

2021

BREAST SEMINAR SERIES

Faculty

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

**Detection and Diagnosis of Breast Diseases
Using the Multimodality Approach**

**AN INTERACTIVE,
UNIQUE LEARNING EXPERIENCE**

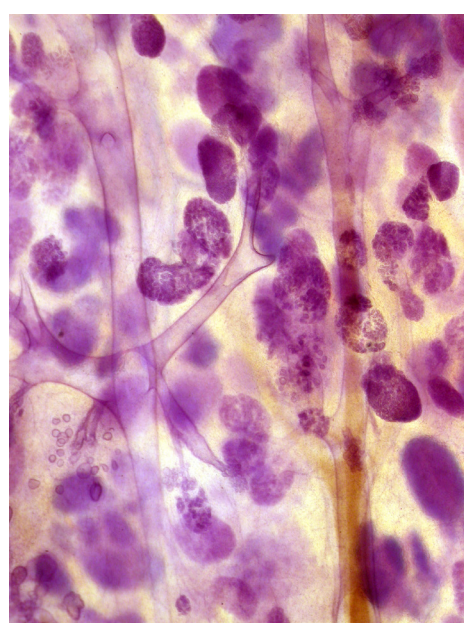
June 16-17, 2021
WEBINAR

**NEW
course
design**

Designed for:

**Radiologists • Surgeons • Pathologists
Gynecologists**

This course provides extensive knowledge about diagnostic breast imaging, differential diagnosis of breast diseases, implications for management and newest diagnostic technologies



3D image of the breast tissue



3D image of the breast tissue

**8 Category I
CME credit hours.**



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BREAST SEMINAR SERIES of MEI

Detection and Diagnosis of Breast Diseases
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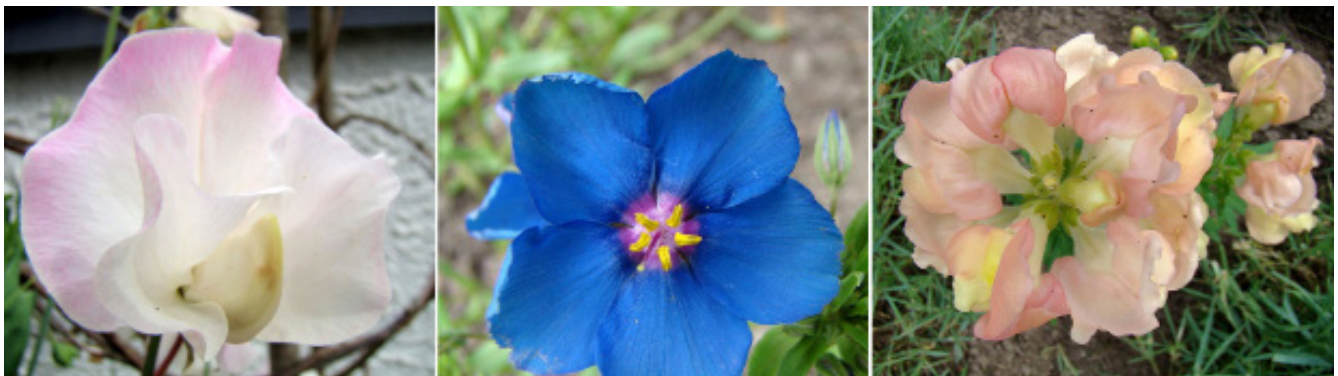
László Tabár, MD, FACR (Hon)
Course Director

FACULTY



László Tabár, MD, FACR (Hon).
Course Director

Professor emeritus of Radiology, Uppsala University, Sweden



Photographs from the collection of the non-profit Tabar Foundation dedicated to Research and Education for Breast Cancer

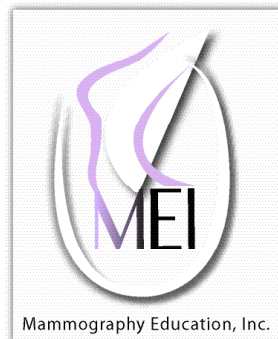


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Detection and Diagnosis of Breast Diseases
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László Tabár, MD, FACR (Hon)
Course Director



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 **8 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.

NEW COURSE DESIGN

- * The lectures on each major subject will be followed by **immediate feedback** and discussion.
- * During the course the attendees will progressively **improve their interpretive expertise**, as they learn all important findings explained with the help of large format thin section and 3-dimensional histology images.
- * These skills will lead to greater confidence in analyzing and interpreting microcalcifications on the mammogram.
- * Special emphasis will be placed on **finding early phase breast cancers**.
- * All abnormal cases are fully worked up and the **complete imaging workup will be presented in detail, including ultrasound, MRI and large section histopathology**.

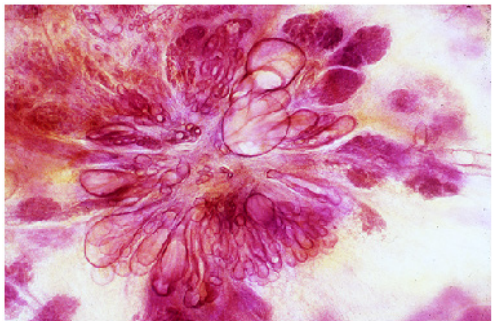


Day 1

5:00 PM - 9:00 PM

ASYMMETRIC DENSITIES ON THE MAMMOGRAM

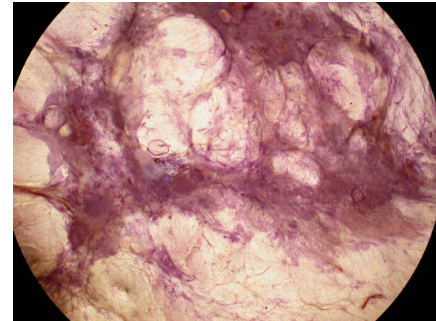
- Didactic workup of *non-specific asymmetric densities without architectural distortion*
 - Didactic workup of *non-specific asymmetric densities with architectural distortion*
- A suggested algorithm for the workup of lesions with architectural distortion.



Radial scar



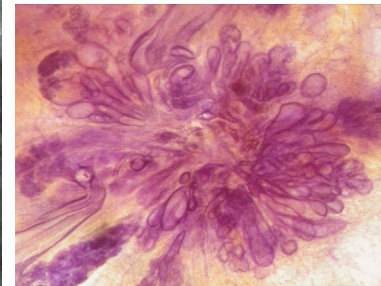
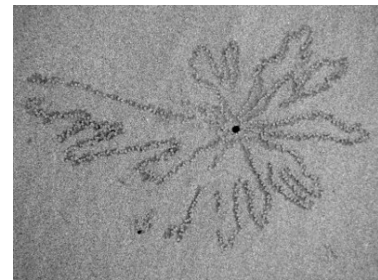
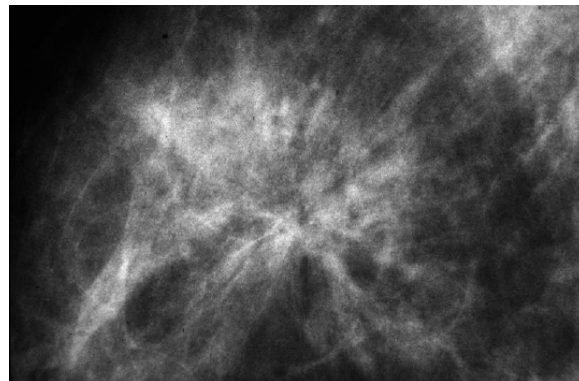
Neoductgenesis (DAB)



Diffusely infiltrating cancer of mesenchymal origin

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

Radial scar / sclerosing ductal hyperplasia





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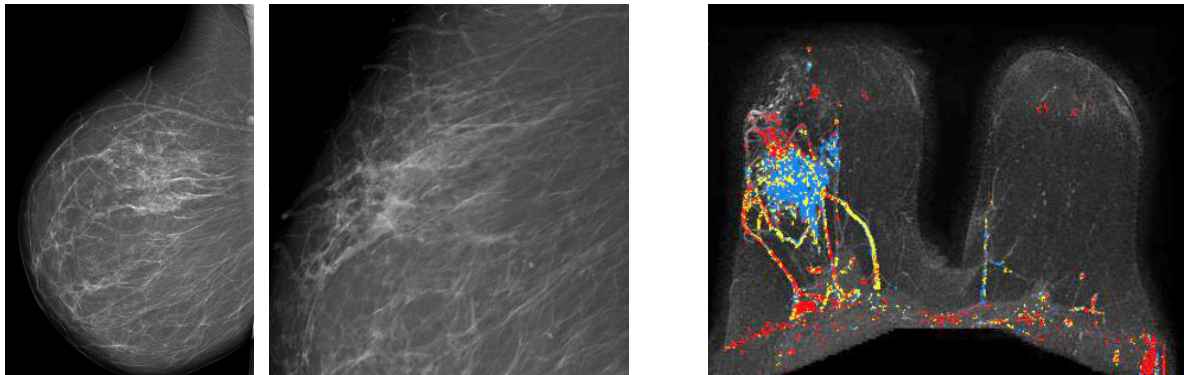
Detection and Diagnosis of Breast Diseases
Using the Multimodality Approach. An interactive course.

Day 2 5:00 PM - 9:00 PM

ANALYSIS of **MALIGNANT LESIONS** PRESENTED as non-calcified **RADIATING STRUCTURES** on the mammogram. Clinical presentation, mammographic appearance and outcome.

- **Duct forming invasive carcinoma / Neoductgenesis** cases presenting on the mammogram as architectural distortion. **The role of MRI in diagnosing diffuse breast cancer.**

Interactive session for detecting architectural distortion on the mammogram.



Non-calcified architectural distortion: extensive duct forming invasive cancer

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

In 3D

Breast cancer originating from the major ducts

Ductal Adenocarcinoma of the Breast (DAB), Part 7

Architectural distortion on the mammogram without calcifications or nipple discharge

Mammographic-MRI-subgross (3D) histologic correlation of this extensive micropapillary cancer originating from the major ducts presenting as architectural distortion.

Architectural distortion on the mammogram without calcifications or nipple discharge

In 3D

Printed in China
ISBN: 978-0-9885416-0-8
9 780988 541608

There are two main groups of diffuse breast cancers presenting on the mammogram as large regions of architectural distortion; these account for about 25% of all breast cancers and tend to have a poor outcome: 1) **Neoductgenesis**, i.e. "duct forming invasive carcinoma", the topic of this volume, often erroneously diagnosed as "DCIS", and 2) **Diffusely infiltrating breast cancer**, the topic of Vol. XI.

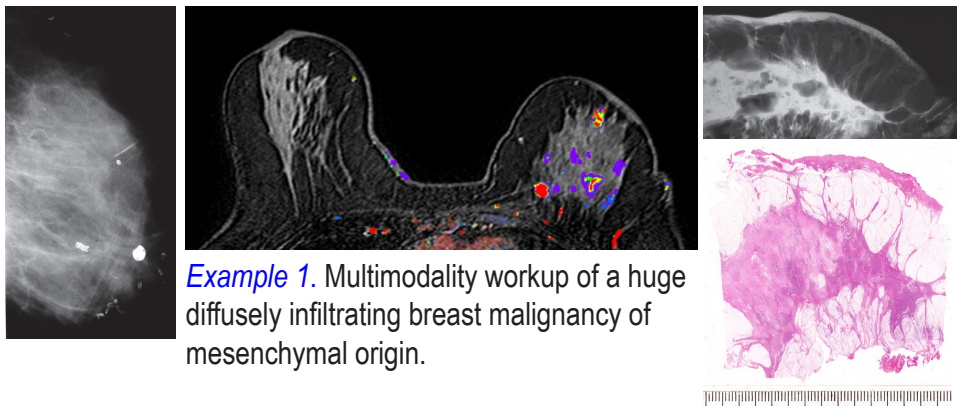
This volume demonstrates the DAB subgroup where the unaturally high concentration of abnormal, tumor-filled ducts results in an asymmetric density with architectural distortion on the mammogram and often causes a palpable "thickening". Detecting architectural distortion on the mammogram and diagnosing the underlying disease correctly is a challenge for the radiologist. Breast cancers originating from the major ducts (DAB) are characterized by the formation of new, duct-like structures through the process of Neoductgenesis.



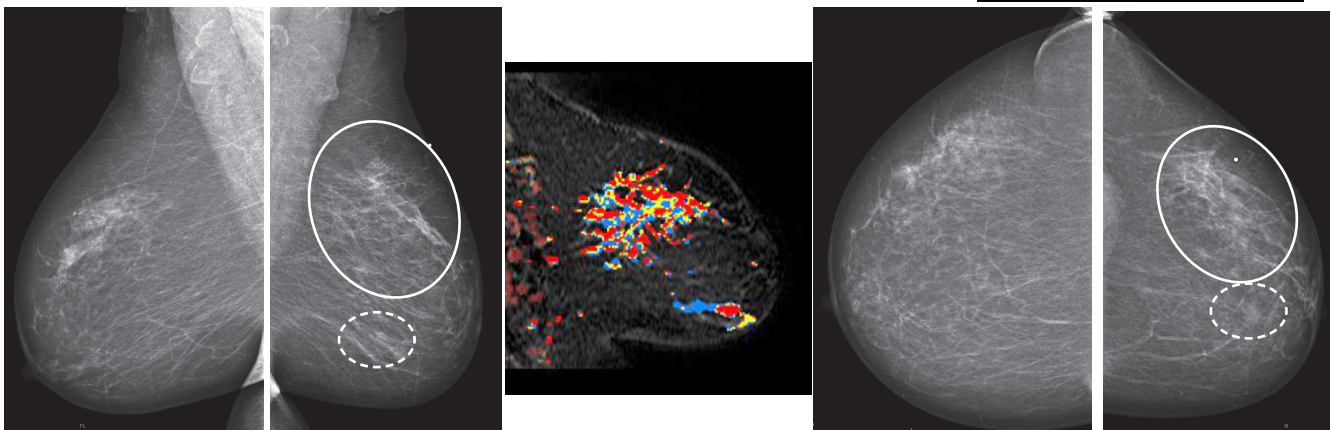
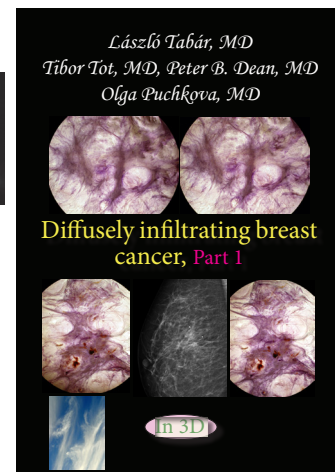
Day 2 5:00 PM - 9:00 PM

ANALYSIS of MALIGNANT LESIONS PRESENTING as RADIATING STRUCTURES on the mammogram. Clinical presentation, mammographic appearance and outcome, cont.

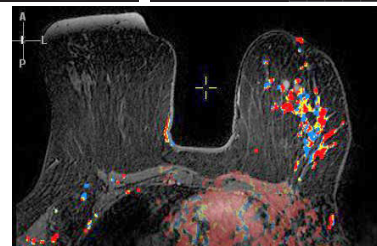
2) Diffusely infiltrating breast cancer of mesenchymal origin: the most deceptive and frequently missed cancer of the breast. The value of ultrasound and MRI in finding and diagnosing this spider's web-like malignancy. Case demonstrations, large section histopathologic-imaging correlation. Long-term outcome.



Example 1. Multimodality workup of a huge diffusely infiltrating breast malignancy of mesenchymal origin.



Example 2. Diffusely infiltrating (spider's web-like) carcinoma of mesenchymal origin in the upper half of the breast and a spherical, round lesion, originating from the TDLU (AAB) is seen in the lower portion of the left breast.



Interactive session for detecting architectural distortion on the mammogram.



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Course Director

Detection and Diagnosis of Breast Diseases
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**For more information and
registration please contact:**

**Mammography Education, Inc.
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Fax: (480) 419 0219

e-mail: info@mammographyed.com

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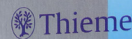
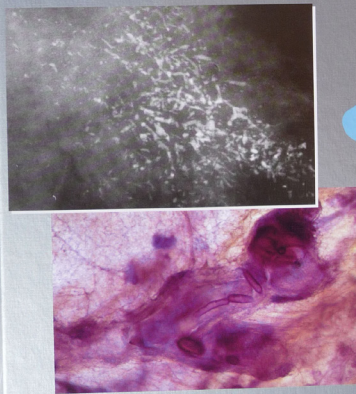
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Course Director

Breast Cancer Early Detection with Mammography

Casting Type Calcifications: Sign of
a Subtype with Deceptive Features

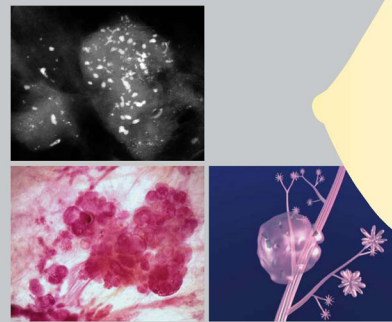
László Tabár
Tibor Tot
Peter B. Dean



Breast Cancer Early Detection with Mammography

Crushed Stone-like Calcifications:
The Most Frequent Malignant Type

László Tabár
Tibor Tot
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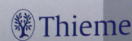
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Breast Cancer The Art and Science of Early Detection with Mammography

László Tabár
Tibor Tot
Peter B. Dean



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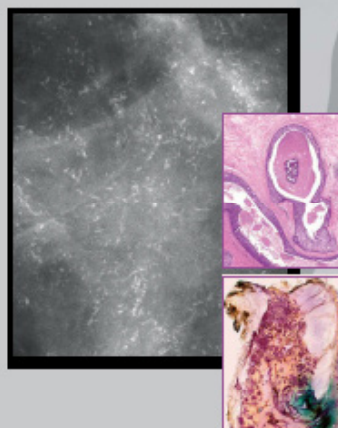


Teaching Atlas of Mammography

László Tabár
Peter B. Dean

With the contribution of Tibor Tot

4th edition



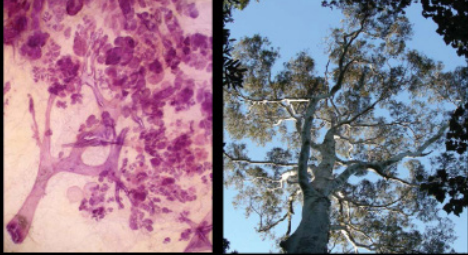


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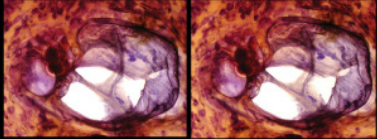
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Course Director

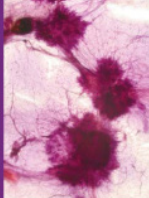
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Understanding the Breast
in Health and Disease



In 3D

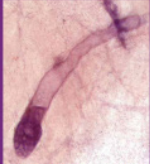


Multifocal breast cancer




Sea urchins

In 3D



In situ ductal carcinoma

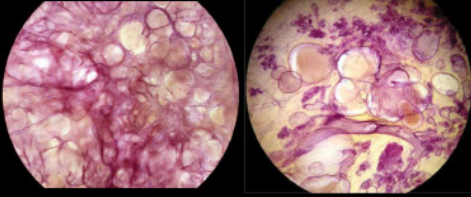


Banana flower

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.

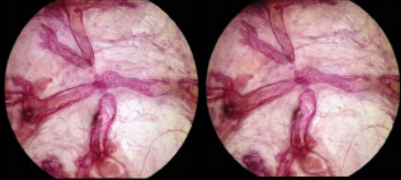
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Miklós Tarján, MD

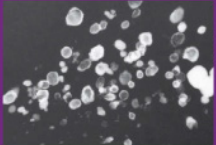


cysts in a prostate breast cysts

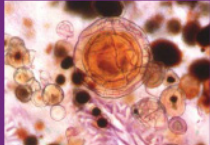
Prostate and Breast:
Brother and Sister Organs



In 3D



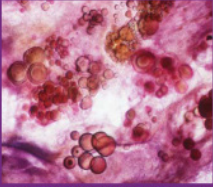
Prostate calcifications




Laminated calcifications
in the prostate

Printed in China
ISBN 978-0-9889361-2-9
50100-
9 9788 836129

In 3D



Laminated calcifications in
the breast



Rowan berries

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.

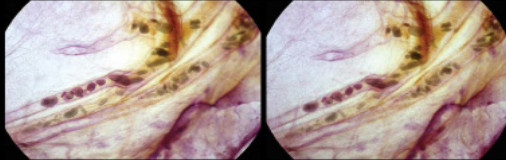


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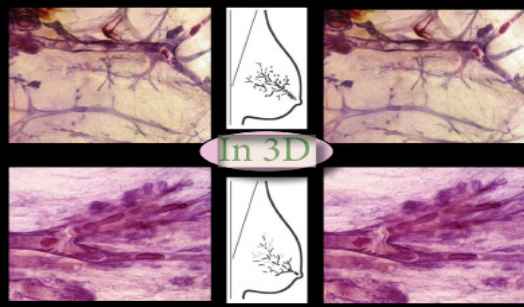
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Breast cancer of ductal origin with microcalcifications

Ductal Adenocarcinoma of the Breast (DAB), Part 1



In 3D



8 mm poorly differentiated invasive breast cancer associated with neoductogenesis (DAB)

A photograph reminiscent of neoductogenesis with associated tiny invasive tumors



In 3D

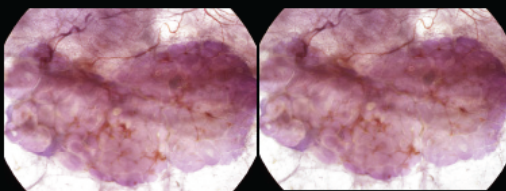


Fragmented casting type calcifications make the cancerous duct-like structures visible on the mammogram.

Neoductogenesis is a frequent phenomenon in the plant world

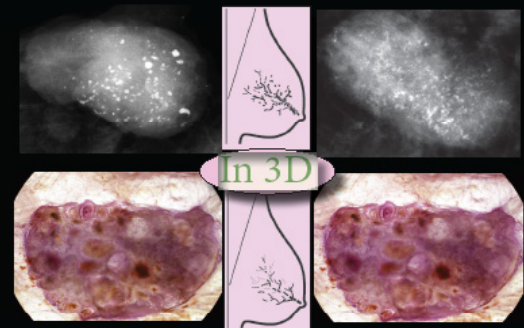
The mammogram is a true representation of the structural changes induced by the genetic constellation of each breast cancer subtype. The mammographic/MRI/ultrasound presentation of a particular subtype reflects the nature and extent of the underlying disease process, and when correctly interpreted, can guide patient management and help in predicting the long-term outcome. This information is available at the moment of diagnosis, without the additional expense and time necessary for molecular and immunohistochemical analysis.

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Tibor Tot, MD, Peter B. Dean, MD

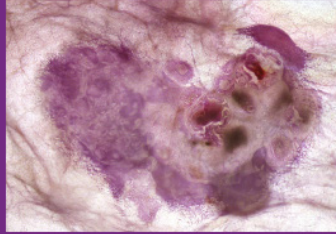


An axillary lymph node populated with metastases mimicking *in situ* cancer

Ductal Adenocarcinoma of the Breast (DAB), Part 2

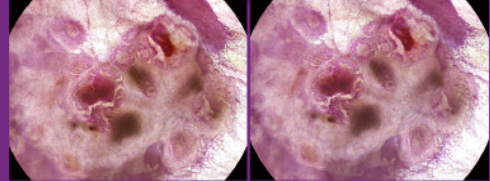


In 3D



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

In 3D

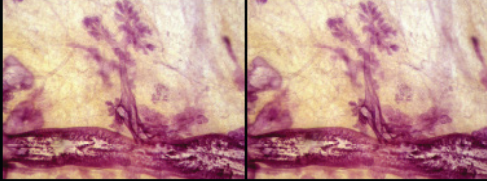


Stereoscopic image pair of the DAB with calcifications within a lymph node

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.

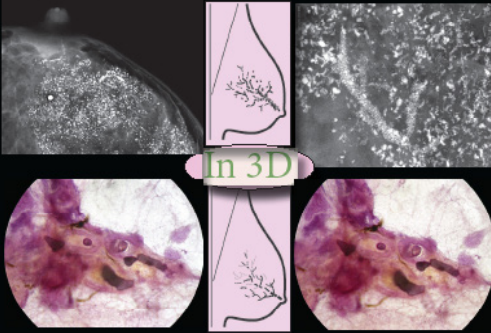


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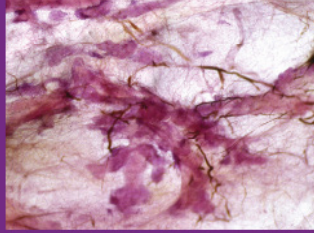


Micropapillary breast cancer of ductal origin associated with a normal TDLU

Ductal Adenocarcinoma of the Breast (DAB), Part 3

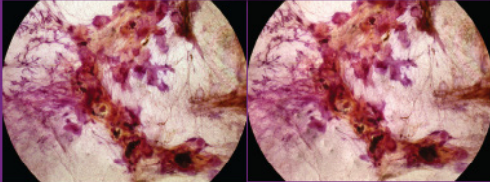


In 3D



Neoductgenesis (DAB) associated with angiogenesis

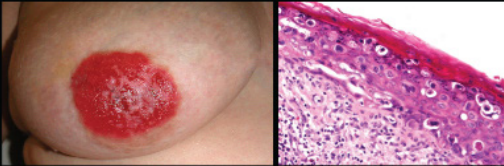
In 3D



Normal atrophic ducts and cancerous, distended ducts side by side

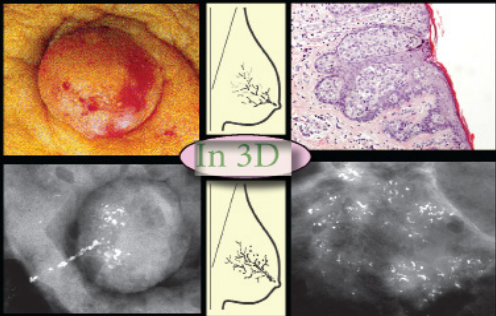
Breast cancers that originate in the major milk ducts (ductal adenocarcinoma of the breast, DAB) are diffuse and often extensive. The disease may occupy an entire lobe from the nipple to the chest wall, and frequently extends close to the skin. For these reasons, breast conserving surgery and skin or 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 occur for the imaging methods. 2) This subtype of breast cancer is less responsive to postoperative radiotherapy.

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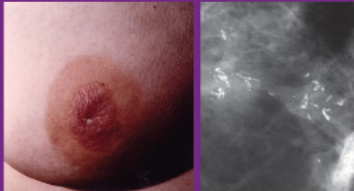


Paget's disease of the nipple Paget's cells in the epidermis of the nipple

Ductal Adenocarcinoma of the Breast (DAB), Part 4

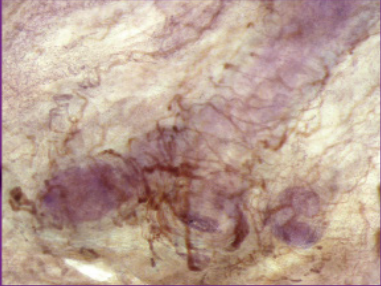


In 3D



Paget's disease of the nipple and breast cancer of ductal origin

In 3D



Cancer-filled duct in Paget's disease with angiogenesis

One of the features which is unique to breast cancers originating from the major ducts (DAB) is **Paget's disease of the breast**. It was first described by the British pathologist, James Paget in 1874. He described 14 cases of breast cancer associated with an eczema-like skin change of the nipple and areola. Almost 1% of all breast cancers present with Paget's disease of the nipple, and the diagnosis is confirmed by histologically demonstrating the Paget cells of the affected epidermis. The underlying breast cancer can be best demonstrated by combining all breast imaging methods. Of these, breast MRI is the most sensitive, showing the presence and true extent of the underlying DAB, often before calcifications can be detected on the mammogram.

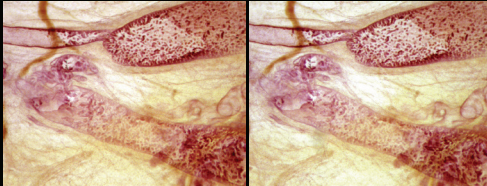


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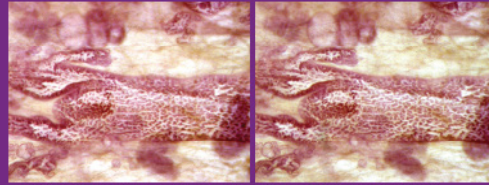
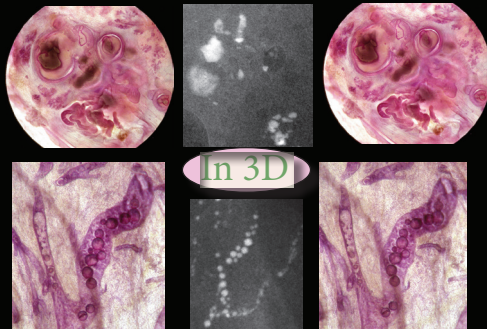
Detection and Diagnosis of Breast Diseases
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Ductal Adenocarcinoma of the Breast (DAB), Part 5

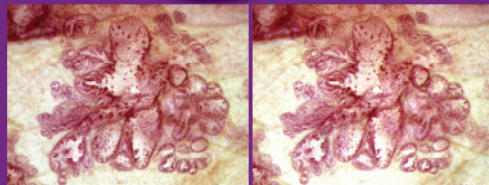
Fluid producing DAB subtypes associated with calcifications



Fluid producing micropapillary breast cancer of ductal origin (DAB)



In 3D



Neoductogenesis in micropapillary breast cancer of ductal origin (DAB)

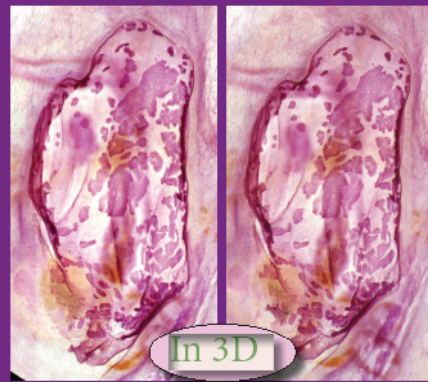
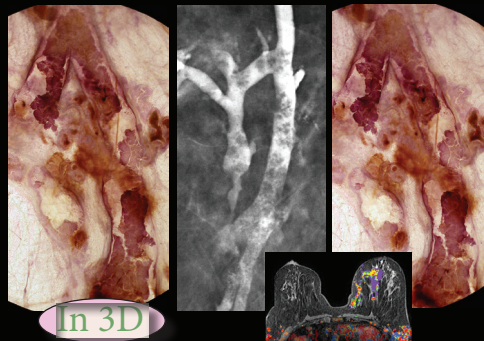
This volume describes the subtypes of breast cancers that arise in the major ducts, produce a viscous, proteinaceous fluid. Little or no necrosis is present. The calcifications formed within the fluid have characteristic, but deceptively benign appearance, although the malignancy may extend throughout an entire lobe. This book will help identify these deceptive cases through correlating the mammographic/ultrasound/MRI presentation with large / thick section (3D) histology.

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

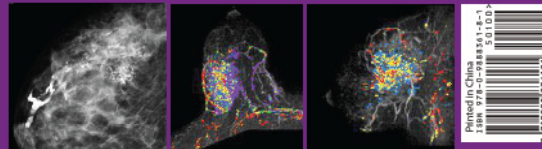


Bloody and serous nipple discharge

Ductal Adenocarcinoma of the Breast (DAB), Part 6



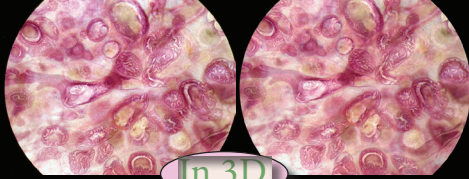
Fluid producing micropapillary breast cancer of ductal origin (DAB)



Spontaneous unilateral serous or bloody nipple discharge can be an alarming clinical symptom for the patient and also, it may cause considerable differential diagnostic problem for the radiologist. This volume of our 3D book series correlates the imaging findings (mammography / breast ultrasound / breast MRI) with large thin- and large thick section (sub-gross, 3D) histology in cases when the underlying cause of the discharge is fluid-producing breast cancer originating from the major ducts (DAB).



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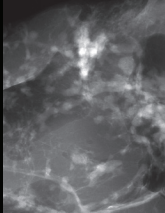
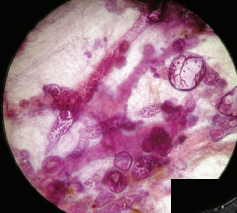
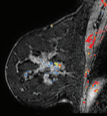


In 3D

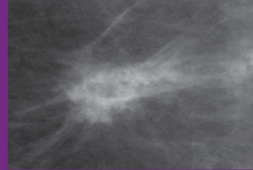
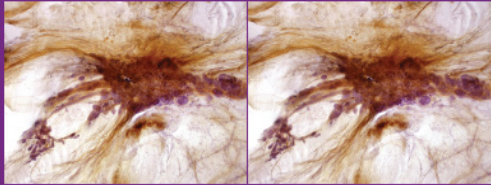
Breast cancer originating from the major ducts

Ductal Adenocarcinoma of the Breast (DAB), Part 7

Architectural distortion on the mammogram without calcifications or nipple discharge






Mammographic-MRI-subgross (3D) histologic correlation of this extensive micropapillary cancer originating from the major ducts presenting as architectural distortion.

Architectural distortion on the mammogram without calcifications or nipple discharge

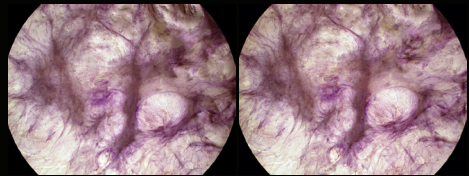
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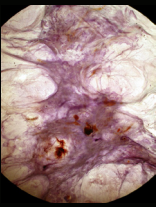
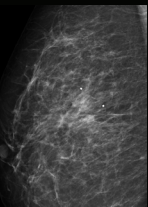
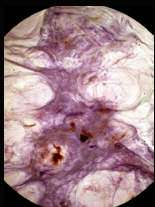

There are two main groups of diffuse breast cancers presenting on the mammogram as large regions of architectural distortion; these account for about 25% of all breast cancers and tend to have a poor outcome: 1) **Neoductgenesis**, i.e. "duct forming invasive carcinoma", the topic of this volume, often erroneously diagnosed as "DCIS", and 2) **Diffusely infiltrating breast cancer**, the topic of Vol. XI.

This volume demonstrates the DAB subgroup where the unnaturally high concentration of abnormal, tumor-filled ducts results in an asymmetric density with architectural distortion on the mammogram and often causes a palpable "thickening". Detecting architectural distortion on the mammogram and diagnosing the underlying disease correctly is a challenge for the radiologist. Breast cancers originating from the major ducts (DAB) are characterized by the formation of new, duct-like structures through the process of Neoductgenesis.

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Diffusely infiltrating breast cancer, Part 1


In 3D



Stereoscopic subgross (3D) image pair of a diffusely infiltrating breast cancer



In 3D




Extensive diffusely infiltrating breast cancer: the dominant feature is the extreme amount of connective tissue with concave contours.

This volume describes a breast cancer subtype that is a substantial challenge for the entire breast cancer team. The clinical, imaging and outcome observations indicate that diffusely infiltrating breast cancer represents a very unusual breast malignancy, regardless of whether it is E-cadherin negative or positive. All aspects of the diffusely infiltrating breast cancer suggest that it may have a site of origin different from all other breast cancers. We propose that it originates from the mesenchymal stem cells/progenitors through a complex process of epithelial-mesenchymal transformation and predominantly mesenchymal-epithelial transformation. Control of this unusual malignancy requires new approaches to earlier detection and entirely new therapeutic innovations.



2021
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László Tabár, MD, FACR (Hon)
Course Director

Detection and Diagnosis of Breast Diseases
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