

Mammography Education, Inc.



2020

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

A FULLY INTERACTIVE, UNIQUE LEARNING EXPERIENCE

June 25 - July 5, 2020

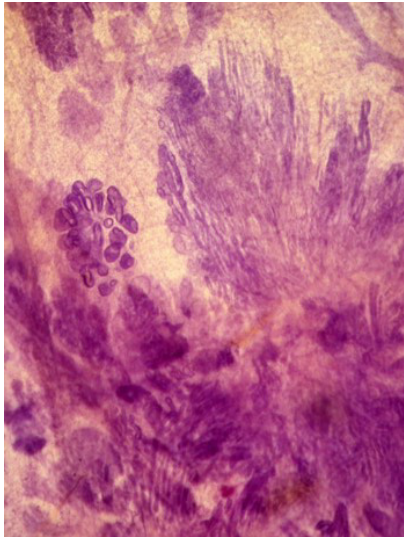
River Cruise

21 Category I CME credit hours

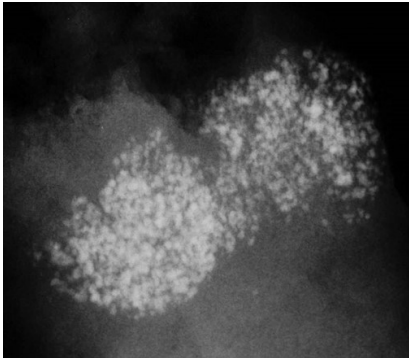
Designed for:

**Radiologists • Surgeons • Pathologists
Gynecologists • Radiology Technologists**

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



3D image of sclerosing adenosis



Mammogram of sclerosing adenosis





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BREAST SEMINAR SERIES of MEI

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

László Tabár, MD, FACR (Hon)
Course Director

FACULTY



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

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



Photographs from the collection of the non-profit Tabar Foundation
dedicated to Research and Education for Breast Cancer, Visit:
tabarfoundation.org



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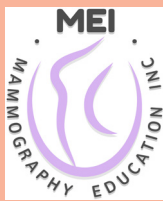
Mammography Education, Inc. is accredited by the Accreditation Council for Continuing Medical Education to sponsor continuing medical education for physicians. Mammography Education, Inc. designed these medical education activities for a maximum of **21 credit hours in Category I** of the Physicians'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

NEW COURSE DESIGN

- * The lectures on each major subject will be followed by **interactive screening sessions** consisting of a mixture of normal and early cancer cases presented on the large screen exactly as they appear on a viewing station at screening. Using a specially provided polling program downloaded to each participant's smartphone or tablet, the attendees will be asked to vote anonymously on each case. The aggregate results will appear instantly for discussion and evaluation. This new course design gives immediate feedback demonstrating the effectiveness of various screening methods.
- * During the course the attendees will progressively **improve their interpretive expertise**, as they learn the full spectrum of normal breast images, with all important findings explained with the help of 3-dimensional histology images.
- * These skills will lead to **fewer call-backs** and greater confidence in reading a large number of mammograms.
- * **Immediate feedback** and discussion of every case throughout every reading session.
- * 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**.

CREDITS

We would like to thank Máдай & Társai Kft. for organizing the cruise and the tours.



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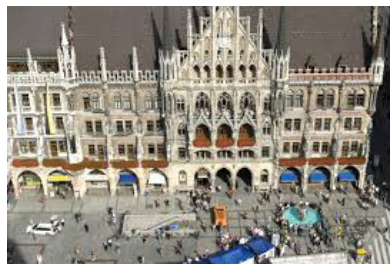
Day 1

June 25, the day of arrival, transfers, check into the hotel

We are staying at Hotel Bayerischer Hof



Guided tour in the center of Munich.



Get together dinner



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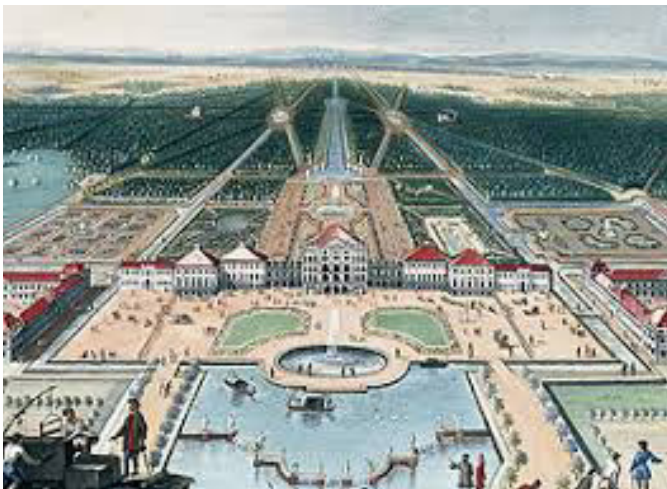
Detection and Diagnosis of Breast Diseases
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Course Director

Day 2 June 26, the day of excursion to Nymphenburg Castle, Andechs Monastery, etc.

Breakfast at Hotel Bayerischer Hof 6:00-9:30

TRANSFER TO NYMPHENBURG CASTLE



Enjoy visiting the museums or walking in the park





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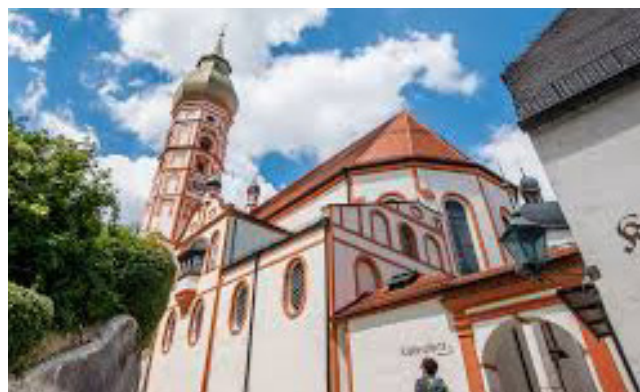
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Departure to Andechs Monastery

Bavarian countryside sightseeing enroute



Lunch at Klostersgasthof Andechs



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Day 2 June 26. Return to the Hotel. Leisure time.

Dinner at Spatenhaus an der Oper



Overnight at Hotel Bayerischer Hof



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Day 3 June 27, the day of excursion to Castle Neuschwanstein, etc.

Breakfast at Hotel Bayerischer Hof 6:00-7:30

TRANSFER TO NEUSCHWANSTEIN





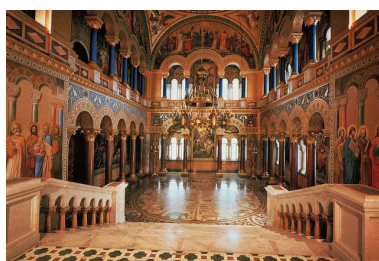
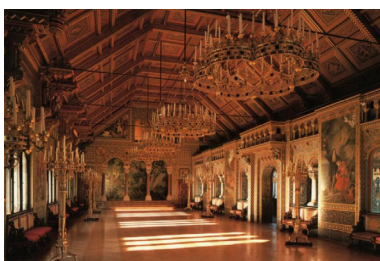
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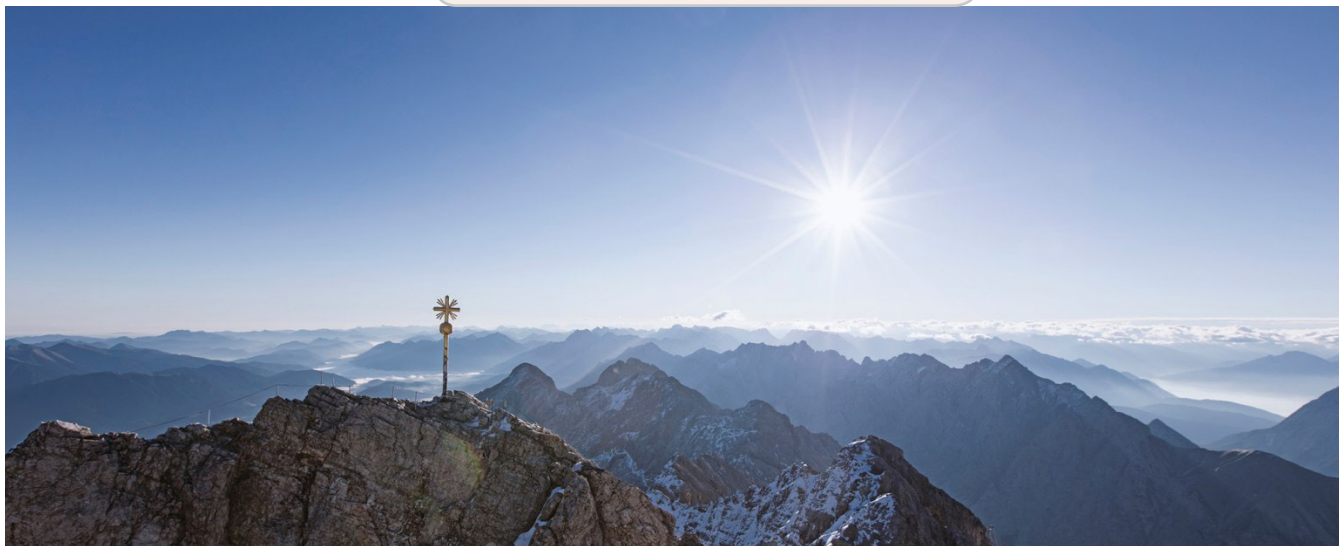
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Day 3 June 27, the day of excursion to Zugspitze



Lunch with view at Zugspitze



Drive to Munich. Transfer to dinner. Return transfer to hotel. Overnight at Hotel Bayerischer Hof.



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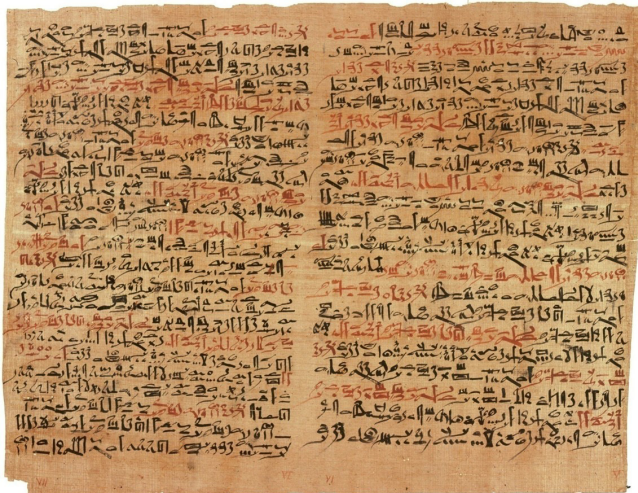
László Tabár, MD, FACR (Hon)
Course Director

Day 4 June 28, the 1st day of Course for the physicians, cooking class for spouses,

Breakfast at Hotel Bayerischer Hof 6:00-9:00

9:00 AM INTRODUCTION FOLLOWED BY DIDACTIC LECTURES COVERING:

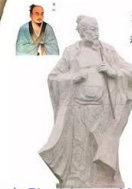
- A NEW ERA in the DIAGNOSIS and TREATMENT of BREAST CANCER. A historical perspective.



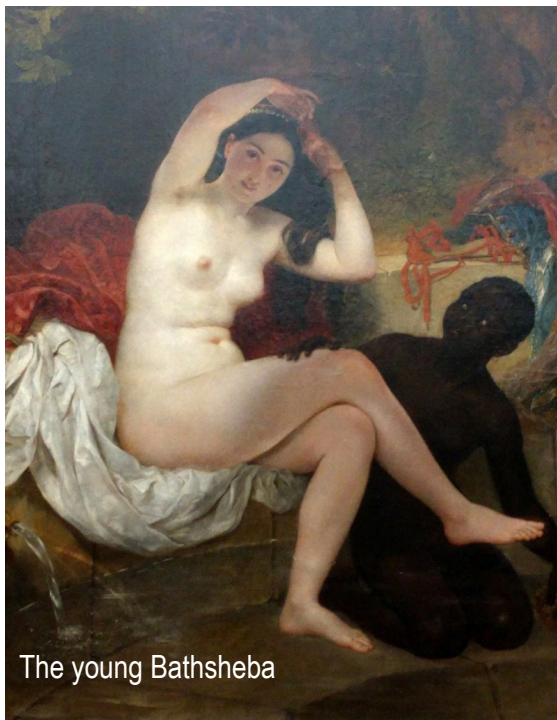
葛洪 (283年—343年)
东晋 **Master Hong Ge**

《肘後備急方》其卷五
治癰疽、妒乳諸毒腫方

"Hard as Rock"
「癰結腫堅如石，或如
大核，色不變，或做石
癰不消」 **No Change in
Skin Color**

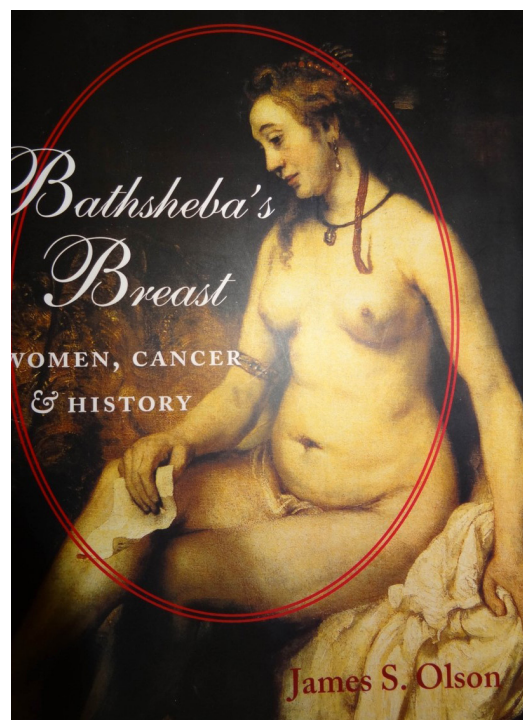


Tu Youyou,
Chinese pharmaceutical chemist, 2015 Nobel Prize in Physiology or Medicine.
Got the idea from same book and discovered artemisinin and dihydroartemisinin with
colleagues, used to treat malaria, which has saved millions of lives.



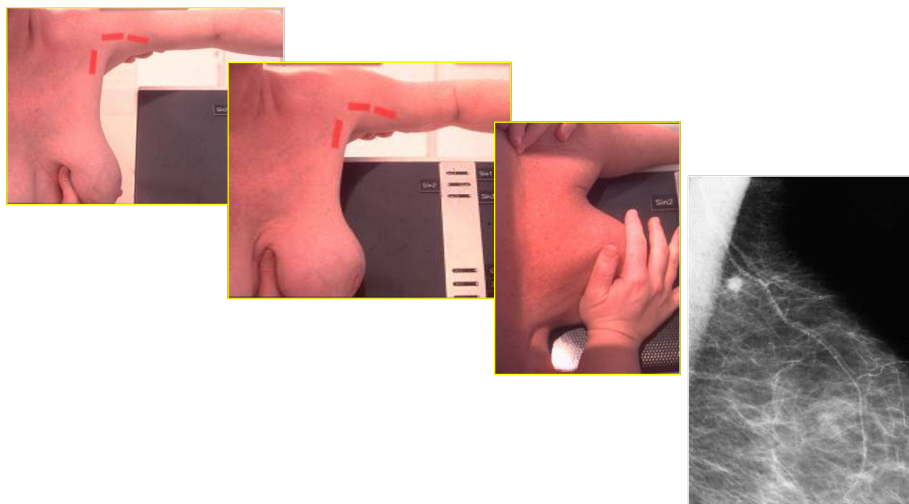
The young Bathsheba

Bruiulov, KP Moscow, Tretyakov museum

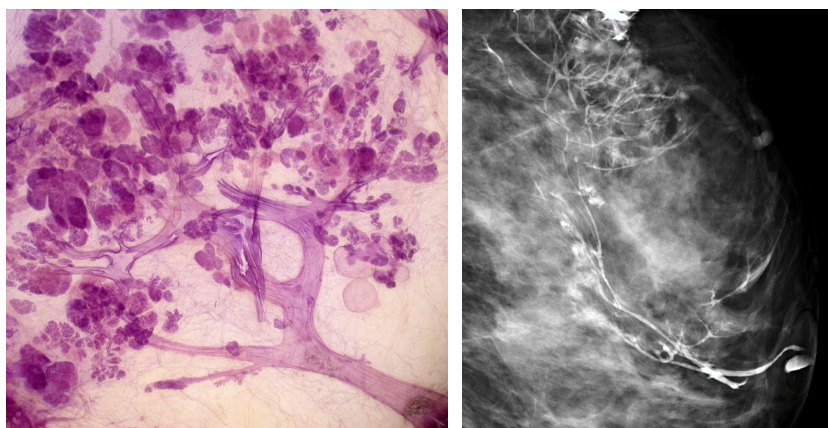


Day 4 June 28, the 1st day of Course for the physicians, cooking class for spouses,

A major technical development in the mid-70s: **the invention of low dose film-screen mammography** made it possible to find breast cancers in their non-palpable phase.

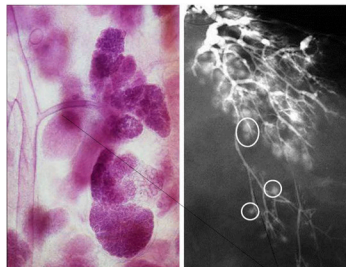


- **THE MAGICAL ROLE OF LARGE FORMAT, SUBGROSS HISTOPATHOLOGY IN TRAINING**
- Correlating 3-dimensional, subgross anatomy with mammography of the normal breast results in **increased confidence in reading a mammogram** and **finding small abnormalities**. Special training in large format thin and thick section (stereoscopic) histopathologic correlation enables the radiologist to account for every linear and nodular density on the mammogram.



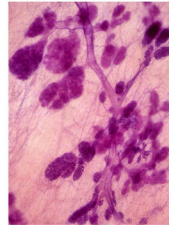
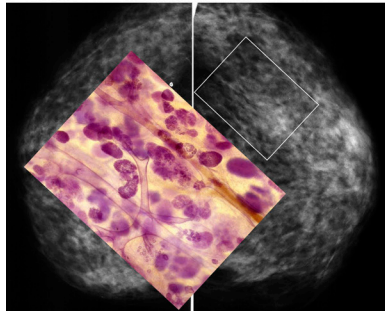
Day 4 June 28, the 1st day of Course for the physicians, cooking class for spouses,

NORMAL BREAST ANATOMY



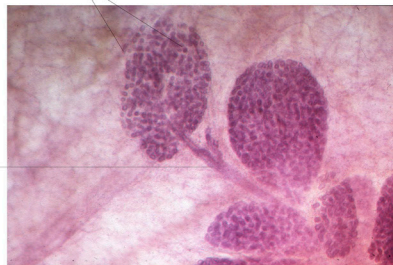
TDLUs on 3D histology and on a galactogram. Terminal duct

Illustration of subgross breast anatomy using 3D histologic-mammographic comparison.

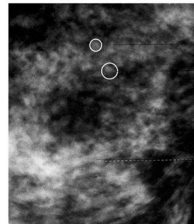


Three of the four basic building blocks (TDLU, ducts and fibrous tissue) are discernable on this 3D histology slice.

A lobule consists of 40-60 ductules / acini. This is the site of milk production and also 75% of breast cancers originate from the cells lining the acini (AAB, acinar adenocarcinoma of the breast).

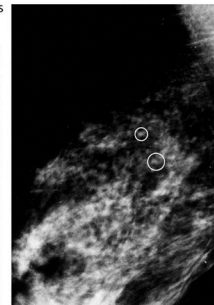


Large format thick section (subgross, 3D) histology image of neighboring TDLUs. The lobule and the terminal duct combined are termed "Terminal Ductal Lobular Unit (TDLU)".

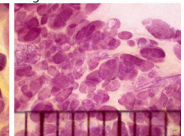
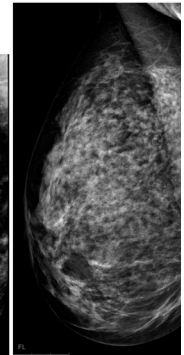


TDLUs

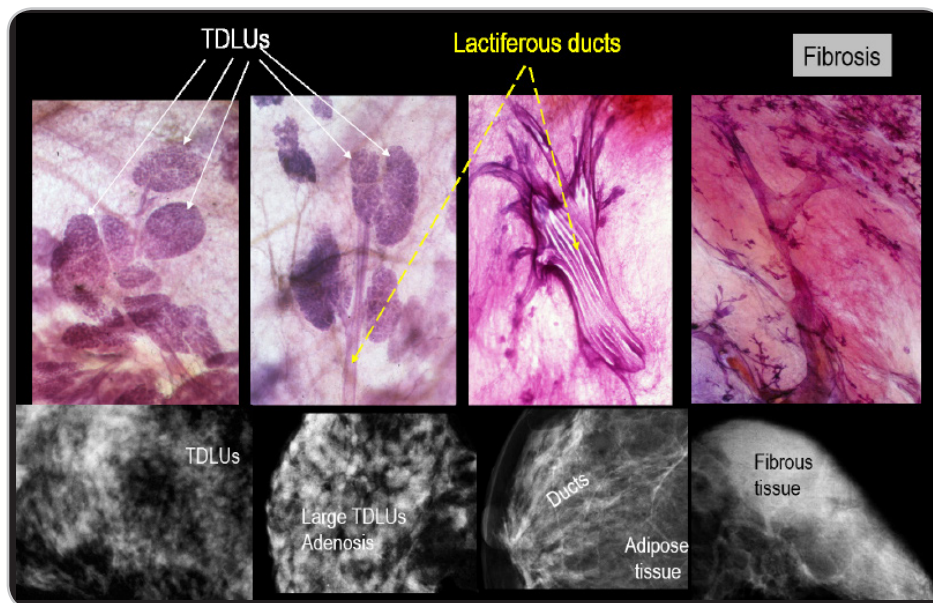
Milk ducts



Three of the four basic building blocks (TDLU, ducts and adipose tissue) are discernable on these mammograms.



The size of a normal TDLU varies between 0.7 - 1.5 mm.



The breast, unlike any other organ, has **five structurally different mammographic parenchymal patterns.**



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Day 4 June 28. Afternoon. Lunch. Departure to Passau. Boarding the cruise-ship.

1:00 PM Lunch at Hotel Bayerischer Hof

4:00 PM Bus ride to Passau

6:30 PM Arrival and board the Cruise-ship

Please place these url-s into your browser and watch:

<https://www.youtube.com/watch?v=jza4oswuLOw>

[https://www.youtube.com/
watch?v=8iUPPAc0ONw](https://www.youtube.com/watch?v=8iUPPAc0ONw)

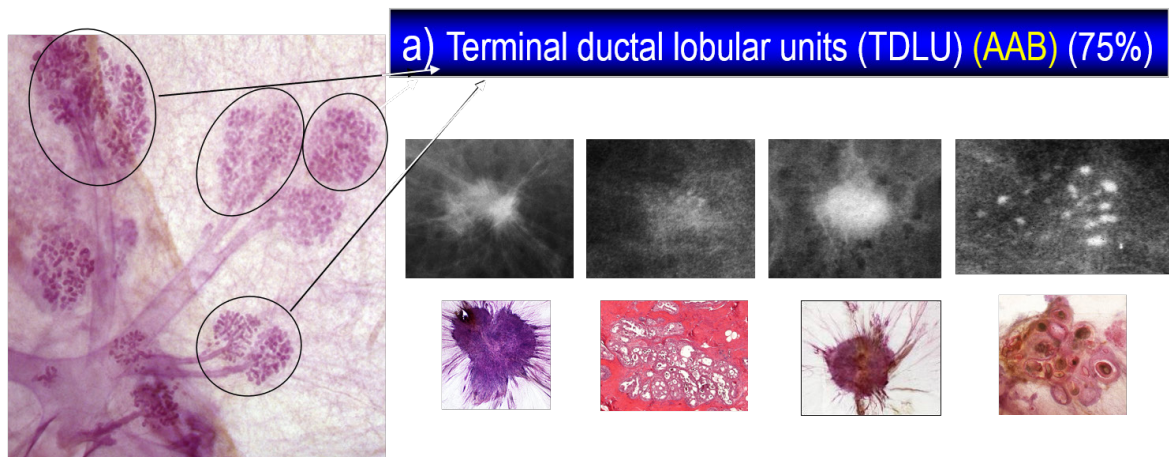
<https://www.vikingrivercruises.co.uk/ships/index.html>



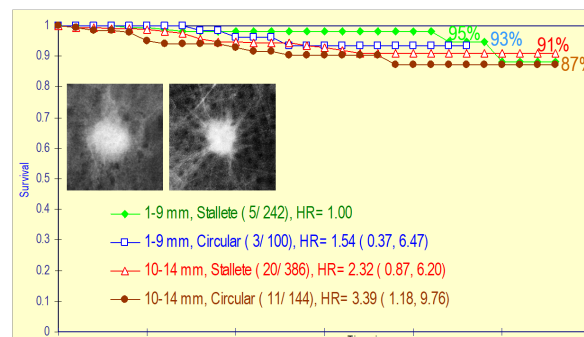
Day 5 - 11th. CME hours. During the cruise we are going to find the time and place to provide all the CME hrs MEI promised to the attendees. These sessions will include formal lectures, informal discussions, interactive sessions using entirely new and exciting computer programs for self-test after screening the anonymised mammograms of asymptomatic women. A new feature of the course is the interactive histopathologic-imaging correlation. Each session will include detailed explanation of the imaging findings supported by large format thin and thick section histopathology images as well as long-term follow-up data.

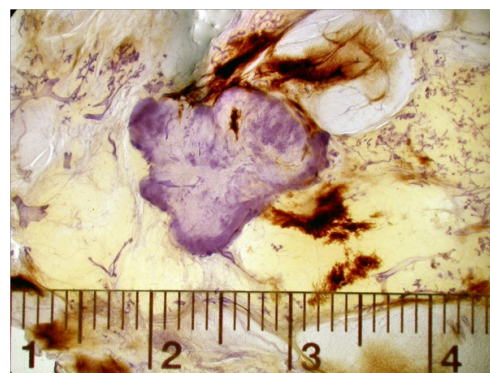
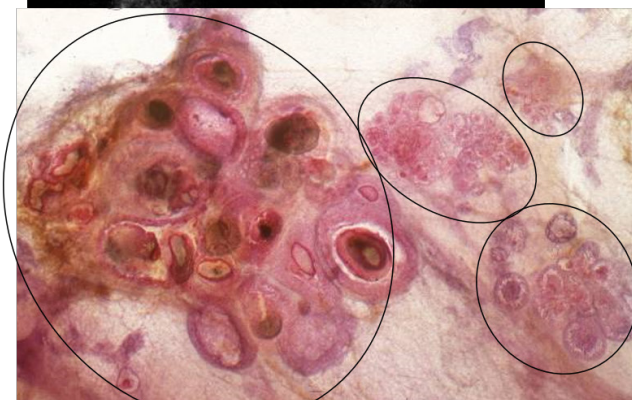
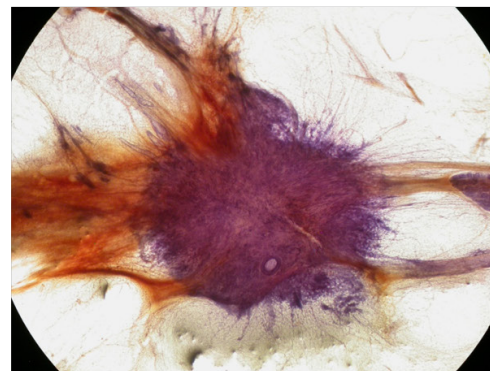
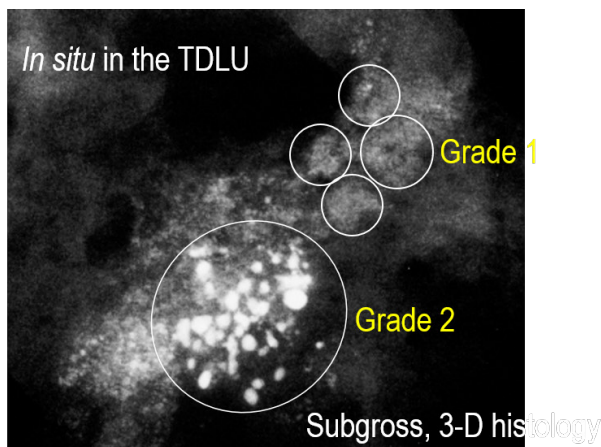
*** ALGORITHM FOR CLASSIFYING BREAST DISEASES ACCORDING TO THEIR SITE OF ORIGIN**

We use a classification system which is based on the apparent **anatomic site of origin** of breast cancer since **the long-term patient outcome appears to be largely determined by the site of origin of breast cancer.**

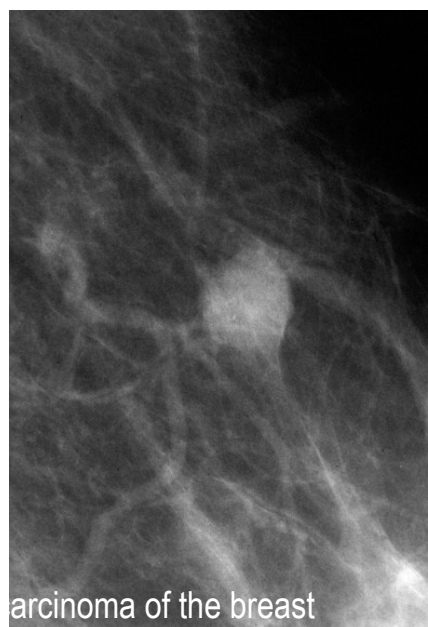
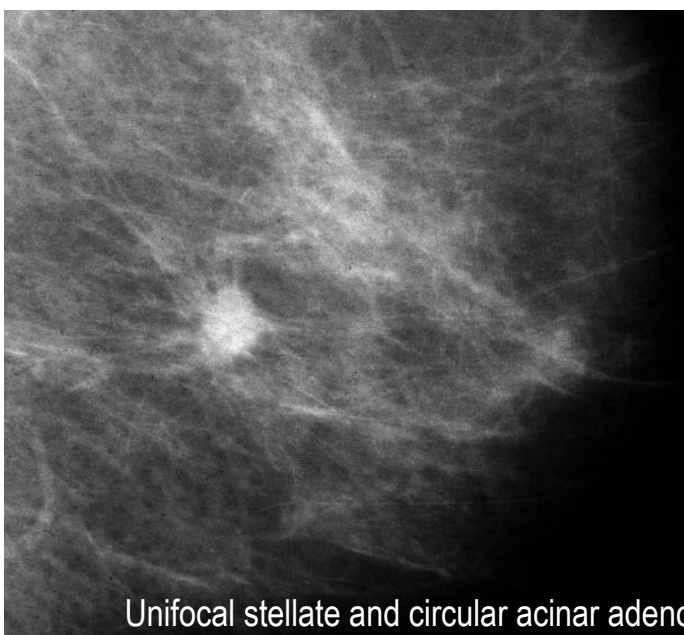


with no associated calcifications on the mammogram. Women 40-69 yrs old, diagnosed in Dalarna county, Sweden between 1977-2006



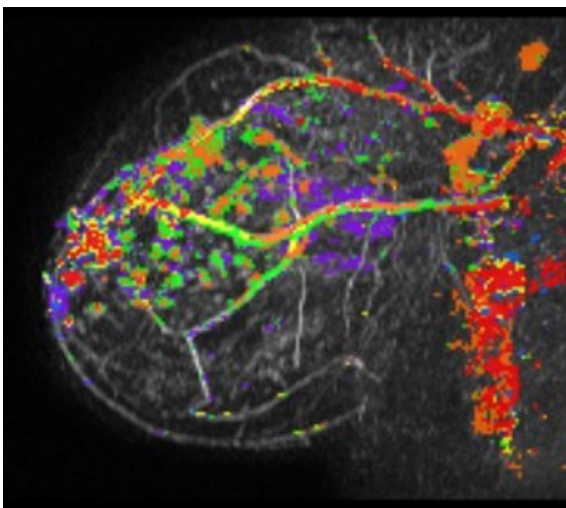
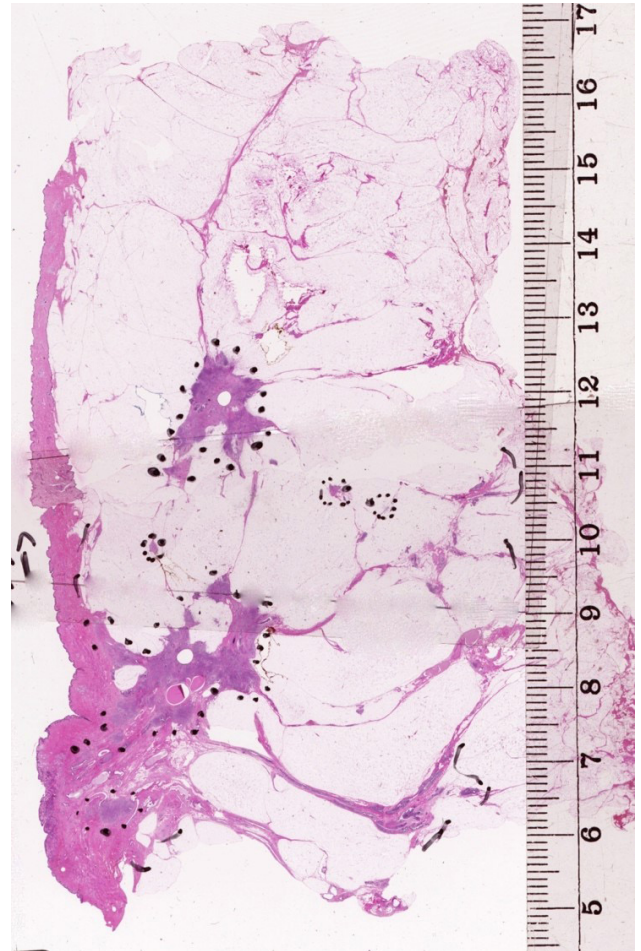
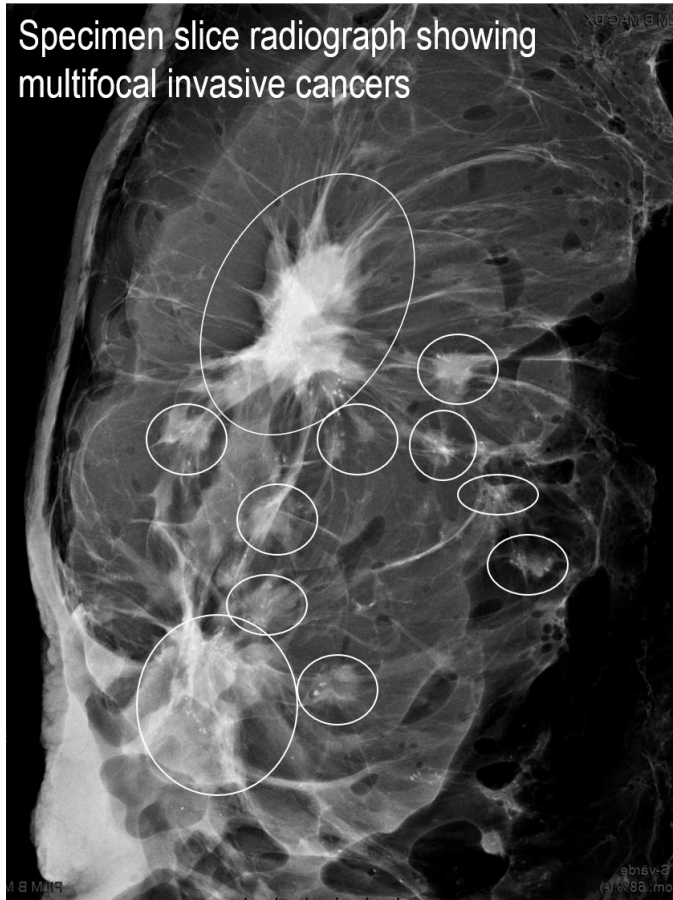


Grade 1 and 2 carcinoma *in situ* in the TDLU, not DCIS. The subsequent invasive carcinoma is either a stellate or circular tumor mass (not invasive "ductal" carcinoma), well demonstrable on the mammogram.



Multifocal acinar adenocarcinoma of the breast

Specimen slice radiograph showing multifocal invasive cancers



June 29. Visiting PASSAU. Where the three rivers (Ilz, Inn and Danube confluence) the kelts have built Passau 2,000 years ago. The city has elegant coloured buildings and graceful archades.





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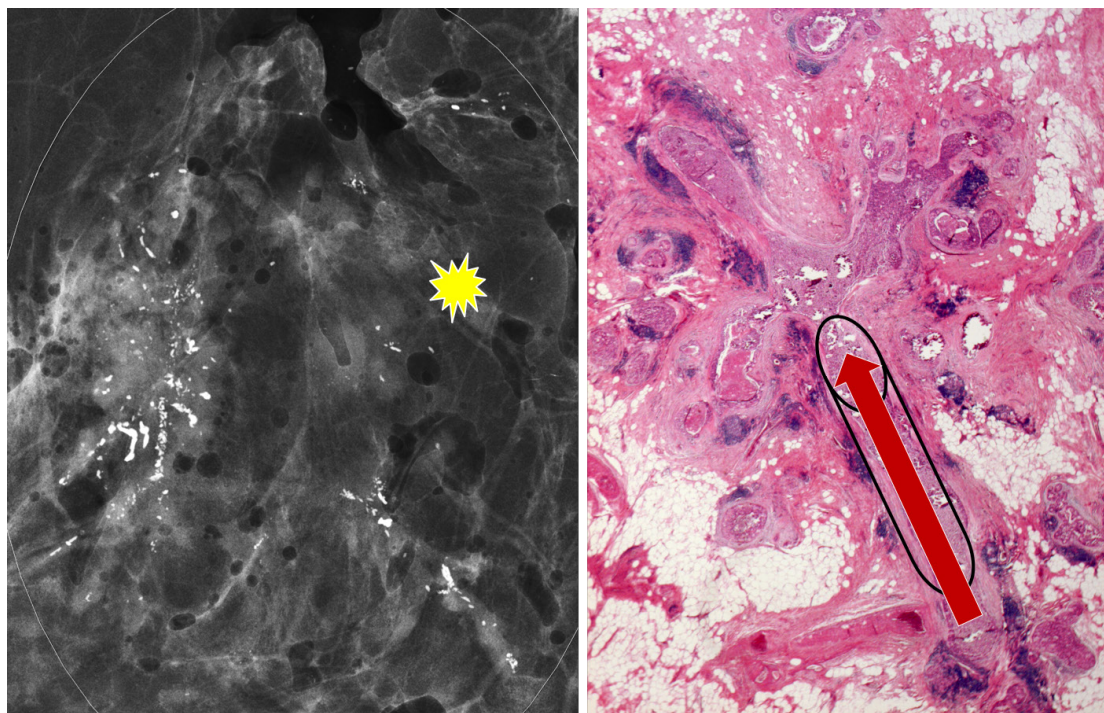
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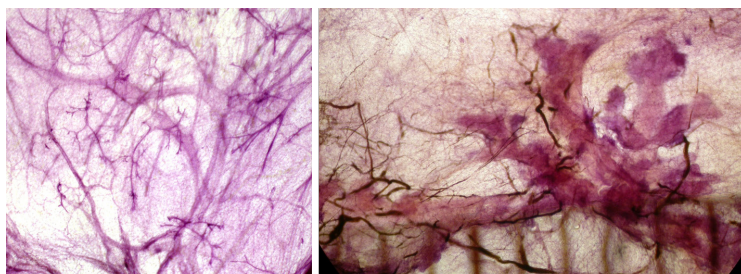
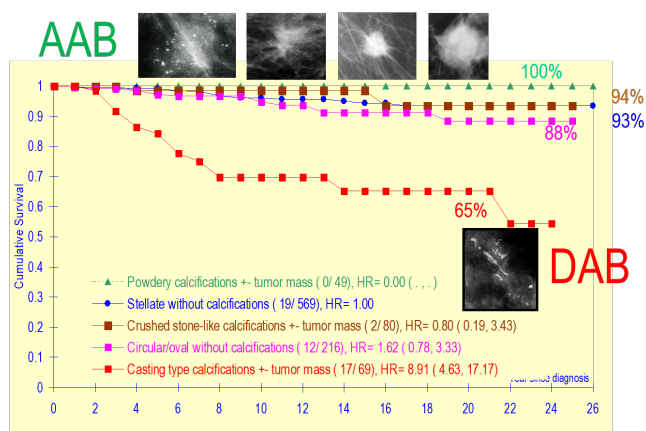
June 30. Visiting LINZ. A first century Roman Castle settlement, Linz is today the provincial capital of Upper Austria.



Diffuse breast cancer originating from the major lactiferous ducts (DAB) (**duct forming invasive carcinoma**, not "DCIS")

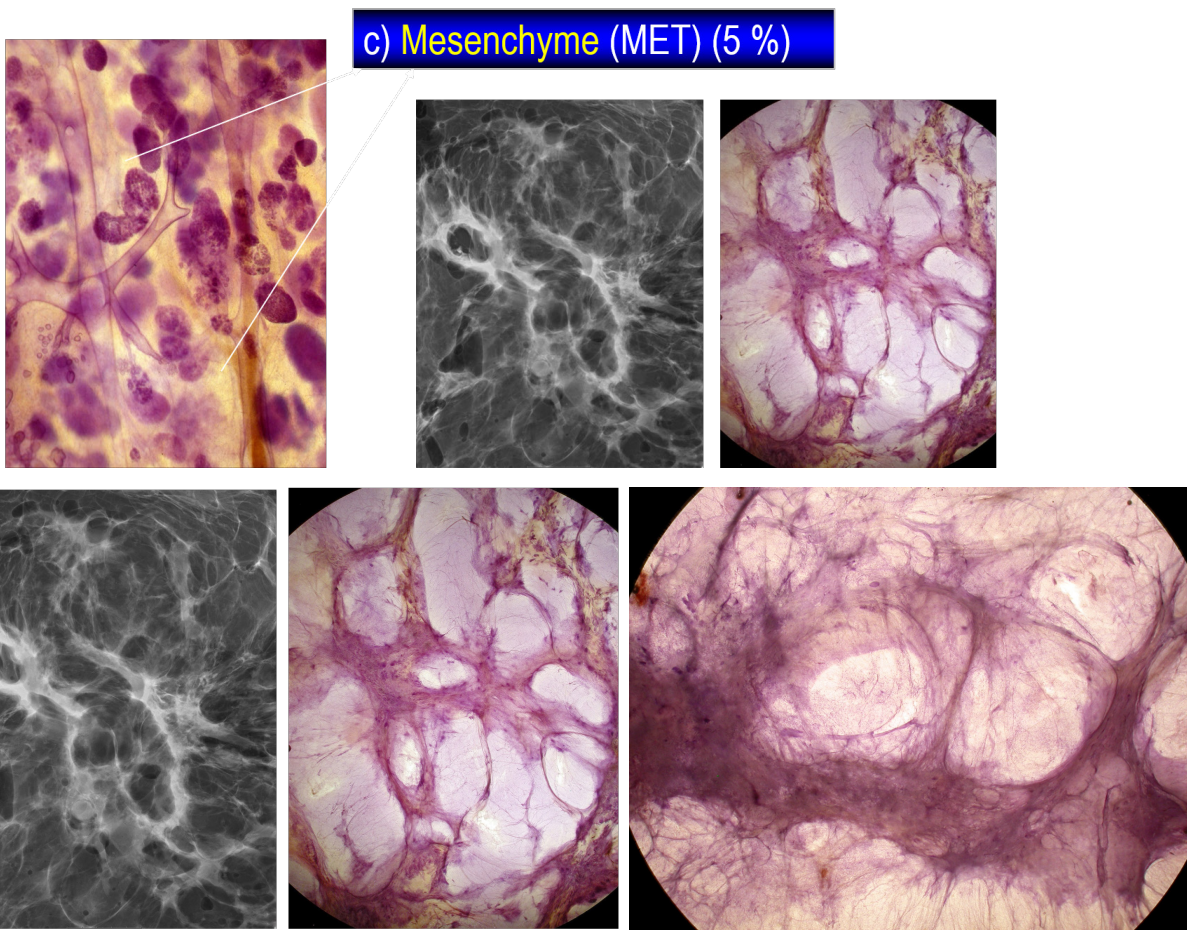


Cumulative survival of women aged 40-69 years with 1-14 mm invasive breast cancers by mammographic tumor features. Dalarna county, Sweden.



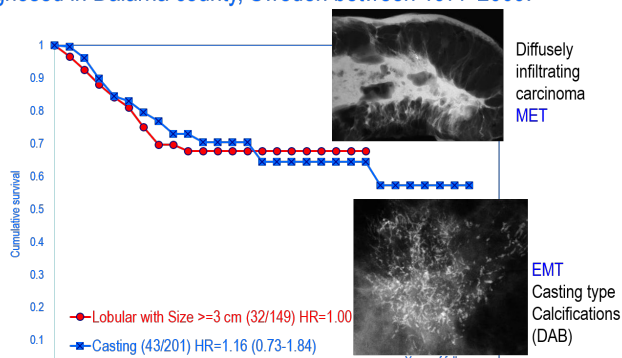
Diffusely invasive breast cancer of mesenchymal origin (aka invasive lobular).

Long-term patient outcome appears to be largely determined by the site of origin of breast cancer.



Mammographic-subgross histopathologic correlation of diffusely infiltrating breast cancer of mesenchymal origin.

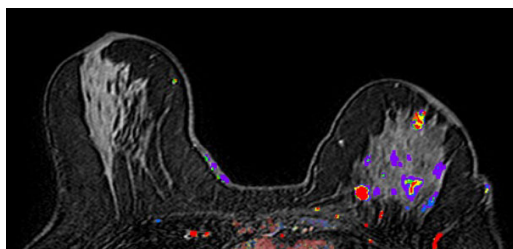
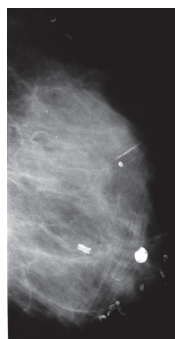
mammogram and directly infiltrating cancer of mesenchymal origin, diagnosed in Dalarna county, Sweden between 1977-2009.



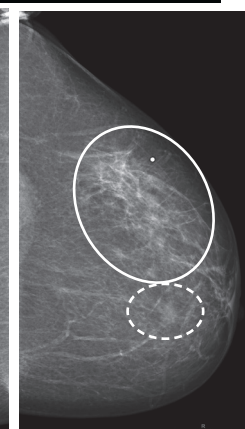
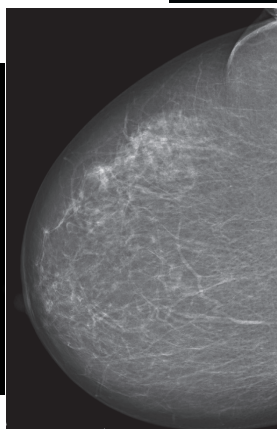
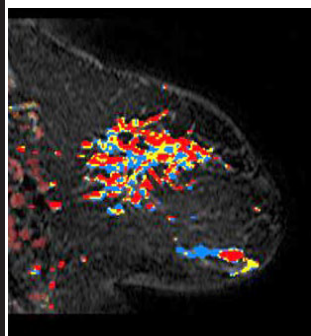
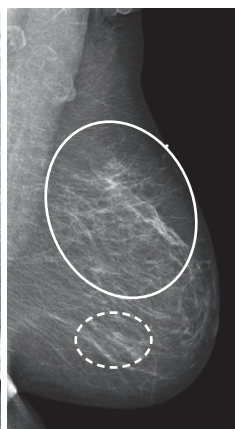
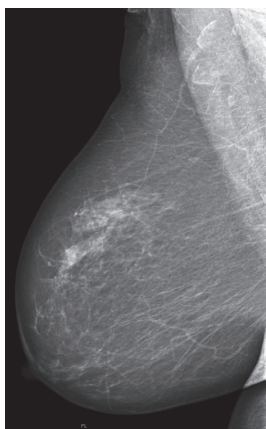
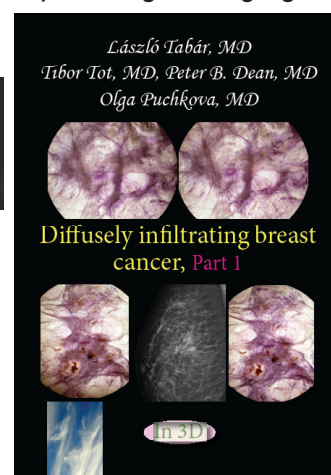
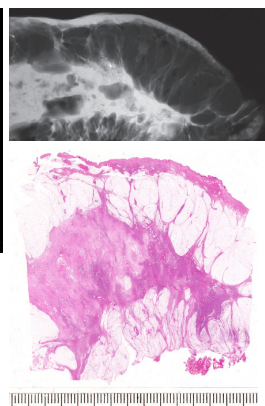
Continuation of the CME hours.

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

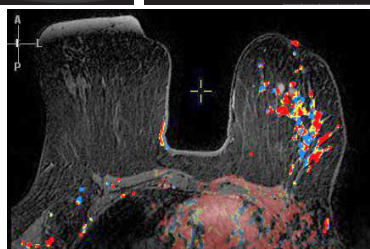
2) **Diffusely infiltrating breast cancer of mesenchymal origin**: the most deceptive and frequently missed cancer of the breast. The value of **ultrasound and MRI** in finding and diagnosing this spider's web-like malignancy. Case demonstrations, large section histopathologic-imaging correlation. Long-term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

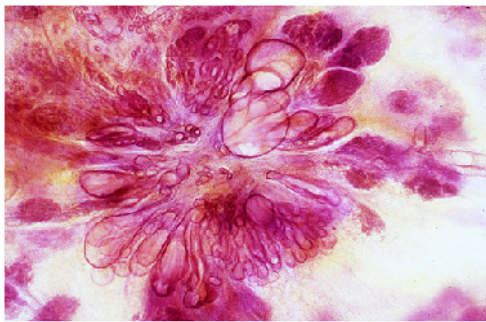


Interactive session for detecting architectural distortion on the mammogram.

Continuation of the CME hours.

ASYMMETRIC DENSITIES ON THE MAMMOGRAM

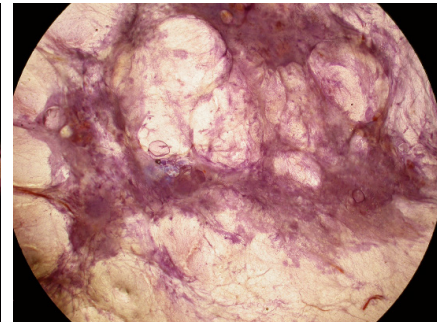
- Didactic workup of *non-specific asymmetric densities without architectural distortion*
 - Didactic workup of *non-specific asymmetric densities with architectural distortion*
- A suggested algorithm for the workup of lesions with architectural distortion.



Radial scar

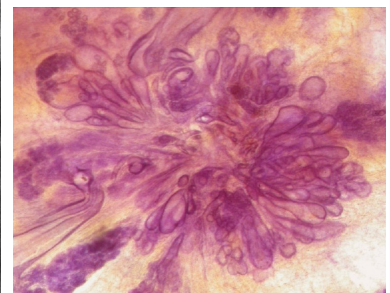
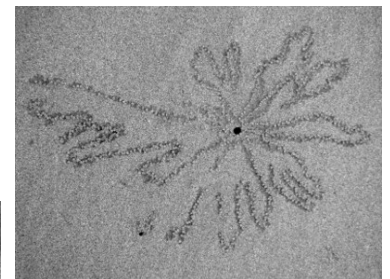
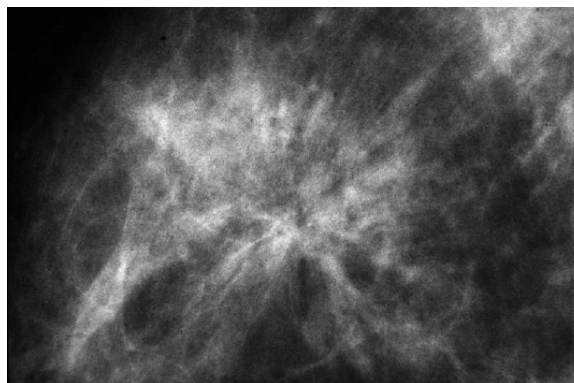


Neoductogenesis (DAB)



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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July 1. Scenic Cruising through Wachau Valley in the morning and Krems in the afternoon.



Wachau Valley



Krems



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Course Director

July 2. The capital of Austria has green parks, theatres, gracious boulevards.

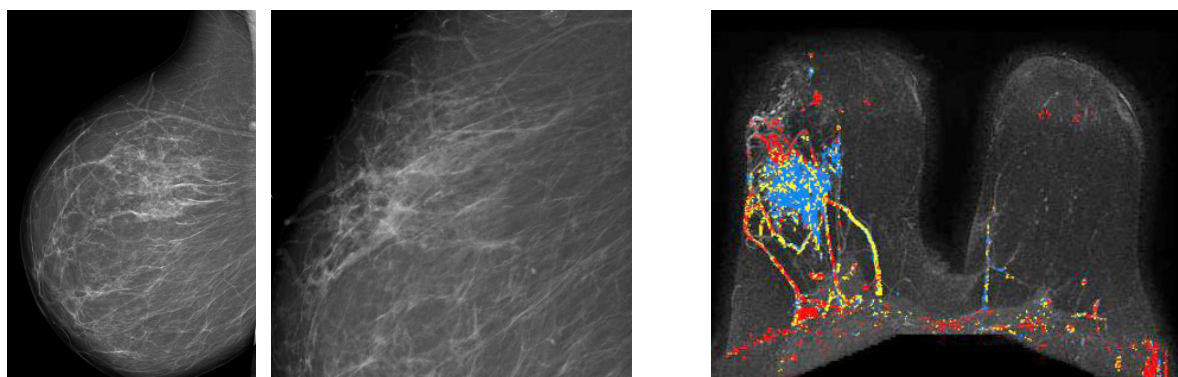


Continuation of the CME hours.

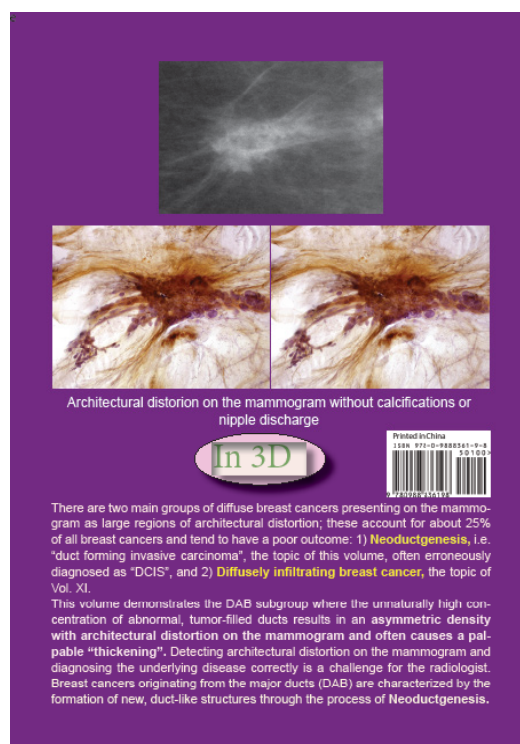
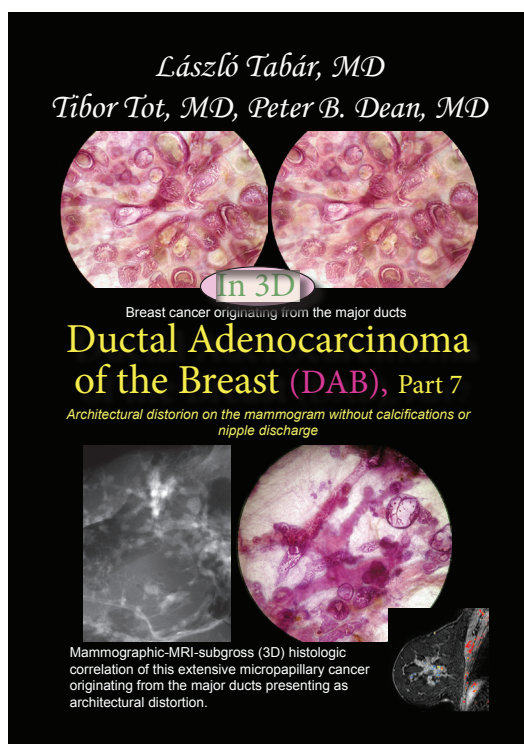
ANALYSIS of **MALIGNANT LESIONS** PRESENTED as non-calcified RADIATING STRUCTURES on the mammogram. Clinical presentation, mammographic appearance and outcome.

- **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.

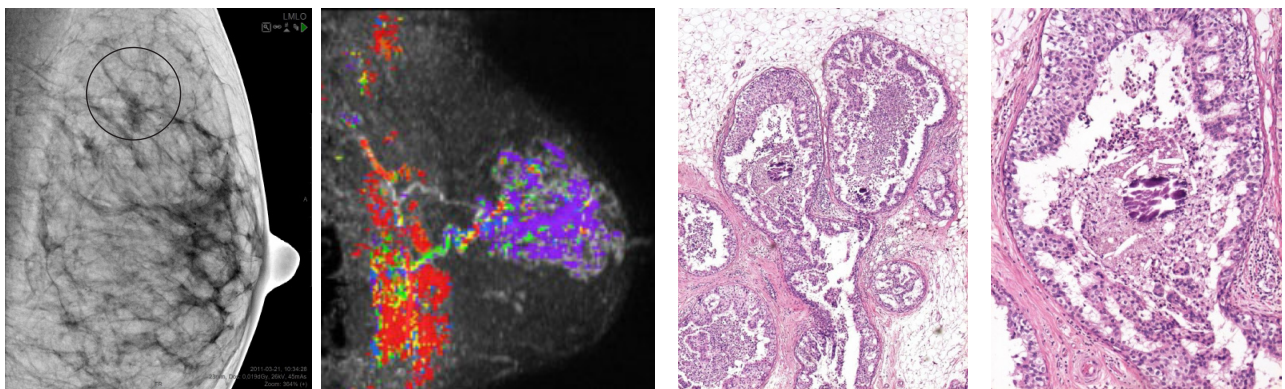


Non-calcified architectural distortion: extensive duct forming invasive cancer



Continuation of the CME hours. During the cruise we are going to provide all the CME hrs MEI promised to the attendees. The topics are outlined on each page. Each session will include detailed explanation of the imaging findings supported by large format thin and thick section histopathology images as well as long-term follow-up data.

- **HOW TO FIND THE INVASIVE BREAST CANCER WHEN IT IS STILL SMALL.** *Malignant stellate and circular/oval-shaped lesions originating from the TDLUs (AAB):* clinical presentation, histology, mammographic - MRI - ultrasound appearance and outcome.
- **A systematic method for viewing mammograms.**
- **Interactive screening session:** each participant will assess a mixture of normal and early cancer cases, and vote anonymously using a smartphone or tablet. The combined results will appear instantly for discussion. and evaluation.
- * **All abnormal cases are fully worked up and the complete imaging workup will be presented in detail, including ultrasound, MRI and large section histopathology.**



Example: Combination of multifocal invasive AAB and *duct forming invasive carcinoma (DAB)*, where the extensive micropapillary cancer originating from the major ducts was well demonstrated by skipping stone-like calcifications on the mammograms and confirmed by breast MRI.

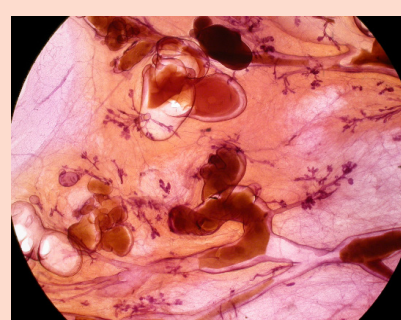
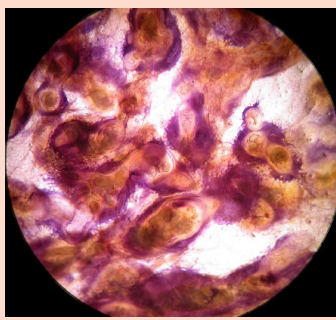
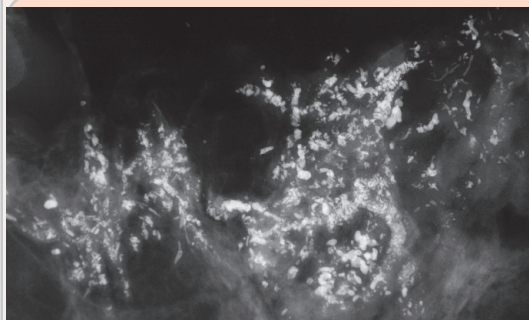
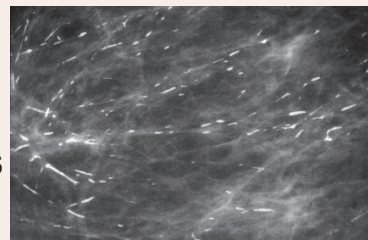
Continuation of the CME hours.

INTERACTIVE LECTURE SERIES WILL COVER THE FOLLOWING TOPICS.

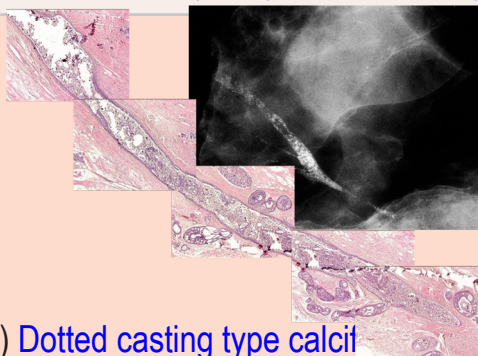
ALGORITHM FOR CLASSIFYING BREAST DISEASES ACCORDING TO THEIR SITE OF ORIGIN

Breast diseases originating in the major ducts

- **Benign type calcifications** originating in the major ducts
 - a) Secretory disease type calcifications
- **Malignant type calcifications** originating in the major ducts
- **Interactive calcification analysis.**



a) **Fragmented casting type calcifications.**



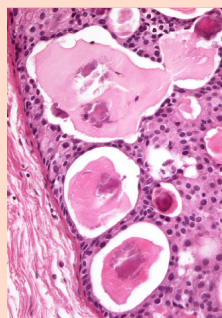
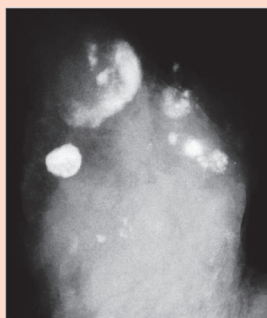
b) **Dotted casting type calcif**

* **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.

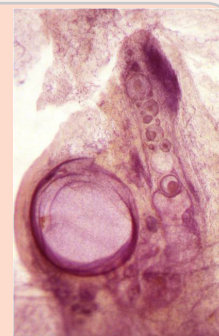
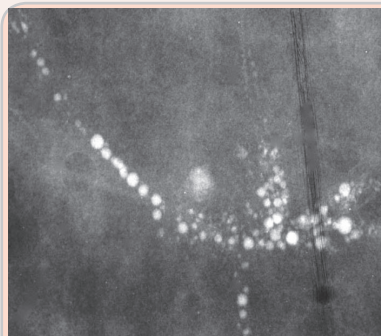
* The concept of **neoductogenesis**. Long-term follow-up results. New aspects, correct terminology.

* 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 calcifica-**

Continuation of the CME hours.

MALIGNANT:
Necrosis, no fluid

Ca++ in necrosis

Type 1
FRAGMENTED CASTING
(solid bars)

Diffuse, lobar disease

Grade III
solid cell proliferation

MALIGNANT:
Necrosis, no fluid

Ca++ in necrosis

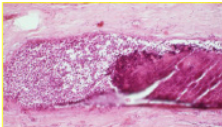
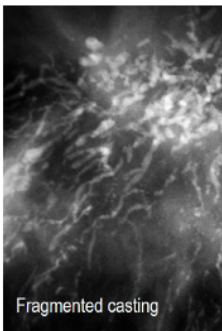
Type 2
DOTTED CASTING-TYPE
(snakeskin-like)

-Diffuse, lobar disease

-Grade III

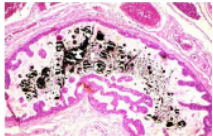
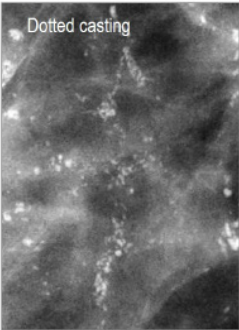
-micropapillary cell proliferation

Ductal Origin
Ca++ on the mammogram






Fragmented casting

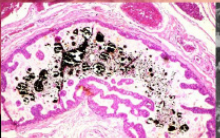

Ductal Origin
Ca++ on the mammogram



Dotted casting

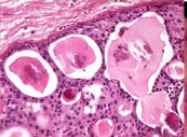
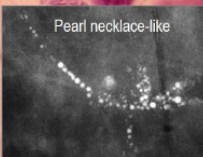
Fragmented casting

Dotted casting

Skippin stone-like

Pearl necklace-like

Interactive calcification analysis.

MALIGNANT:
No necrosis, fluid

Ca++ in proteinaceous fluid

Type 3
"DISCOID"
(skipping stone-like)

-Diffuse lobar disease

-Grade II

-Micropapillary or/and cribriform

MALIGNANT:
No necrosis, fluid

Ca++ in proteinaceous fluid

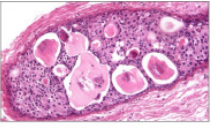
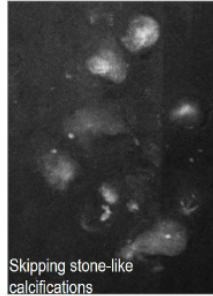
Type 4
"PEARL NECKLACE"

-large psammoma body-like calcifications within ducts

-Grade I or/and 2

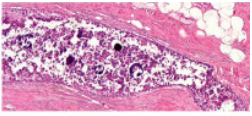

-Micropapillary, cribriform.

Ductal Origin
Ca++ on the mammogram

Skipping stone-like calcifications

Ductal Origin
Ca++ on the mammogram

Pearl necklace-like casting



2020

BREAST SEMINAR SERIES of MEI

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

László Tabár, MD, FACR (Hon)
Course Director

July 2. The capital of Austria has green parks, theatres, gracious boulevards.





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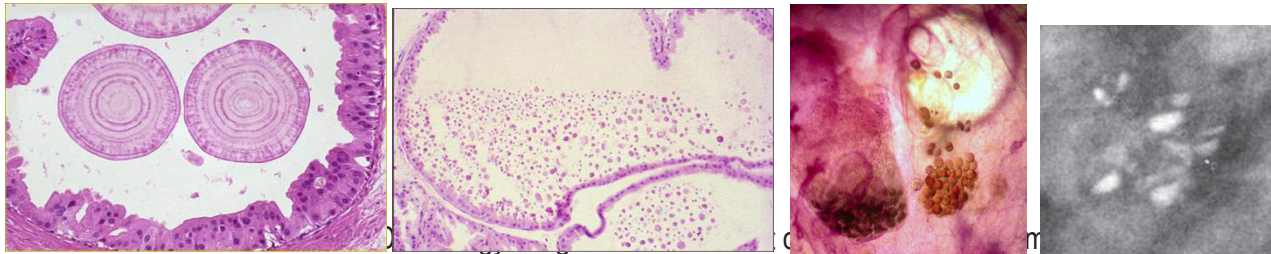
July 3. Bratislava, the capital of Slovakia has an enormous castle 300 feet above the Danube. It also has baroque city palaces (morning), Scenic cruising the Danube bend in the afternoon.



Continuation of the CME hours.

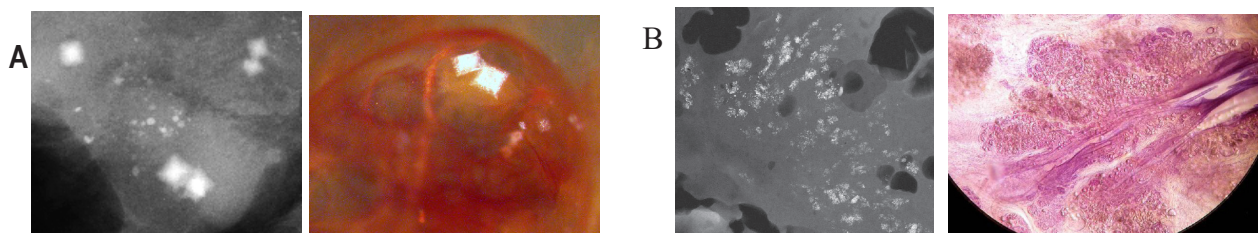
ALGORITHM FOR CLASSIFYING BREAST DISEASES ACCORDING TO THEIR SITE OF ORIGIN

- **Benign breast diseases originating in the TDLU** and associated with calcifications on the mammogram
 - **Fibrocystic change. Fibroadenoma. Different types of adenosis.** Understanding pathophysiology leading to calcified and non-calcified hyperplastic breast changes.

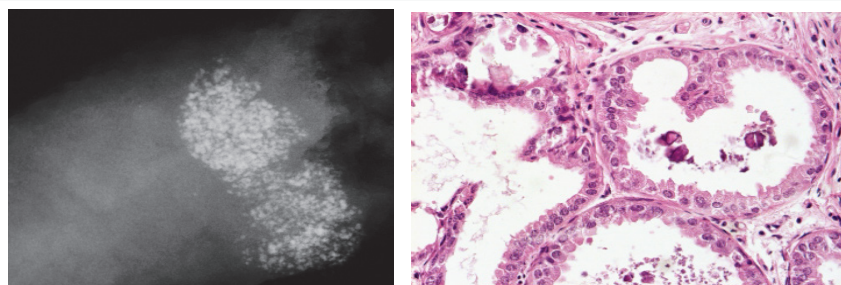


body-like calcifications, seen as "teacup-like calcifications on the mammogram.

- Detailed analysis of calcifications associated with hyperplastic breast changes: Weddellites (A), powdery calcifications (B), cluster skipping stone-like calcifications on the mammogram.



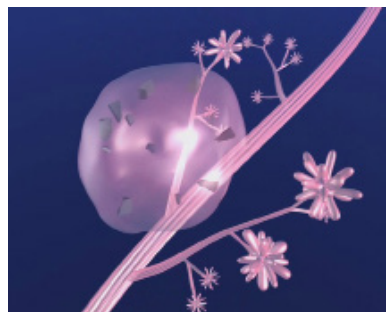
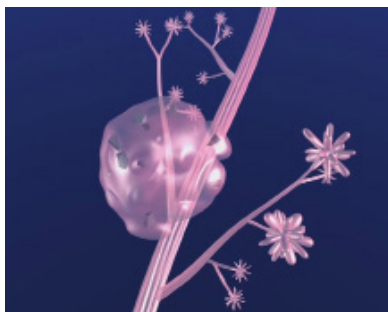
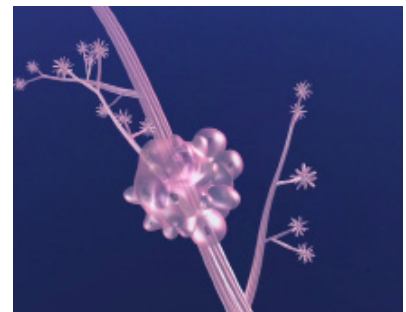
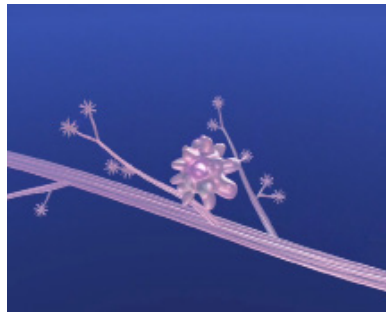
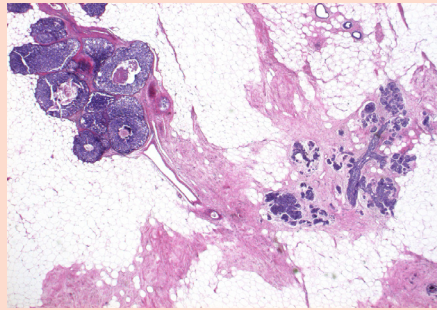
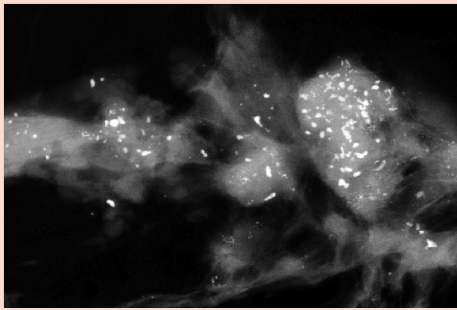
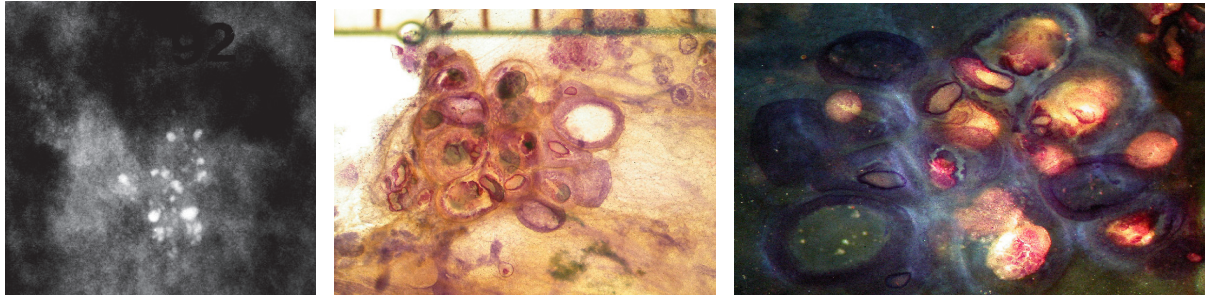
- The morphologic analysis of calcifications representing a less aggressive carcinoma:
Grade 1 / well differentiated CIS



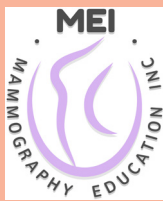
Grade 1 *in situ* carcinoma:
Mammographic / 3D histologic / MRI correlation
of cases with powdery calcifications on the mammogram.

Continuation of the CME hours.

Mammographic / histopathologic correlation of pleomorphic calcifications representing Gr 2 CIS within the TDLU



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 SEMINAR SERIES of MEI

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

July 4. Budapest, the capital of Hungary, aptly called Paris of the East for its beautiful evening illumination and reflected lights in the Danube's waters.



The Royal Palace



The Chain Bridge, Matias church and the Fishermen's Bastion



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July 4. Budapest, the capital of Hungary, aptly called Paris of the East for its beautiful buildings.



River Duna (Danube) with numerous bridges connecting the two cities, Buda and Pest. The name Budapest came after the first bridge was built in the second half of the 1800s.
The Parliament House is seen on the right side of the river.



Budapest by night

July 5. Check out after breakfast. Transfers to the airport.



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**For more information and
registration please contact:**

**Mammography Education, Inc.
4429 E. Spur Drive
CAVE CREEK, AZ 85331, USA**

Phone: (480) 419 0227

Fax: (480) 419 0219

e-mail: info@mammographyed.com

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



2020

BREAST SEMINAR SERIES of MEI

Detection and Diagnosis of Breast Diseases

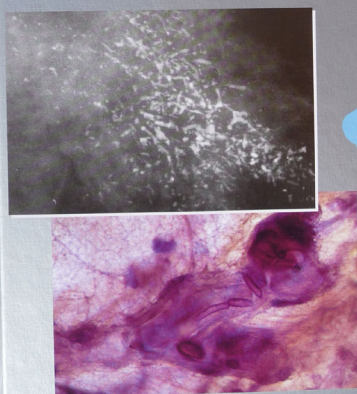
Using the Multimodality Approach. An interactive course.

László Tabár, MD, FACR (Hon)
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

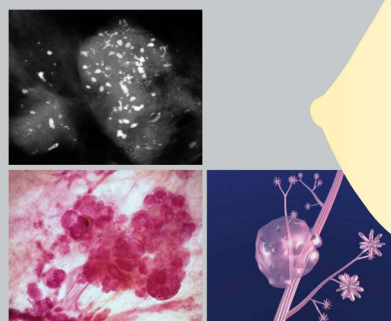


Thieme

Breast Cancer Early Detection with Mammography

Crushed Stone-like Calcifications:
The Most Frequent Malignant Type

László Tabár
Tibor Tot
Peter B. Dean



Thieme

www.thieme.com

Breast Cancer The Art and Science of Early Detection with Mammography

László Tabár
Tibor Tot
Peter B. Dean



Immunohistochemistry,
Immunofluorescence,
Immunopathologic Correlation

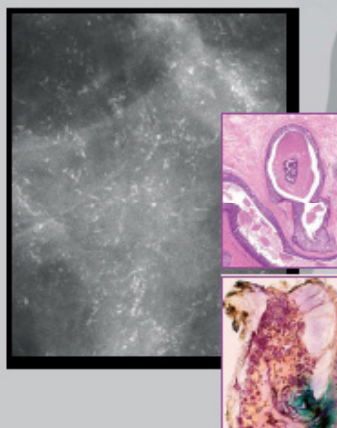
Thieme

Teaching Atlas of Mammography

László Tabár
Peter B. Dean

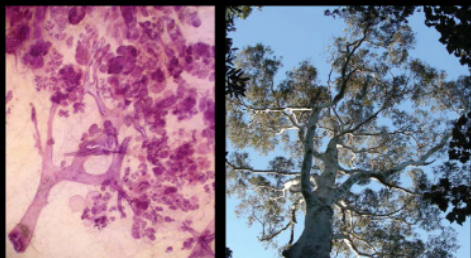
With the contribution of Tibor Tot

4th edition

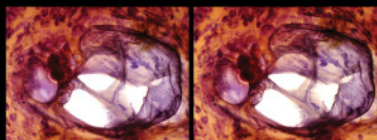


Thieme

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



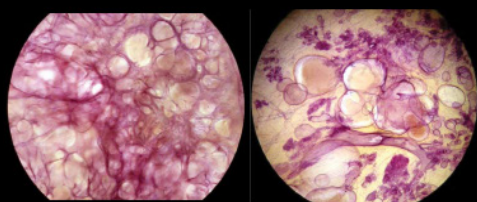
Understanding the Breast in Health and Disease



In 3D

www.mammographyed.com

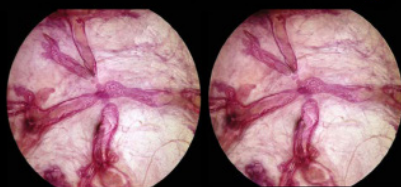
László Tabár, MD,
Tibor Tot, MD, Peter B. Dean, MD,
Miklós Tarján, MD



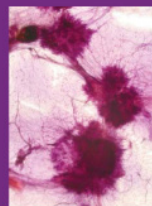
cysts in a prostate

breast cysts

Prostate and Breast: Brother and Sister Organs



In 3D



Multifocal breast cancer



Sea urchins

In 3D

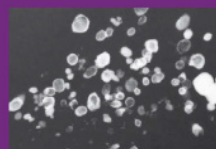


In situ ductal carcinoma

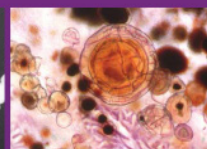


Banana flower

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.



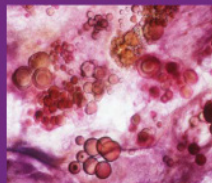
Prostate calcifications



Laminated calcifications
in the prostate



In 3D



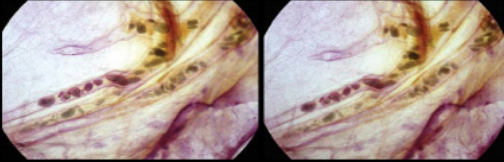
Laminated calcifications in
the breast



Rowan berries

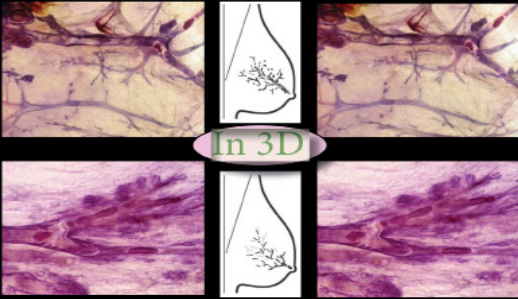
Even as the risk of getting prostate and breast cancer is rising, early detection through screening and treatment in an early stage are significantly lowering the risk of dying from these diseases. This series of 3D books aims to empower both men and women with knowledge about their health. Although 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.

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



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



Printed in China
ISBN 978-0-988361-5-6
5 780988 836156

In 3D

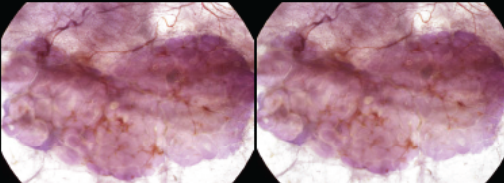


Fragmented casting type calcifications make the cancerous duct-like structures visible on the mammogram.

Neoductogenesis is a frequent phenomenon in the plant world

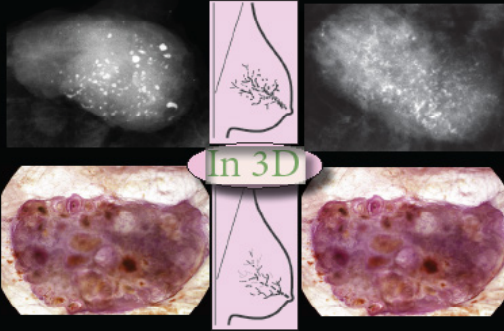
The mammogram is a true representation of the structural changes induced by the genetic constellation of each breast cancer subtype. The mammographic/MRI/ultrasound presentation of a particular subtype reflects the nature and extent of the underlying disease process, and when correctly interpreted, can 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.

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

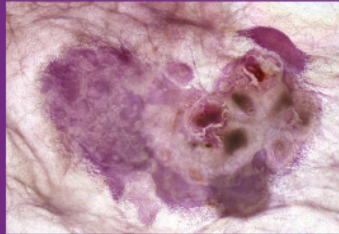


An axillary lymph node populated with metastases mimicking *in situ* cancer

Ductal Adenocarcinoma of the Breast (DAB), Part 2

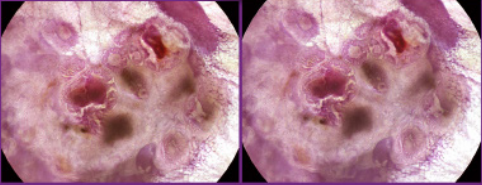


In 3D



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

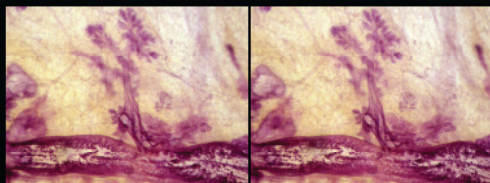
In 3D



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

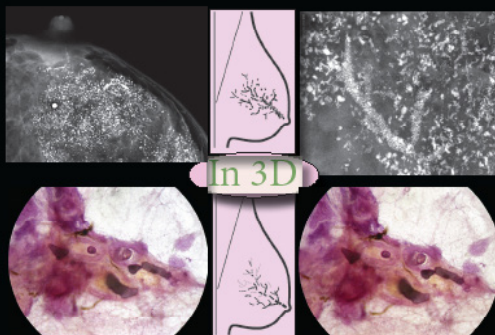
Breast cancers originating from the major milk ducts (breast cancer of ductal origin, DAB) occasionally cause axillary lymph node metastases which are similar in appearance at histology to DAB in the breast. Regardless of whether or not the myoepithelial cell layer is demonstrable, the decisive question 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.

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

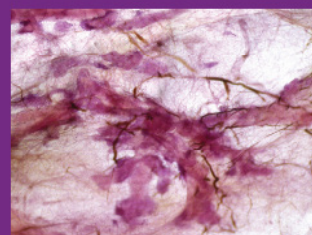


Micropapillary breast cancer of ductal origin associated with a normal TDLU

Ductal Adenocarcinoma of the Breast (DAB), Part 3

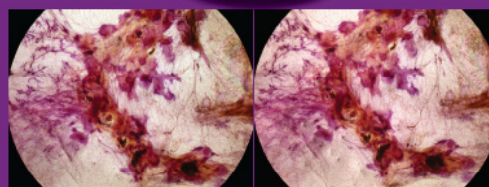


In 3D



Neoductogenesis (DAB)
associated with angioneogenesis

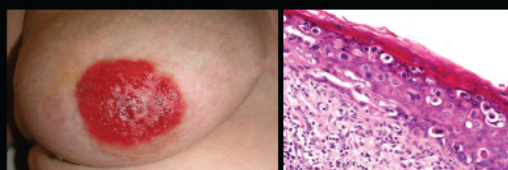
In 3D



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.

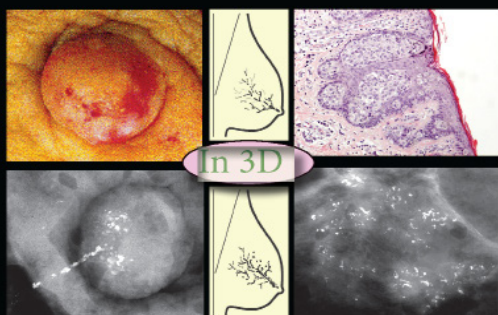
László Tabár, MD
Tibor Tot, MD, Peter B. Dean, MD



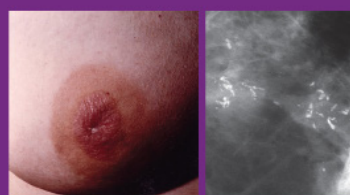
Paget's disease of the nipple

Paget's cells in the epidermis
of the nipple

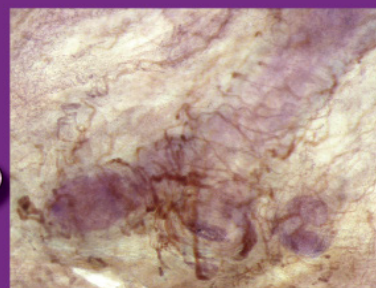
Ductal Adenocarcinoma of the Breast (DAB), Part 4



In 3D



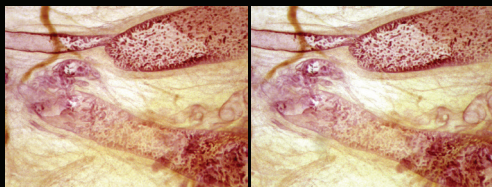
Paget's disease of the nipple and breast cancer of ductal origin



Cancer-filled duct in Paget's disease with angioneogenesis

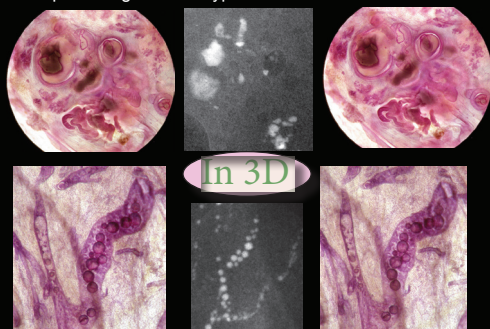
One of the features which is unique to breast cancers originating from the major ducts (DAB) is **Paget's disease of the breast**. It was first described by the British pathologist, James Paget in 1874. He described 14 cases of breast cancer associated with an eczema-like skin change of the nipple and 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.

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

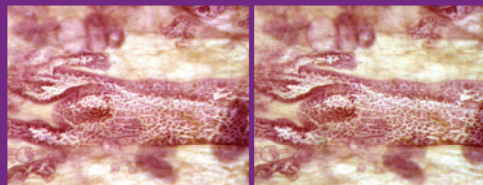


Ductal Adenocarcinoma of the Breast (DAB), Part 5

Fluid producing DAB subtypes associated with calcifications



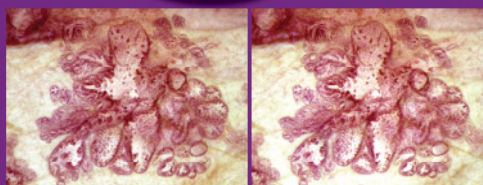
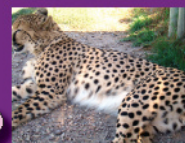
In 3D



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

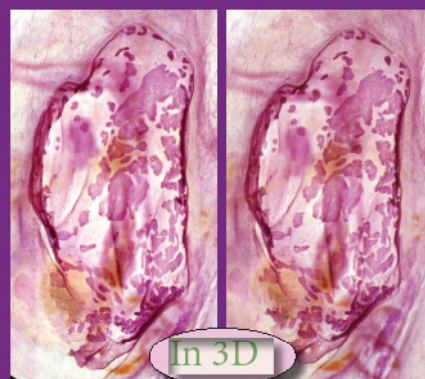


Bloody and serous nipple discharge

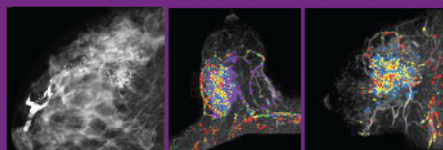
Ductal Adenocarcinoma of the Breast (DAB), Part 6



In 3D




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 (subgross, 3D) histology in cases when the underlying cause of the discharge is fluid-producing breast cancer originating from the major ducts (DAB).

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

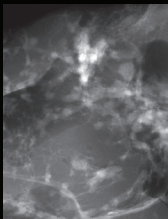



In 3D

Breast cancer originating from the major ducts

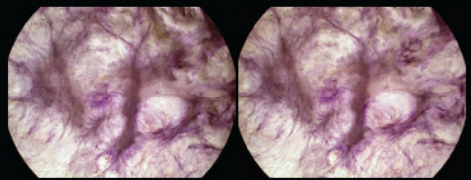
Ductal Adenocarcinoma of the Breast (DAB), Part 7

Architectural distortion on the mammogram without calcifications or nipple discharge

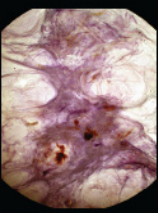
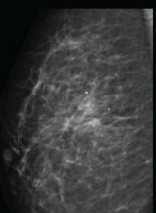
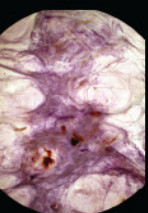



Mammographic-MRI-subgross (3D) histologic correlation of this extensive micropapillary cancer originating from the major ducts presenting as architectural distortion.

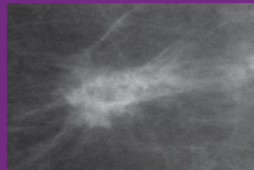
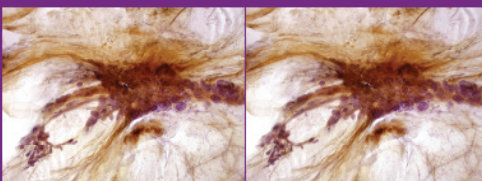
László Tabár, MD
Tibor Tot, MD, Peter B. Dean, MD
Olga Puchkova, MD



Diffusely infiltrating breast cancer, Part 1

In 3D

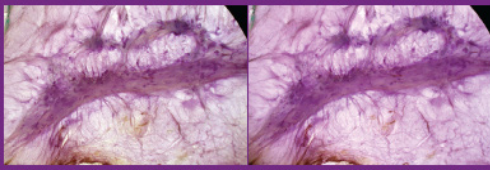
Architectural distortion on the mammogram without calcifications or nipple discharge

In 3D

Printed in China
ISBN 978-0-9888361-9-8 \$51.00

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) **Neoductogenesis**, 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.


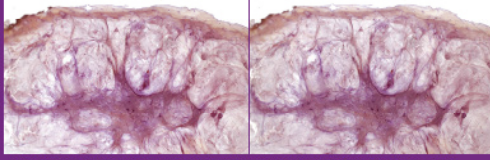
This volume demonstrates the DAB subgroup where the unnaturally high concentration of abnormal, tumor-filled ducts results in an asymmetric density with architectural distortion on the mammogram and often causes a palpable "thickening". Detecting architectural distortion on the mammogram and diagnosing 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 Neoductogenesis.



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

ISBN 978-0-9888361-2-9
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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.

The mission of the Tabar Foundation is to support research and education to fight against breast cancer. Dr. Tabar's own photographs are now available as high-quality prints. All proceeds from your tax-deductible purchase will support young physicians who are learning how to detect breast cancer when it is still curable. Visit: tabarfoundation.org

