



2014

IMAGING-HISTOLOGIC CORRELATION with CLINICAL IMPLICATIONS

LÁSZLÓ TABÁR, MD., FACR (Hon) Course Director
Professor emeritus of Radiology
and

ALFONSO FRIGERIO, MD.
Head, Regional Reference Centre for Screening, Turin

The New Era in the Diagnosis and Treatment of Breast Diseases

Improving the detection, management and reporting of breast cancers

Dec 10 - 12, 2014

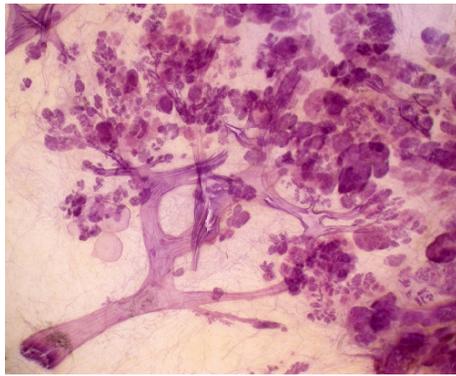
Centro Congressi Unione Industrialie
Via Vela 17, **TORINO**, Italy

Designed for:

Radiologists • Surgeons • Pathologists
Medical and Radiation Oncologists

Implications of mammography, MRI, breast ultrasound, interventional
methods correlated to histology in everyday practice

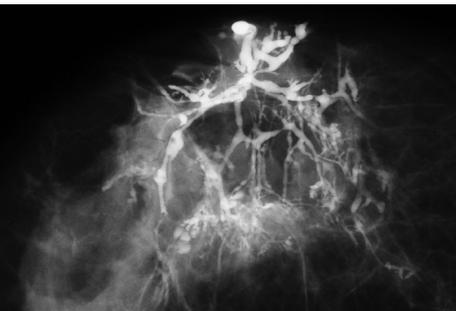
This course provides extensive knowledge about diagnostic breast imaging, differential diagnosis of breast diseases, unique histologic-imaging correlation; it will encourage using modern terminology and interaction at the tumor board meetings.



3D image of the breast tissue



The comparison of 3D histology images of the breast with plants and flowers is striking



Galactogram of a lobe

21 HOURS OF CATEGORY I CME CREDITS



2014 BREAST SEMINAR SERIES
The New Era in the Diagnosis and
Treatment of Breast Diseases
Improving the detection and reporting of
breast cancer

László Tabár, MD, FACR (Hon)
Professor emeritus of radiology
Course Director

FACULTY



**László Tabár, MD, FACR.
(Hon).**

Course Director

*Professor emeritus of Radiology,
Department of Mammography,
Central Hospital, Falun,
Sweden*



Alfonso Frigerio, M.D.

*Centro di Riferimento Regionale
per lo Screening Mammografico*

*Ospedale Città della Salute e della
Scienza, Torino, Italia*

Dr. Tabár will present the complex issue of imaging-histologic correlation with clinical implications in a way that it will be relevant for everyday clinical practice.

* He will suggest improving breast cancer terminology and reporting based on the site of origin of breast cancer.

* Emphasis will be upon interdisciplinary team work.

* The expected result is better patient care and job satisfaction.

* The benefit will be maximized when representatives of each subspecialty in the diagnostic and therapeutic team attend (radiologists, pathologists, surgeons, medical and radiation oncologists).



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Mammography Education, Inc. is accredited by the Accreditation Council for Continuing Medical Education to sponsor continuing medical education for physicians. Mammography Education, Inc. designed these medical education activities for a maximum of **21 credit hours in Category I** of the Physicians' Recognition Award of the American Medical Association.

Each physician should claim only those hours of credit that he / she actually spent in the educational activity.

This course also applies for the Italian System of CME credits (ECM). Italian physicians may claim only those hours of credit that she/he actually spent in the educational activity. The credits can be claimed through our Italian agent KONICAB (see below)

Italian Scientific Organizing Committee

Dott. Alfonso Frigerio, M.D., *Ospedale Città della Salute e della Scienza, Torino, Italy*
e-mail: alfonso.frigerio@gmail.com

CREDITS

We would like to thank the sponsors for their support of the teaching seminars of Mammography Education, Inc (list of vendors will be presented at the beginning of the course)

Information on hotel reservations *and* information for the Italian attendees

Ms. Sara Cavallero, **Konicab Congressi srl** - Bologna, Italy. Phone: (0039) - 051 - 385 328. Fax: (0039) 051-311 350.

COURSE LANGUAGE

English with simultaneous translation to **Italian**.



1st day

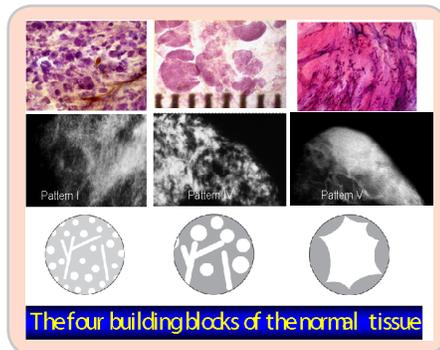
Morning lectures between 9:00 AM and 12:00 PM

9:00 INTRODUCTION FOLLOWED BY DIDACTIC LECTURES COVERING:

A NEW ERA in the DIAGNOSIS and TREATMENT of BREAST CANCER.
 THE ISSUE of UNI- and MULTIFOCALITY - CLINICAL IMPLICATIONS

THE BASIS FOR EFFICIENT INTERPRETATION OF THE MAMMOGRAPHIC IMAGE

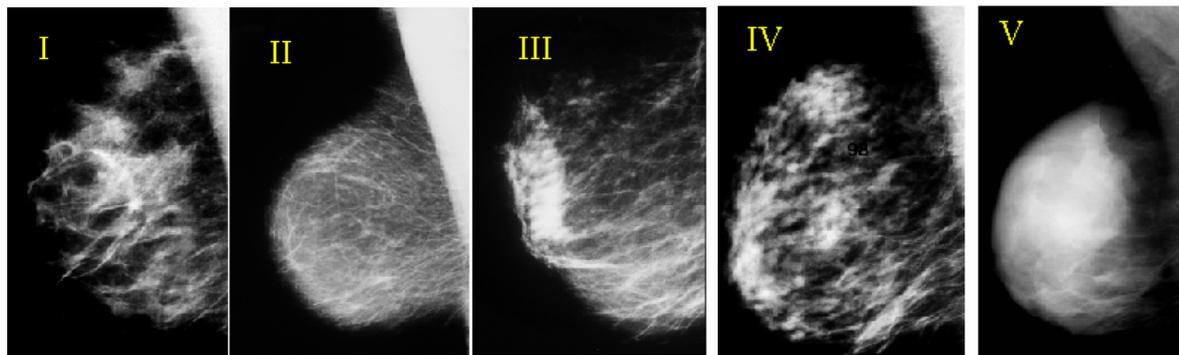
- Correlative 3-dimensional, subgross anatomy and mammography of the normal breast



**Breaks at 10:00
 and
 at 11:00 AM**

- **The problem:** The variable appearance of the normal mammogram.
- **The solution:** classification into structural subtypes, mammographic parenchymal patterns, based on 3D/subgross histologic-mammographic correlation.

THE VITAL ROLE OF THE HOSPITAL BREAST PATHOLOGIST IN VALIDATING MODERN BREAST IMAGING



WHY EVERY PATHOLOGIST SHOULD WANT LARGE-FORMAT BREAST EXAMINATION TECHNIQUES

- New aspects, correct terminology of early stage breast cancer.

12:00 - 1:00 L u n c h



1st day

Afternoon lectures between 1:00 PM and 4:30 PM

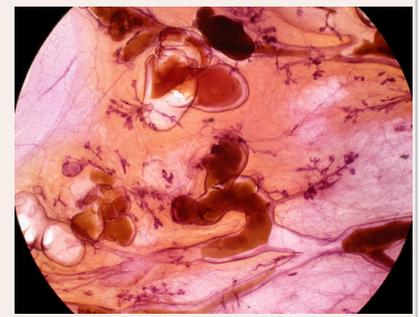
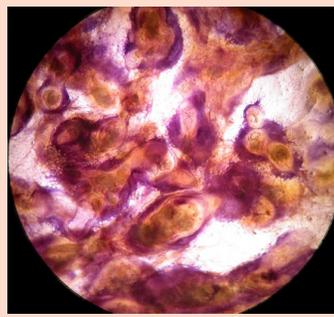
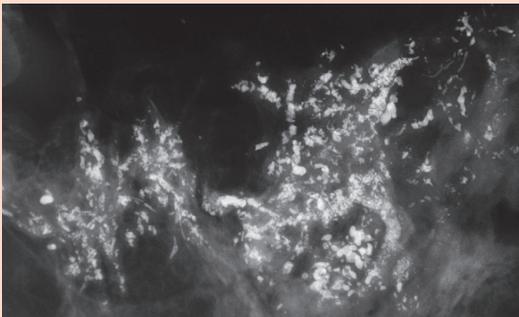
1:00 THE DIDACTIC LECTURE SERIES WILL COVER THE FOLLOWING TOPICS:

ALGORITHM FOR CLASSIFYING BREAST DISEASES ACCORDING TO THEIR SITE OF ORIGIN

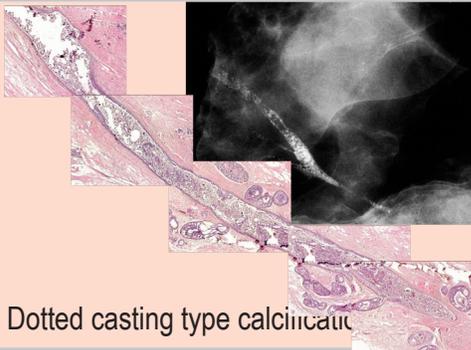
I. Breast diseases originating in the major ducts

- The concept of neoductgenesis: Duct forming invasive carcinoma. Long-term follow-up results.
- Discussion about correct terminology of *in situ* cancers

Secretory disease type calcifications

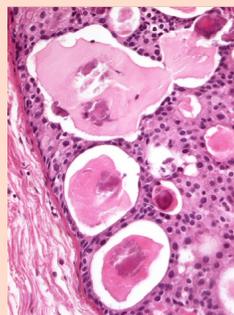
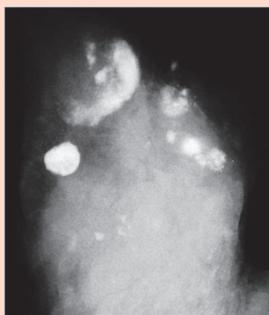


a) Fragmented casting type calcifications

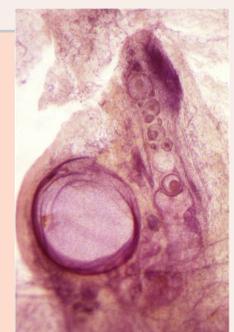


b) Dotted casting type calcifications

- * **Four different malignant type calcifications** developing in the major ducts: a) fragmented casting type b) dotted casting type c) skipping stone-like d) pearl necklace-like.
- * The concept of **neoductgenesis**. Long-term follow-up results. New aspects, correct terminology.
- * The role of breast MRI examination in demonstrating the extent of Gr 3 *in situ* carcinoma.
- * Mammographic/3D histologic correlation helping to explain the underlying pathophysiology and outcome.



c) Skipping stone-like calcifications



d) Pearl necklace-like calcifications

4:30 End of Day 1



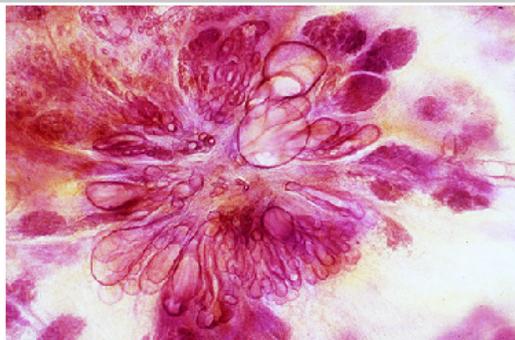
2nd DAY Morning lectures between 9:00 AM - 12:00 PM

8:30 NON-CALCIFIED ASYMMETRIC DENSITIES WITH ARCHITECTURAL DISTORTION ON THE MAMMOGRAM

ANALYSIS of BENIGN RADIATING STRUCTURES on the mammogram, originating in the ducts

- **Radial scar.** A suggested algorithm for the workup of stellate lesions
- Indications and contraindications of using minimally invasive preoperative diagnostic techniques.

**Breaks at 10:00
 and
 at 11:00 AM**



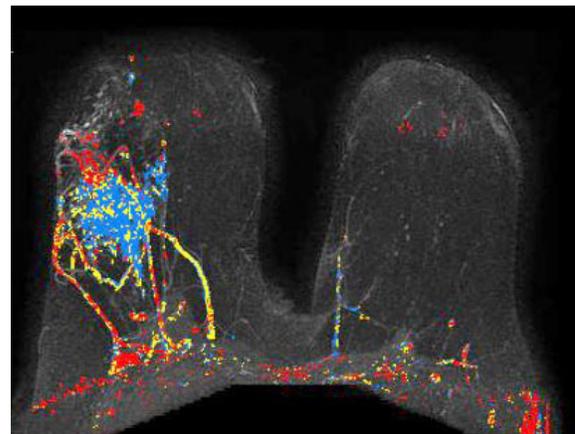
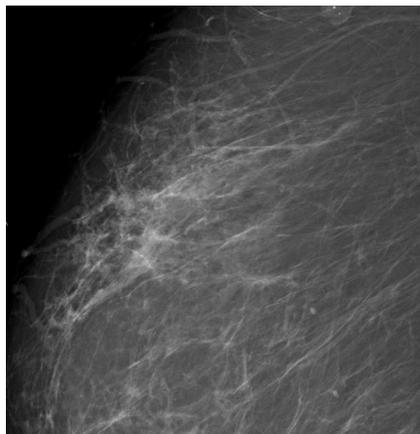
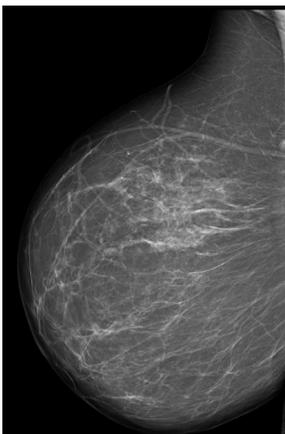
Radial scar



Neoductgenesis

ANALYSIS of MALIGNANT LESIONS PRESENTED as RADIATING STRUCTURES on the mammogram. Clinical presentation, mammographic-histologic correlation and outcome:

- **Invasive lobular carcinoma:** the most deceptive and frequently missed cancer of the breast. The value of ultrasound and MRI in finding and diagnosis invasive lobular cancer subtypes. Case demonstrations
- **"Duct forming invasive carcinoma"** cases presenting on the mammogram as architectural distortion
- A suggested algorithm for the workup of lesions with architectural distortion. **The role of breast MRI in diagnosing diffuse breast cancers.**



12:00 - 1:00 Lunch

Non-calcified architectural distortion: extensive duct forming invasive cancer

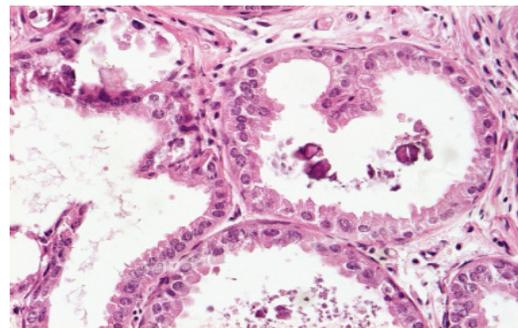
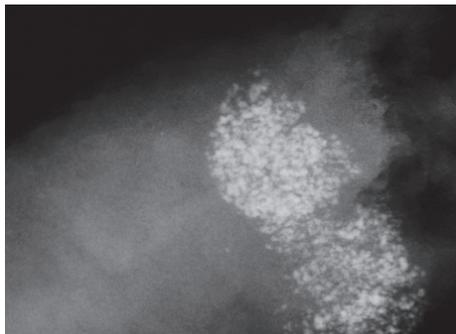


2nd DAY Afternoon lectures between 1:00 PM - 5:30 PM

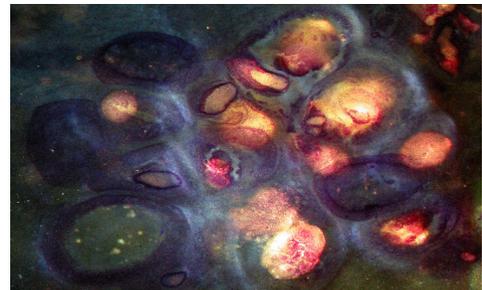
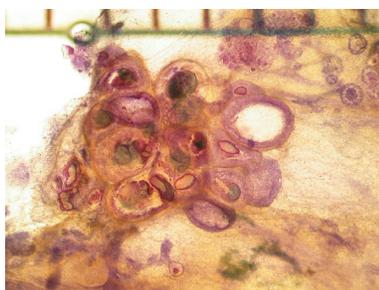
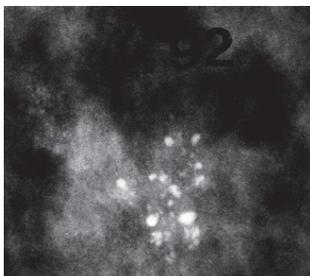
ALGORITHM FOR CLASSIFYING BREAST DISEASES ACCORDING TO THEIR SITE OF ORIGIN

- II. **Benign breast diseases originating in the TDLU** and associated with calcifications on the mammogram. Diagnosis and differential diagnosis. Problem solving.
- **Fibrocystic change. Fibroadenoma. Different types of adenosis.** Understanding pathophysiology leading to calcified and non-calcified hyperplastic breast changes.
 - Detailed analysis of calcifications associated with hyperplastic breast changes
Weddellites, powdery calcifications, pleomorphic calcifications on the mammogram.
- III. **Malignant breast diseases originating in the TDLU(s)** and associated with calcifications on the mammogram:

Breaks at
2:30 PM
and
at 3:30 PM



- 1) Grade 1 *in situ* carcinoma: Mammographic - histologic correlation of cases with powdery calcifications on the mammogram



- 2) Grade 2 cancer *in situ*: Mammographic / 3-D histologic / MRI correlation of cases with crushed stone like/pleomorphic calcifications on the mammogram.

4:30 ART HISTORY LECTURE: TITIAN AND LORENZO LOTTO: THE ANTI-PARALLEL LIVES OF TWO GREAT ARTISTS - [Frigerio, A.](#)

5:30 End of Day



3rd DAY Morning lectures between 8:30 AM - 12:00 PM

8:30 25-year follow-up results of patients with 1-14 mm non-palpable invasive breast cancer according to the mammographic appearance. The introduction of the "mammographic prognostic features" and their role in predicting long-term disease specific outcome.

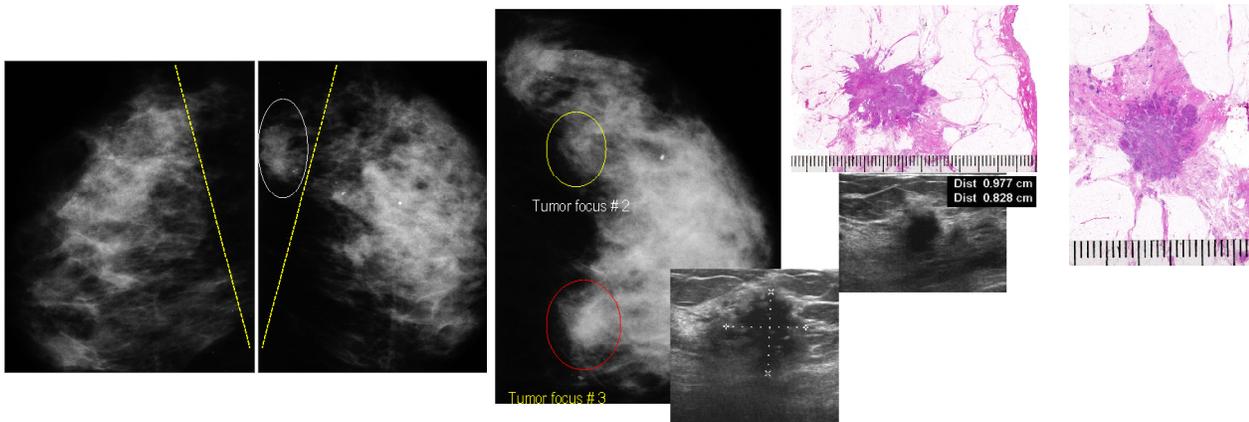
* Suggestion for reconsideration of the current therapeutic guidelines and the TNM classification system.

HOW TO FIND THE INVASIVE BREAST CANCER WHEN IT IS STILL SMALL.

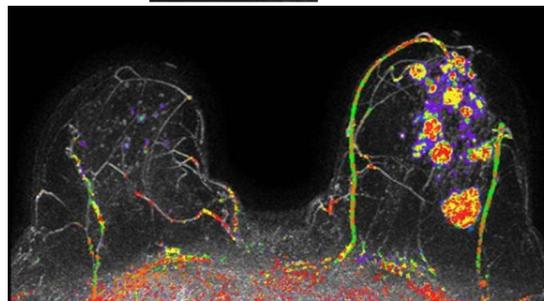
Screening combined with an analytical approach for the differential diagnosis of stellate/ spiculated and circular lesions.

- A systematic method for viewing mammograms.
- Areas on the mammogram where most breast cancers will be found.
- Viewing dense breasts
- Viewing relatively easy-to-read breasts.

**Breaks at
 10:00 AM
 and
 at 11:00 AM**



Multifocal invasive and *in situ* carcinoma on an area measuring 180X60 mm pN 4/9



12:00 - Lunch



3rd day Afternoon lectures between 1:00 PM - 4:30 PM

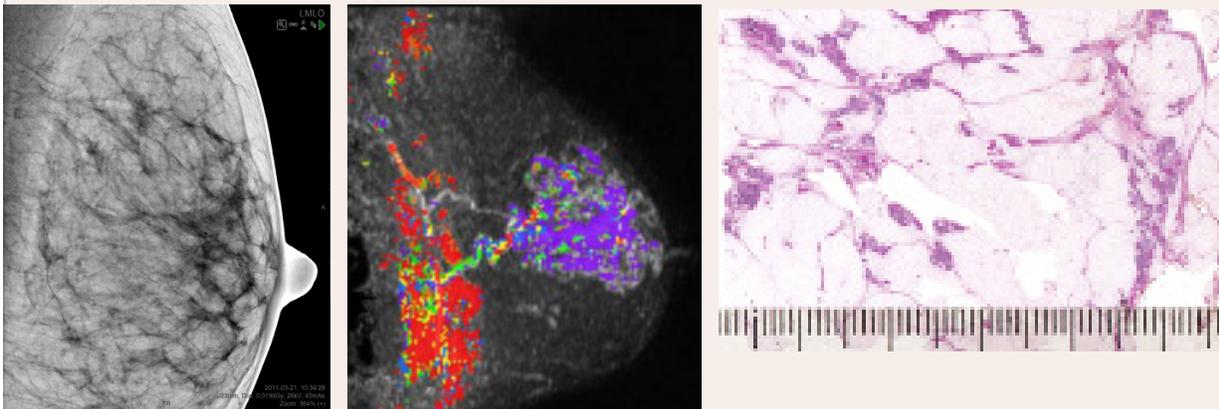
1:00 THE DIDACTIC LECTURE SERIES WILL COVER THE FOLLOWING TOPICS:

THE VALUE OF COMBINING THE MAMMOGRAPHIC APPEARANCE / BIOMARKERS / HISTOLOGIC PHENOTYPES AND TUMOR EXTENT (UNIFOCAL/MULTIFOCAL/DIFFUSE NATURE) OF BREAST CANCER IN PREDICITING LONG-TERM PATIENT OUTCOME

- Unifocal 1-14 mm circular and stellate malignant breast tumors: treatment considerations of the unifocal stellate or circular (mucinous cancer) vs poorly differentiated triple negative carcinoma. The role of radiotherapy and other adjunctive therapeutic regimens
- Faculty-audience interaction on the management of unifocal 1-14 mm invasive breast cancers.
- [Tabar L, A. Frigerio](#)
- Faculty-audience interaction on the management of complex breast cancer cases
- [Tabar L, A. Frigerio](#)

Breaks at 2:30 PM and at 3:30 PM

PRACTICE IN PERCEPTION OF SUBTLE, NON-CALCIFIED CANCERS.



Subtle mammography finding / MRI shows that the entire lobe is filled with a diffuse breast cancer, confirmed at histology

4:30 End of Course



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For more information and
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Phone: (480) 419 0227

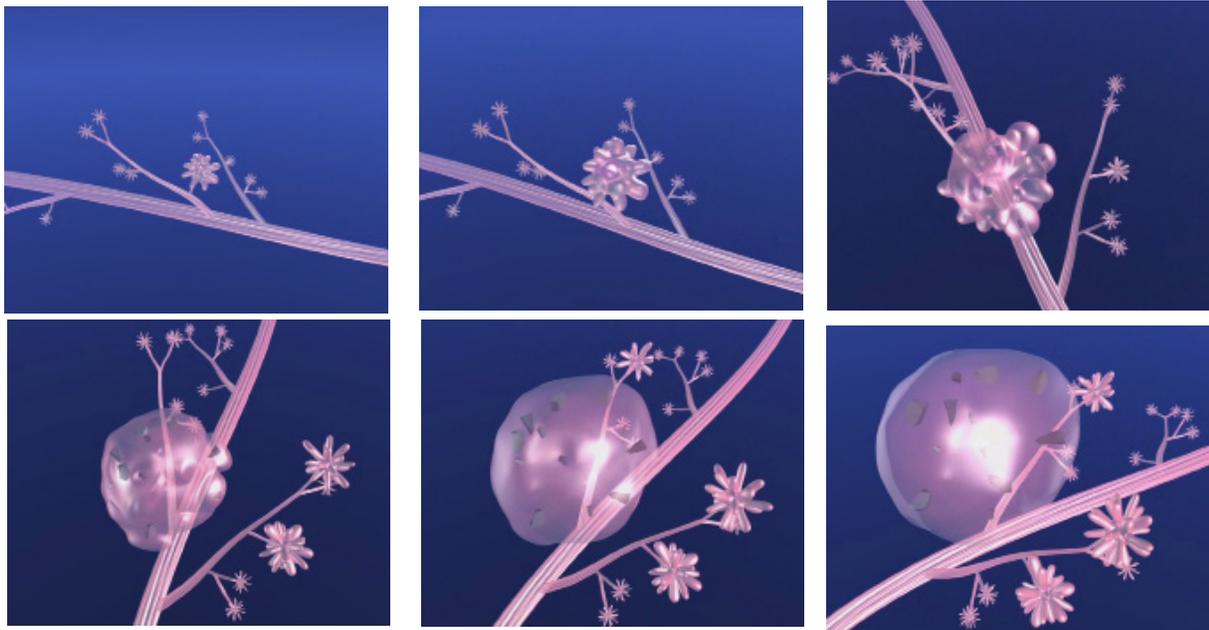
Fax: (480) 419 0219

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Computer simulation images of the development of Grade 2 *in situ* carcinoma within the TDLU. The lobule becomes gradually distended and deformed. Calcifications are formed within the necrotic debris and are seen on the mammogram as **crushed stone-like calcifications**.



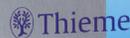
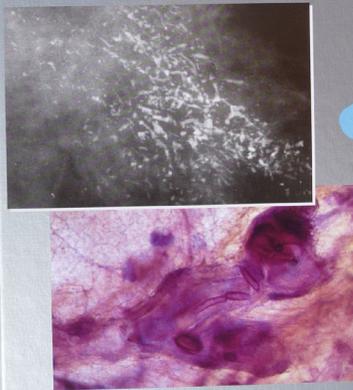
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Breast Cancer Early Detection with Mammography

Casting Type Calcifications: Sign of
a Subtype with Deceptive Features

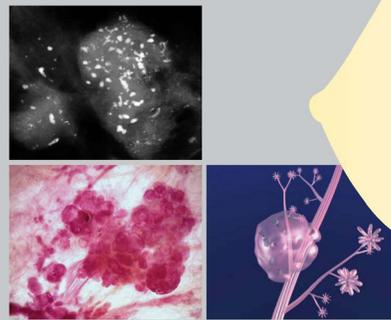
László Tabár
Tibor Tot
Peter B. Dean



Breast Cancer Early Detection with Mammography

Crushed Stone-like Calcifications:
The Most Frequent Malignant Type

László Tabár
Tibor Tot
Peter B. Dean



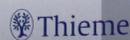
www.thieme.com

Breast Cancer The Art and Science of Early Detection with Mammography

László Tabár
Tibor Tot
Peter B. Dean



Recognition,
Interpretation,
and Pathologic Correlation

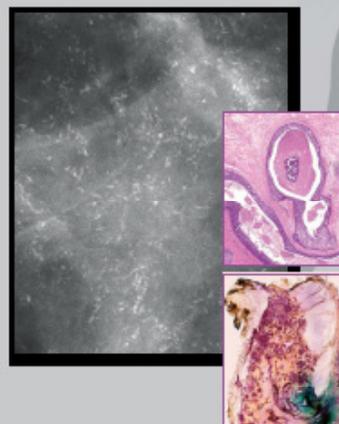


Teaching Atlas of Mammography

László Tabár
Peter B. Dean

With the contribution of Tibor Tot

4th edition

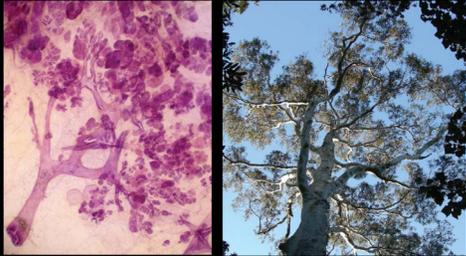




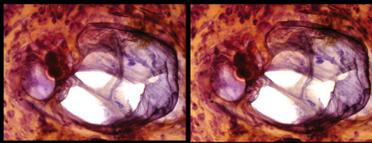
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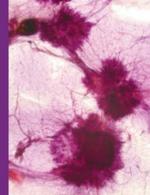
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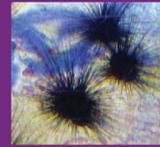
**Understanding the Breast
 in Health and Disease**



In 3D



Multifocal breast cancer



Sea urchins

In 3D



In situ ductal carcinoma

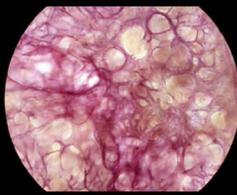


Banana flower

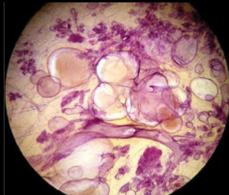
The basic structural elements of the female breasts are illustrated here in true 3-dimensional (3D) images and described in this Volume I by three breast cancer experts with decades of experience in the diagnosis of breast diseases. These images provide the best way to understand the great variability of the normal breast structure and the changes brought about by benign and malignant diseases.

www.mammographyed.com

László Tabár, MD,
Tibor Tot, MD, Peter B. Dean, MD,
Miklós Tarján, MD



cysts in a prostate



breast cysts

**Prostate and Breast:
 Brother and Sister Organs**



Laminated calcifications in the breast



Rowan berries

In 3D



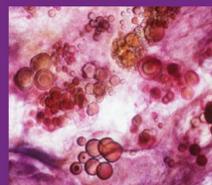
Prostate calcifications



Laminated calcifications in the prostate



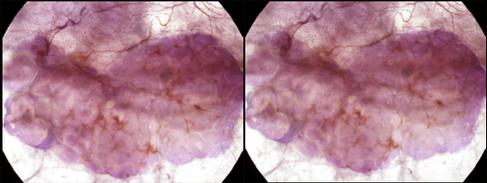
In 3D



Even as the risk of getting prostate and breast cancer is rising, early detection through screening and treatment in an early stage are significantly lowering the risk of dying from these diseases. This series of 3D books aims to empower both men and women with knowledge about their health. Although all of us are at risk of developing cancer or less serious problems in one or the other of these two organs, education will help us seek the benefits provided by modern health care and expect excellence from health care providers.

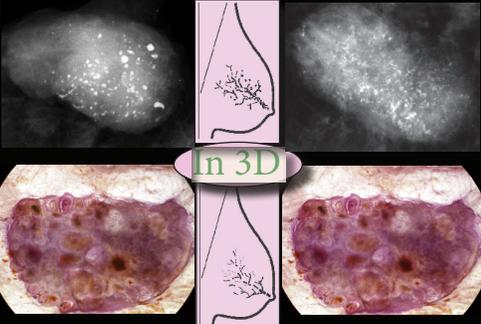


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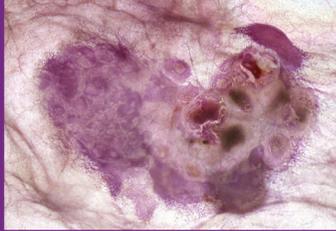


An axillary lymph node populated with metastases mimicking *in situ* cancer

Ductal Adenocarcinoma of the Breast (DAB), Part 2

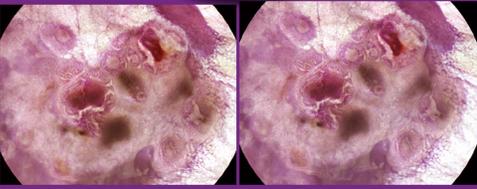


In 3D



Metastases within an axillary lymph
 node mimicking cancer *in situ*

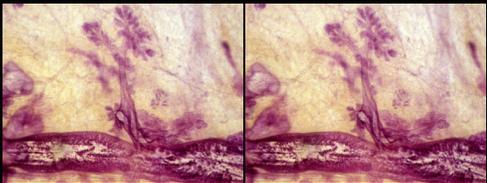
In 3D



Stereoscopic image pair of the DAB with calcifications within a lymph node

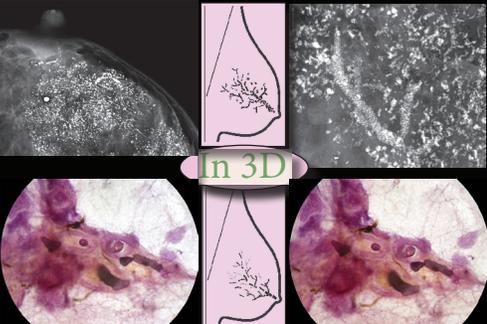
Breast cancers originating from the major milk ducts (breast cancer of ductal origin, DAB) occasionally cause axillary lymph node metastases which are similar in appearance at histology to DAB in the breast. Regardless of whether or not the myoepithelial cell layer is demonstrable, the decisive question is how do the duct-like structures grow inside the lymph nodes? Although the histopathologic appearance will be termed by pathologists as invasive cancer, i.e., when found in the prostate or in the axillary lymph node(s), a similar histopathologic appearance is termed "DCIS" when found in the breast. In reality, we face "duct forming invasive cancer" with poor outcome (neoductogenesis) in the breast, in the prostate and in the axillary nodes.

László Tabár, MD
Tibor Tot, MD, Peter B. Dean, MD



Micropapillary breast cancer of ductal origin associated with a normal TDLU

Ductal Adenocarcinoma of the Breast (DAB), Part 3

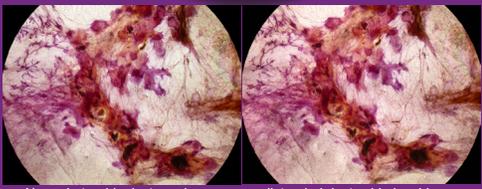


In 3D



Neoductogenesis (DAB)
 associated with angiogenesis

In 3D



Normal atrophic ducts and cancerous, distended ducts side by side

Breast cancers that originate in the major milk ducts (ductal adenocarcinoma of the breast, DAB) are diffuse and often extensive. The disease may occupy an entire lobe from the nipple to the chest wall, and frequently extends close to the skin. For these reasons, breast conserving surgery and skin or nipple sparing mastectomy of DAB cases carry a higher risk of local/regional/distant recurrence. In addition: 1) a considerable portion of the disease may lack calcifications, often occult for the imaging methods. 2) This subtype of breast cancer is less responsive to postoperative radiotherapy.