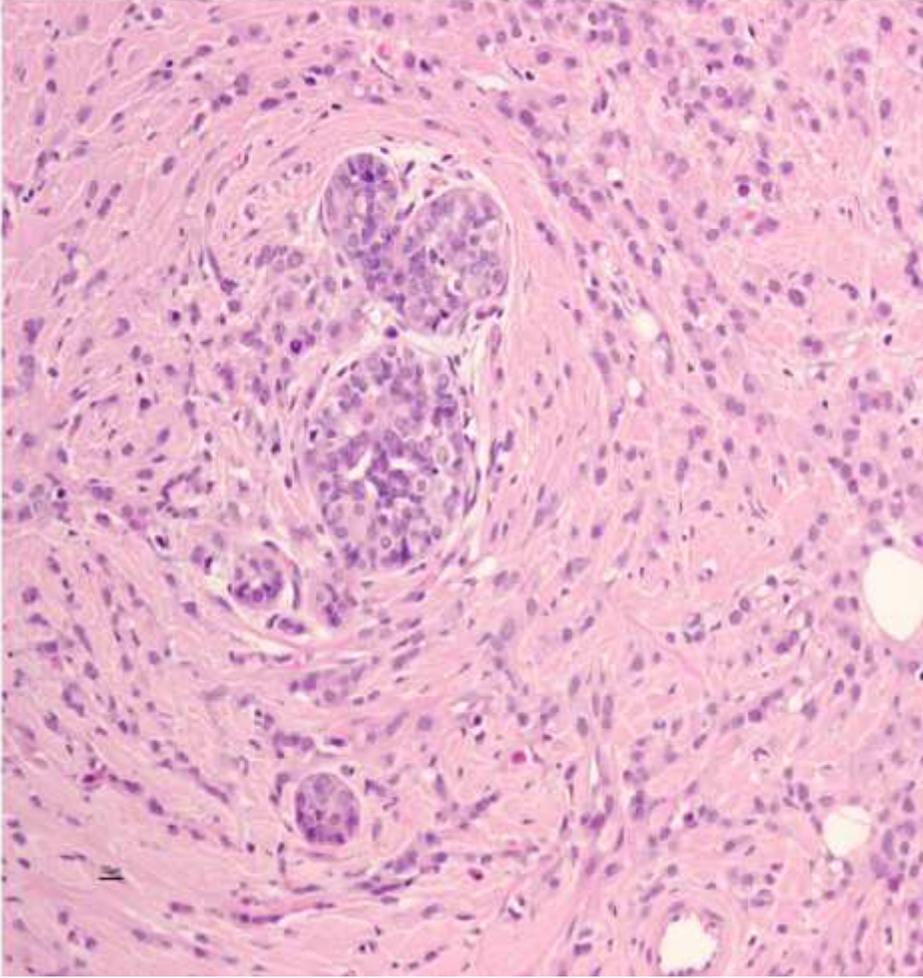
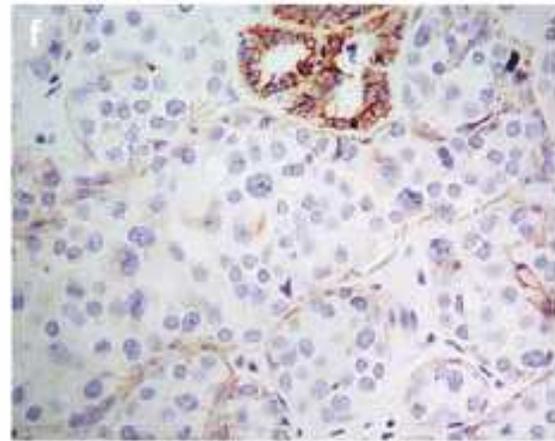
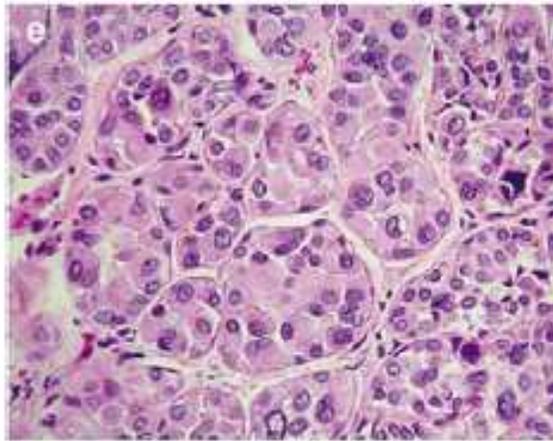
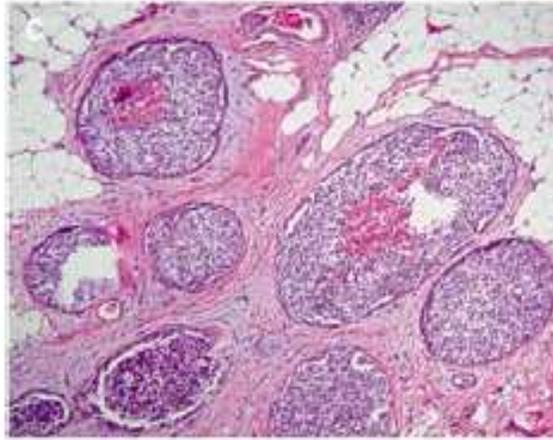
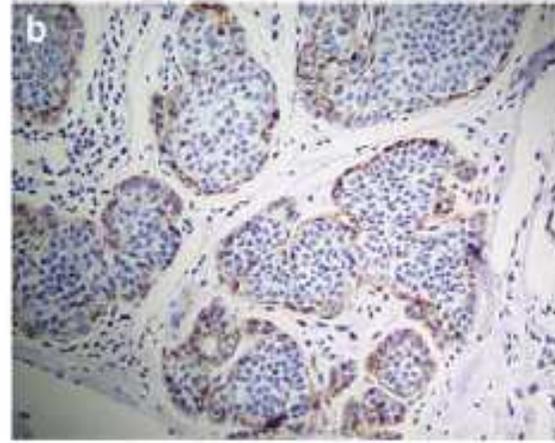
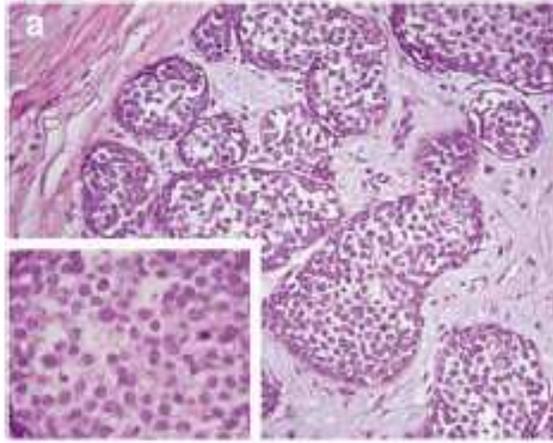


FIGURE 1. E-cadherin-mediated cell-cell adhesion. E-cadherin homodimers expressed on the plasma membranes of adjacent cells interact in a zipper-like manner. The intracellular adhesion complex, which consists of α -catenin, β -catenin, γ -catenin, and p120 CAS, links E-cadherin homodimers to the actin cytoskeleton.







(Appl Immunohistochem Mol Morphol 2013;21:1–12)

Immunohistochemistry Applied to the Differential Diagnosis Between Ductal and Lobular Carcinoma of the Breast

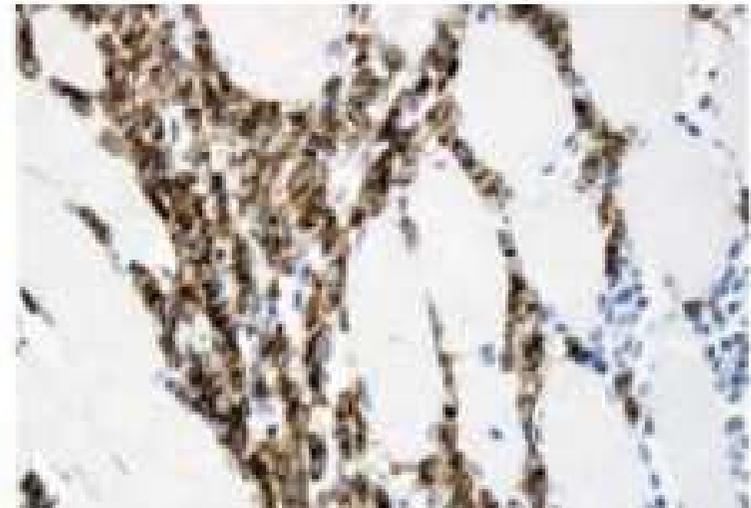
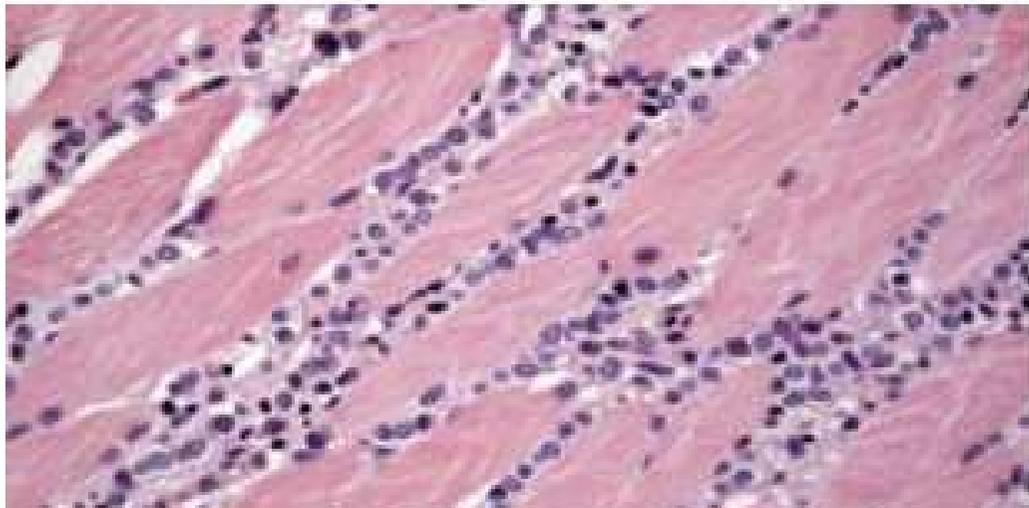
Rafael de Deus Moura, MD, Sheila C. L. Wludarski, MD, PhD,*
Filomena M. Carvalho, MD, PhD,† and Carlos E. Bacchi, MD, PhD**

 SPECIAL ARTICLE

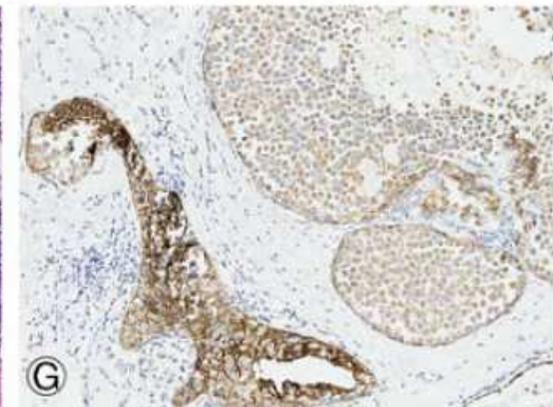
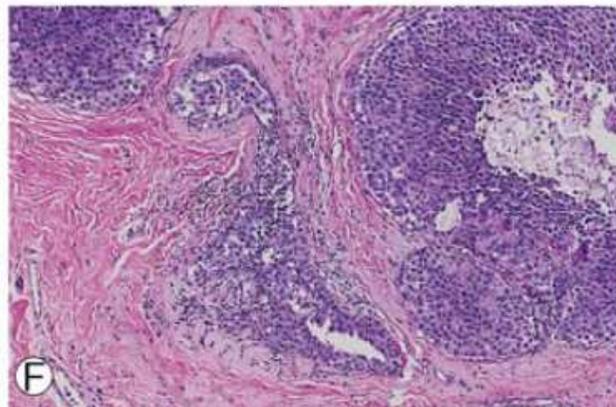
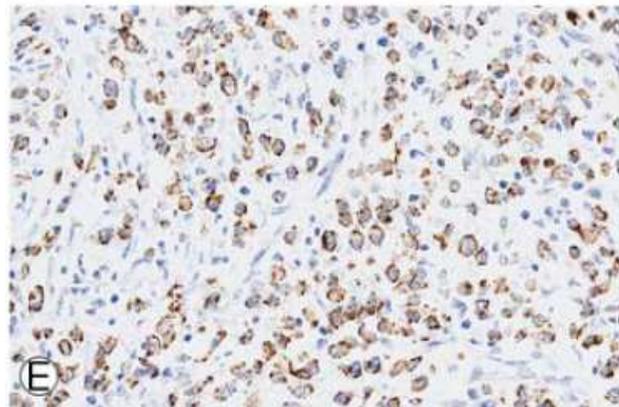
(Am J Surg Pathol 2013;37:e1–e11)

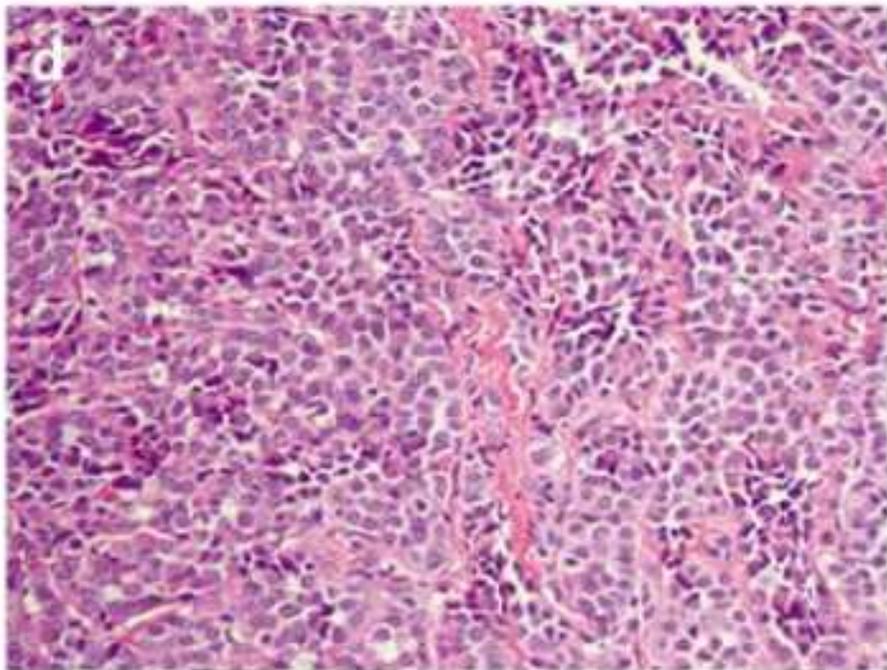
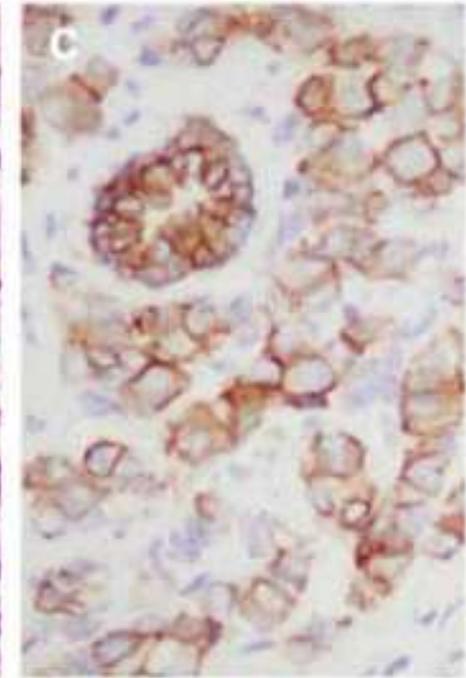
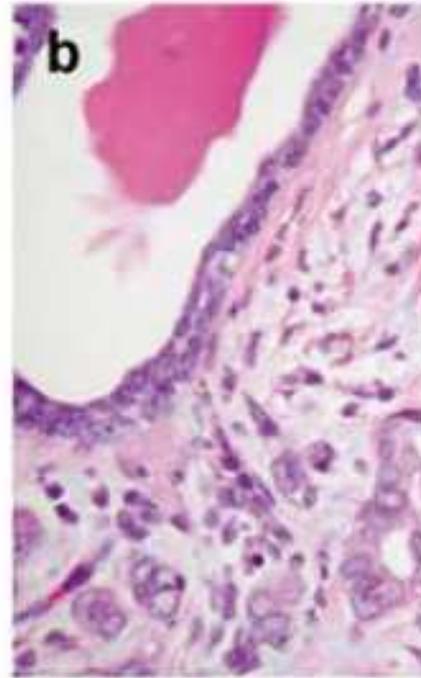
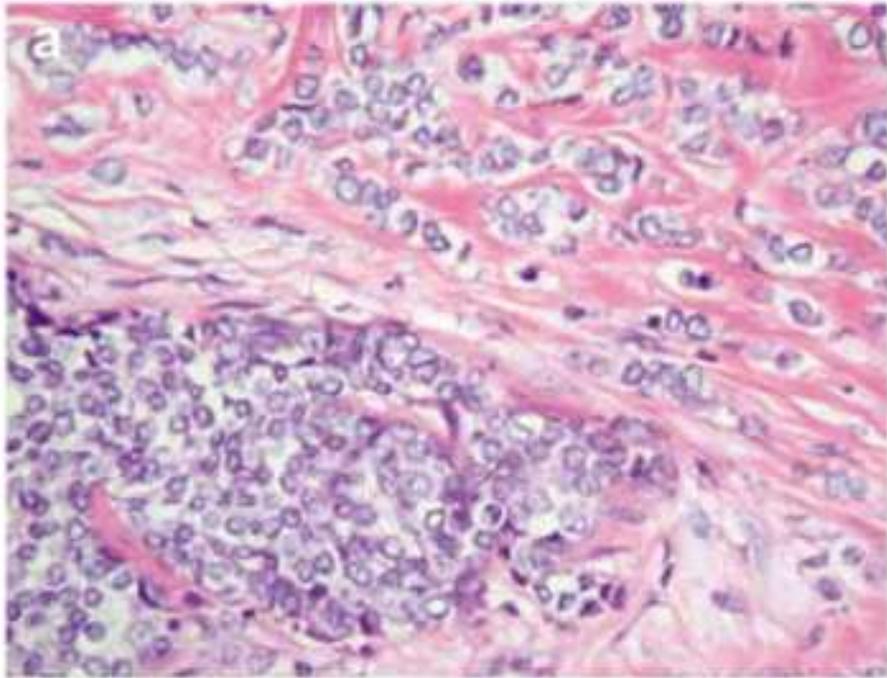
Lobular Neoplasia of the Breast Revisited With Emphasis on the Role of E-Cadherin Immunohistochemistry

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Anne Vincent-Salomon, MD, PhD,‡‡‡ Ian O. Ellis, MD,|||
Sunil Badve, MD, FRCPath,§§§ and Jorge S. Reis-Filho, MD, PhD, FRCPath§*

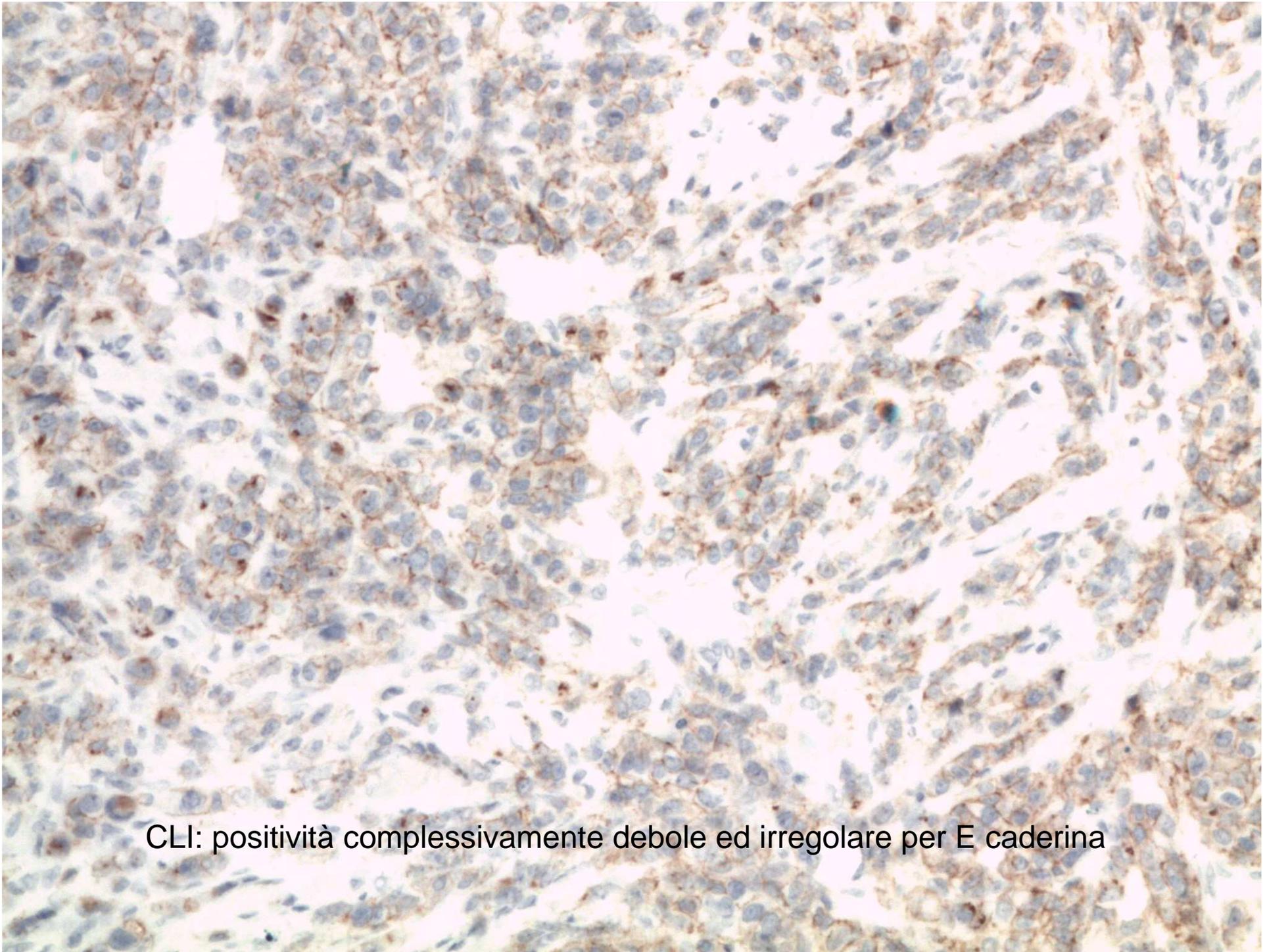


**Positività per E-caderina “aberrante”
fino al 20% dei casi di LN**

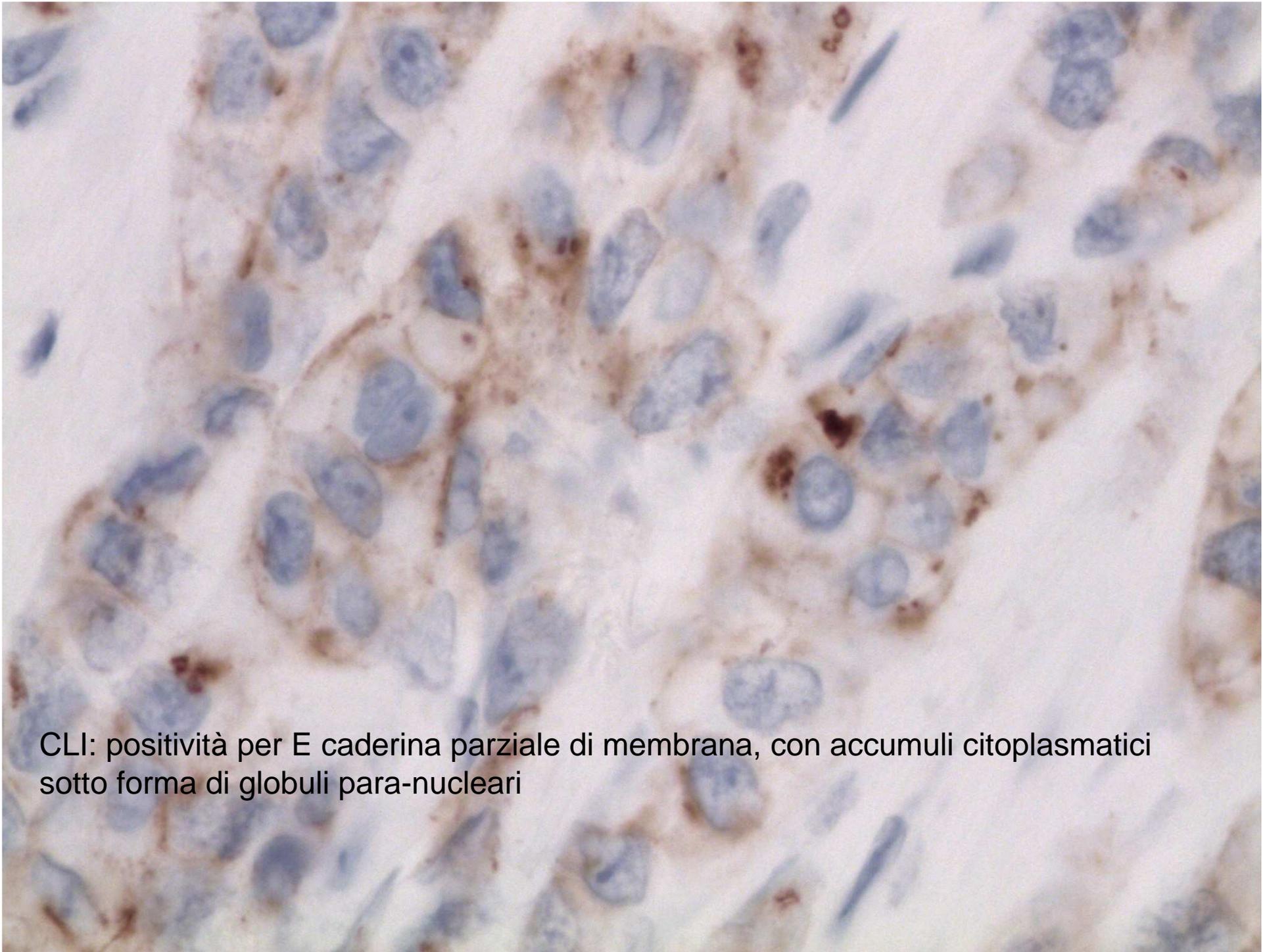




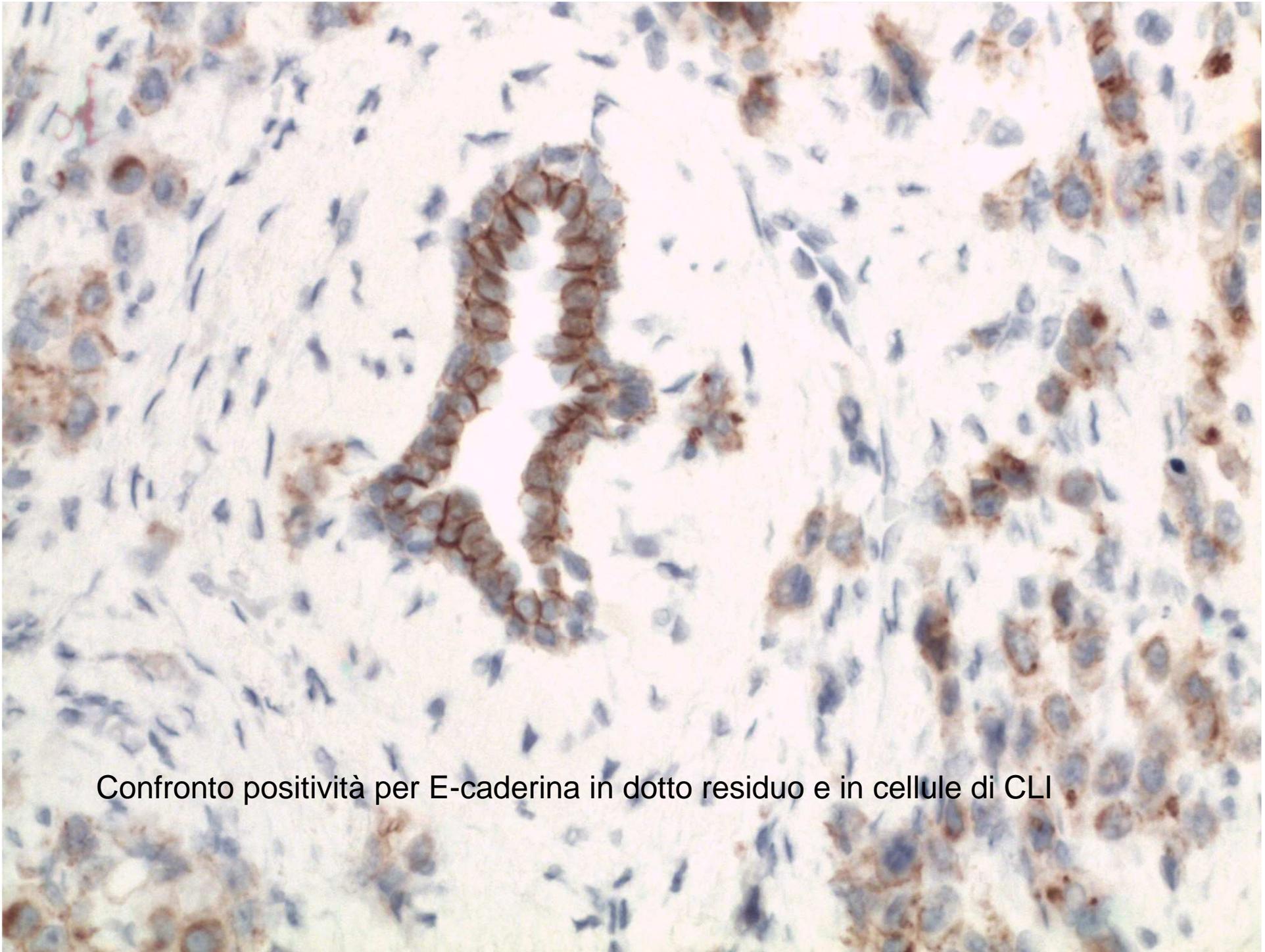
Positività parziale e debole di membrana



CLL: positività complessivamente debole ed irregolare per E caderina



CLI: positività per E caderina parziale di membrana, con accumuli citoplasmatici sotto forma di globuli para-nucleari

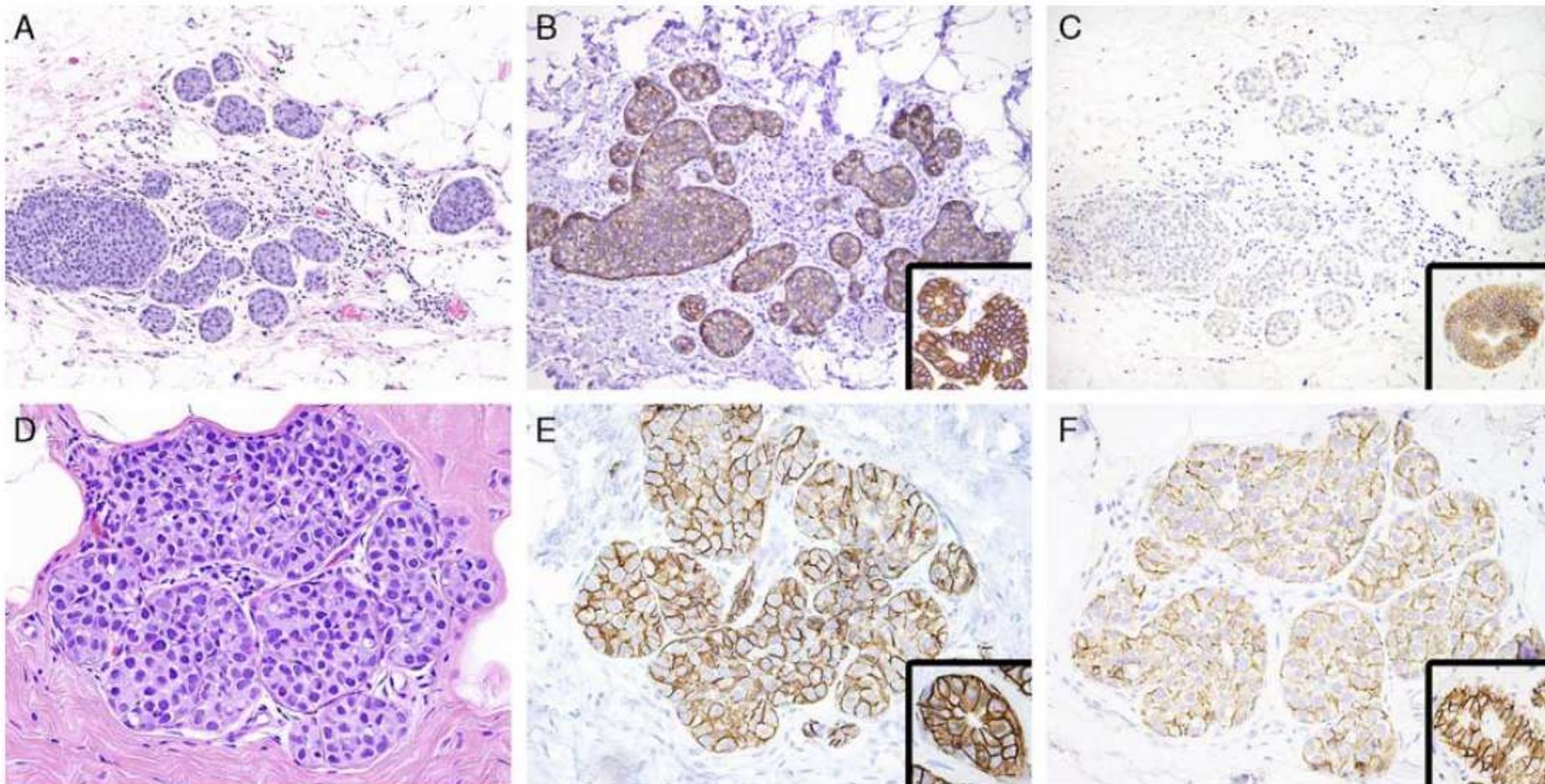


Confronto positività per E-caderina in dotto residuo e in cellule di CLI

Lobular Neoplasia of the Breast Revisited With Emphasis on the Role of E-cadherin Immunohistochemistry

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To the Editor:



See 1 citation found by title matching your search:

Histopathology, 2014 Oct 3. doi: 10.1111/his.12572. [Epub ahead of print]

Invasive lobular breast cancer: The prognostic impact of histopathological grade, E-cadherin and molecular subtypes.

Enqström MJ¹, Opdahl S, Vatten LJ, Haugen OA, Bofin AM.

+ Author information

Abstract

AIMS: The aim of the study was to compare breast cancer specific survival (BCSS) for invasive lobular carcinoma (ILC) and invasive ductal carcinoma (IDC). Further, to critically evaluate the prognostic value of histopathological grading of ILC and to examine E-cadherin as a prognostic marker in ILC.

METHODS: The study comprised 116 lobular and 611 ductal breast carcinomas occurring between 1961 and 2008. All cases had previously been classified according to histopathological type and grade, stained for ER, PR, Ki67, EGFR, CK5 and HER2 and classified into molecular subtypes. For the present study, immunohistochemical staining for E-cadherin was done. Kaplan-Meier method and Cox proportional hazards models were used in the analyses.

RESULTS: Grade 2 tumours comprised 85.3% of the lobular tumours and 51.9% of the ductal tumours. BCSS in ILC grade 2 was comparable to that of IDC grade 3. **E-cadherin negative ILC had a poorer prognosis compared to E-cadherin positive ILC** and to IDC regardless of E-cadherin status.

CONCLUSIONS: The implication of histopathological grading may differ in ILC compared to IDC. E-cadherin may be useful in prognostication in ILC and thereby influence the determination of treatment strategies for this group of women. This article is protected by copyright. All rights reserved.

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Perché è importante fare la diagnosi corretta di istotipo lobulare?

- 5-15%

- pre-operatoria:

No chirurgia nelle LIN1-2

Poca risposta alla CT neoadiuvante

- RM

- Post operatoria:

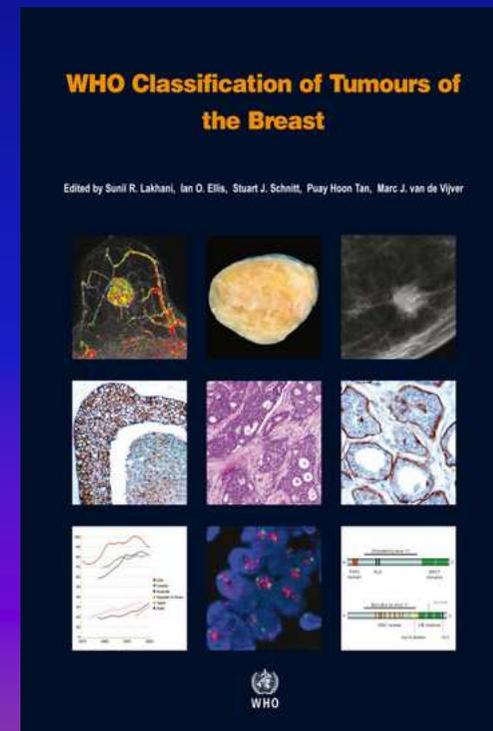
Poca risposta alla CT adiuvante

Tipo di mts

....."take-home message"

- no cadherina se morfologia classica
- non negare diagnosi di LN (Tabar docet!)

“ABOUT 15% OF ILC DO EXPRESS E-CADHERIN AND SO POSITIVE STAINING SHOULD NOT BE USED TO RECLASSIFY A LOBULAR LESION AS INVASIVE CARCINOMA”



.....”take-home message”

- no caderina se morfologia classica
(Tabar docet!)
- non negare diagnosi di LN
- valutare tipo e sede della positività**
- rivedere procedure IIC**
- se morfologia e IIC equivocate
pensare a istotipi misti CDI-CLI**