

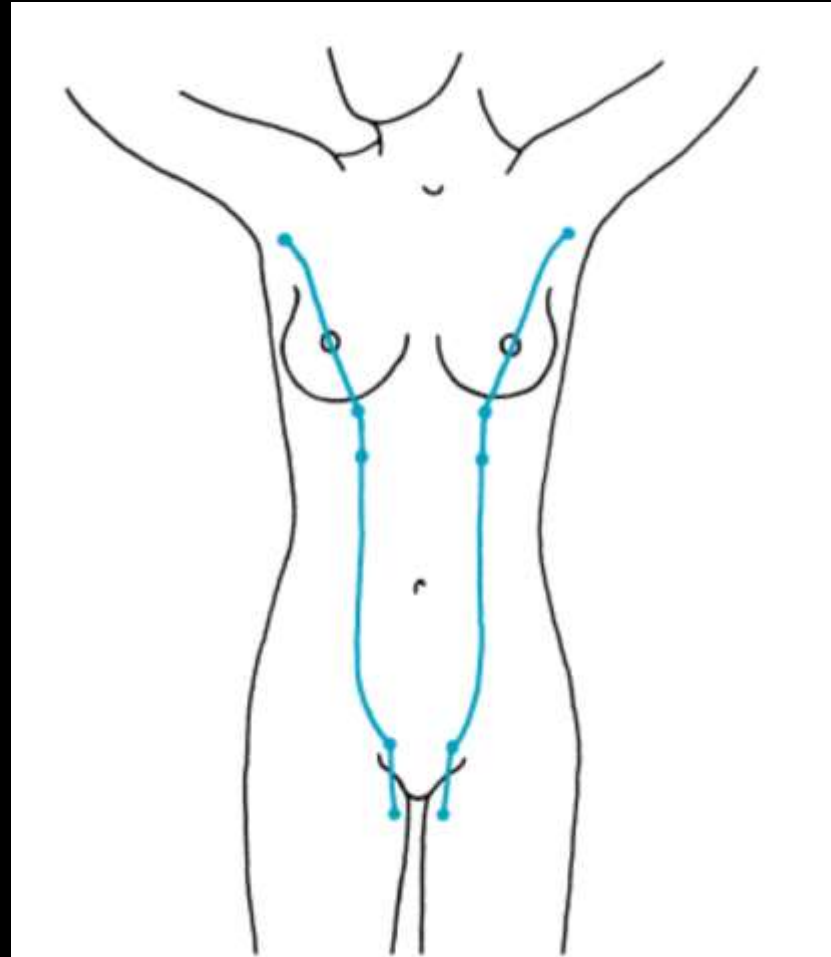
KELAINAN PAYUDARA

dr. Vito Mahendra Ekasaputra MsiMed SpB



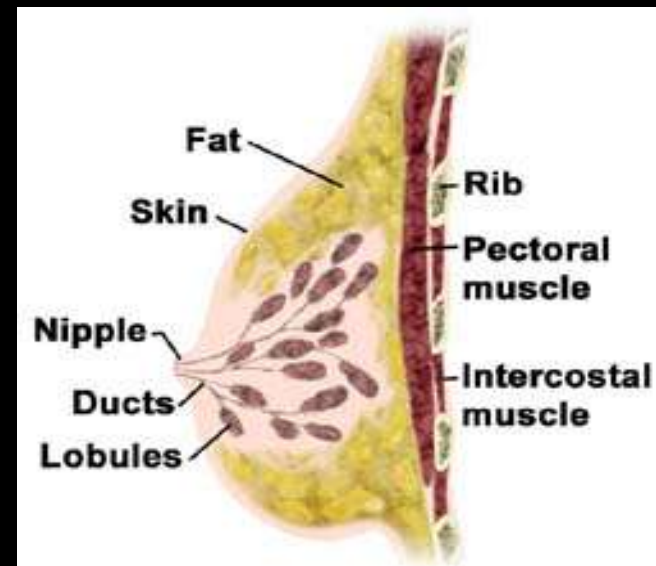
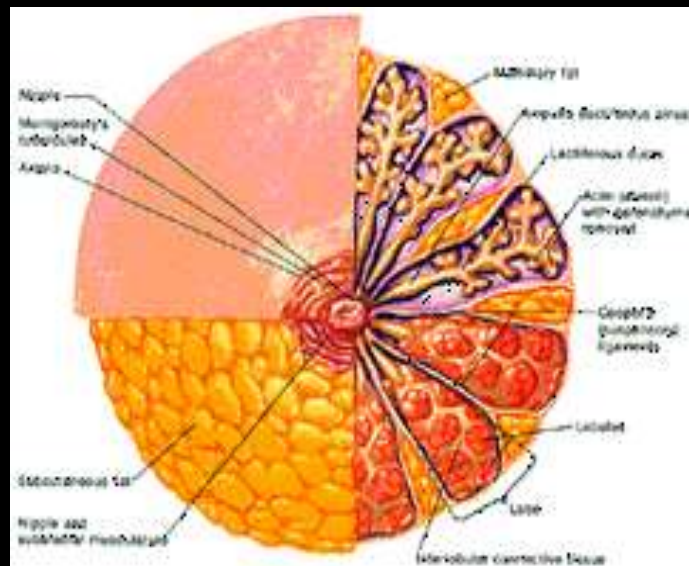
ANATOMI

- Sebagai mahluk menyusui, manusia dilengkapi payudara
- Mammalia : garis susu
- Manusia : 2 buah kelenjar susu yang selalu berubah dari waktu ke waktu
- Perubahan :
 - . dari kecil → tua
 - . setiap bulan
 - . sewaktu hamil → menyusui

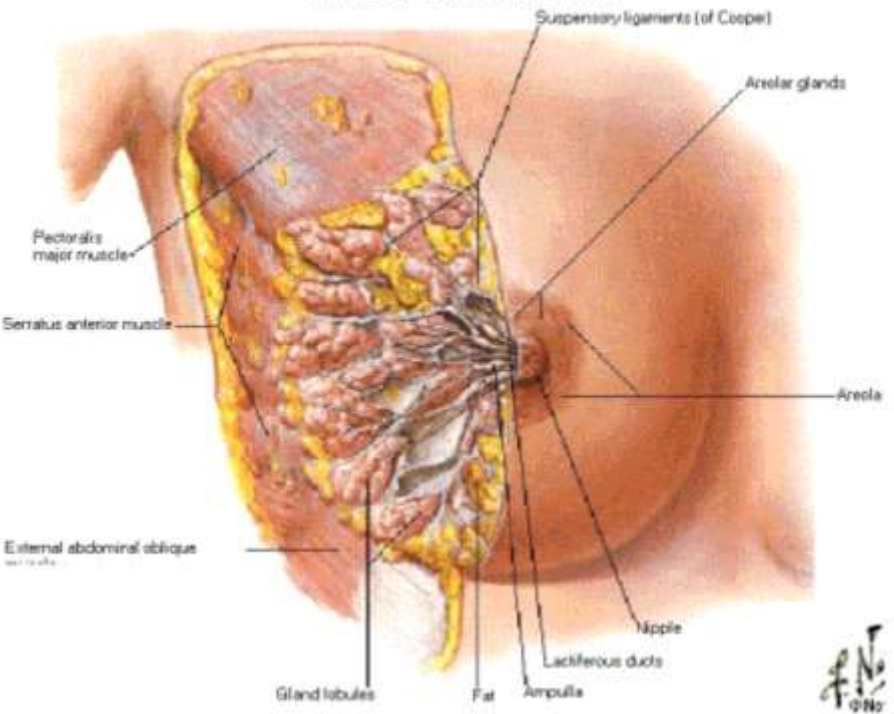


ANATOMI

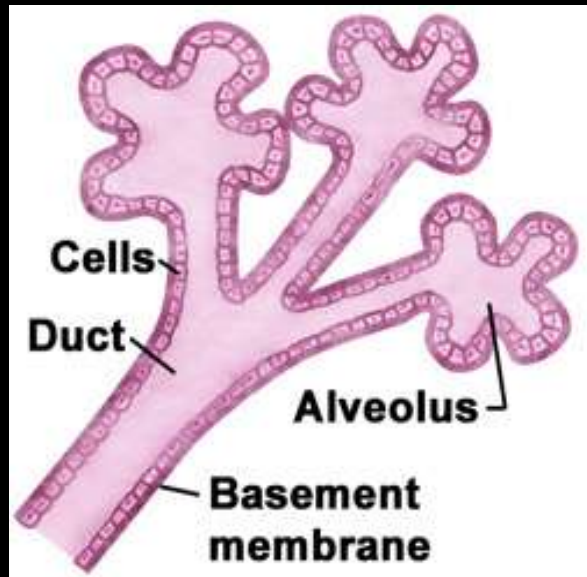
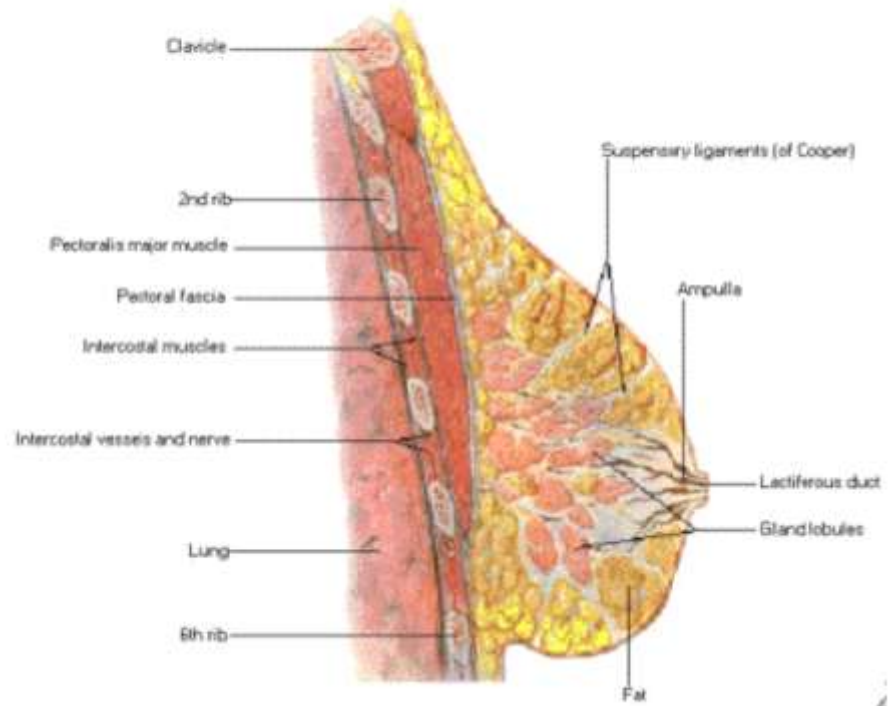
- Payudara tdd : kelenjar, jaringan penguat dan lemak
- 12 sampai 20 lobus. Tiap lobus tdd lobulus dan tiap lobulus tdd 10 – 100 acinus

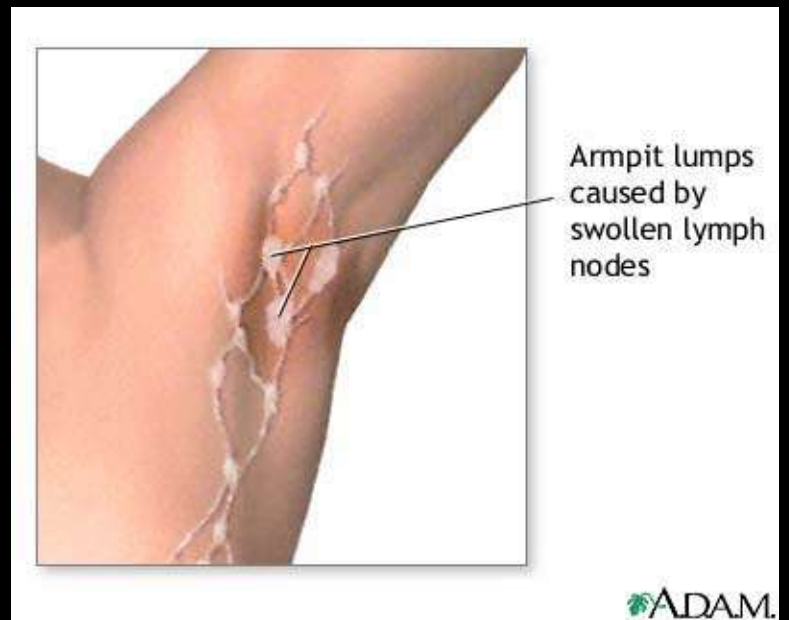
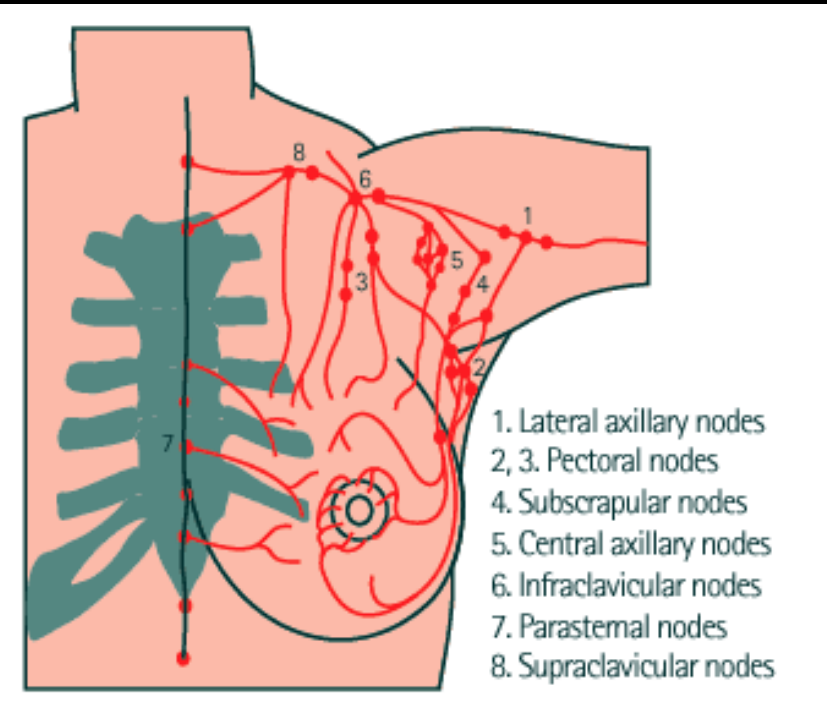
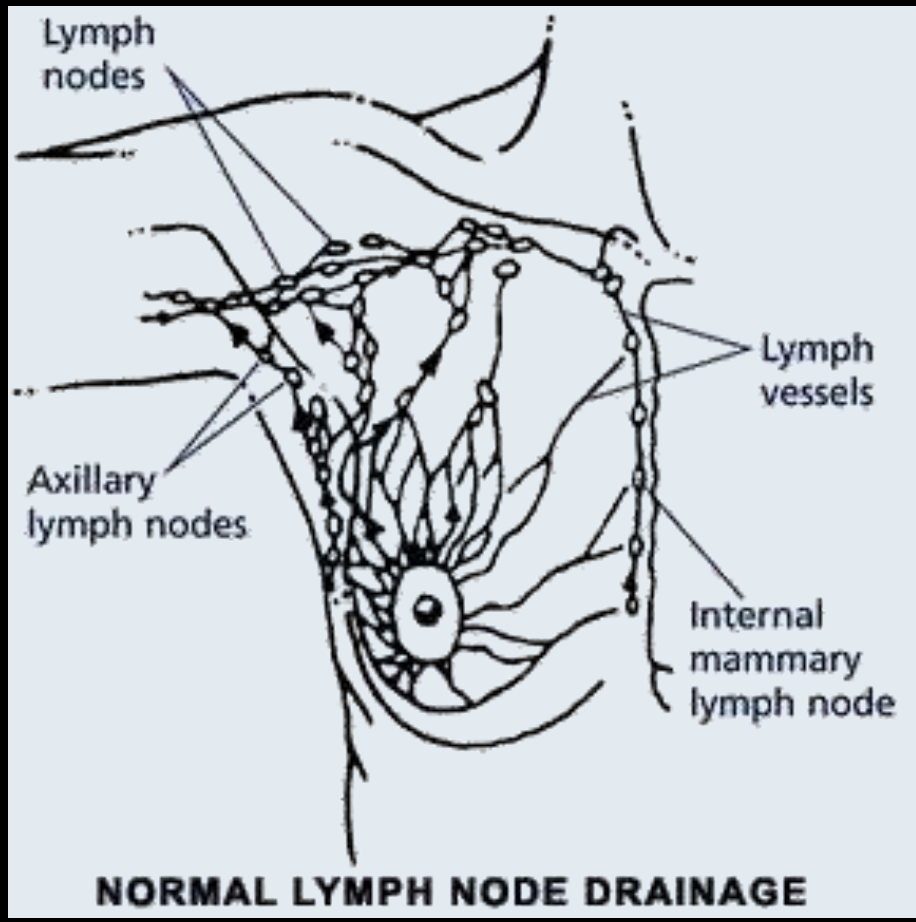


Mammary Gland Anterolateral Dissection



Mammary Gland Sagittal Section



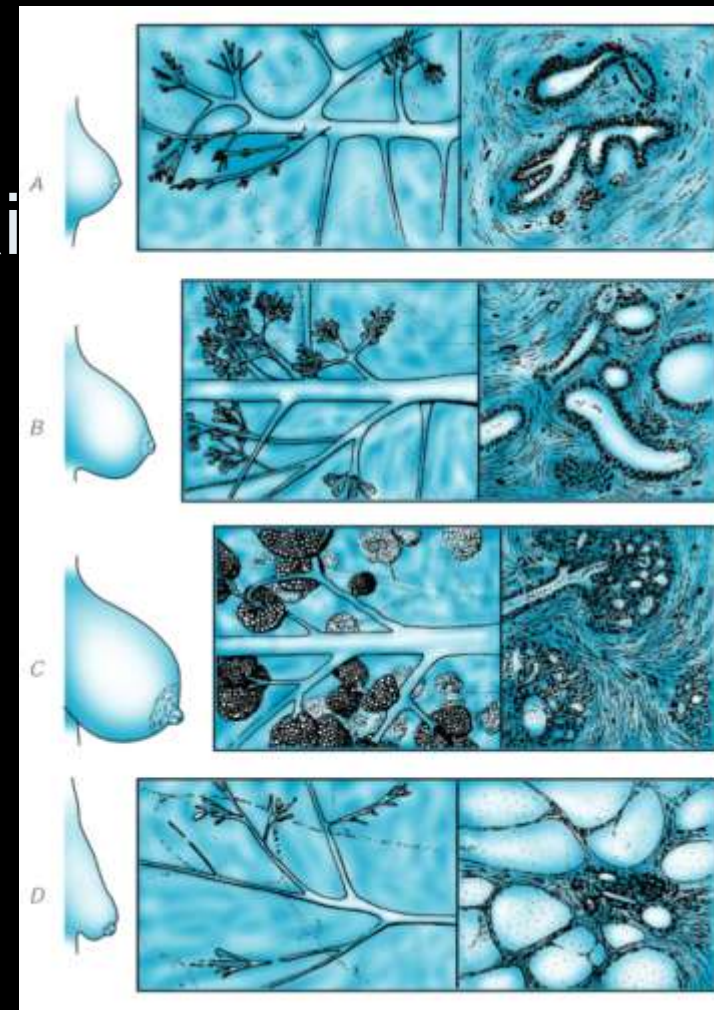


Aliran limfe / kel limfe regional

FISIOLOGI

Perubahan sesuai umur

- Perubahan dari bayi sampai pubertas: penambahan dan pertumbuhan kelenjar
- Menstruasi pertama: menarche
- Setelah menopause: kelenjar berkurang dan digantikan jaringan ikat



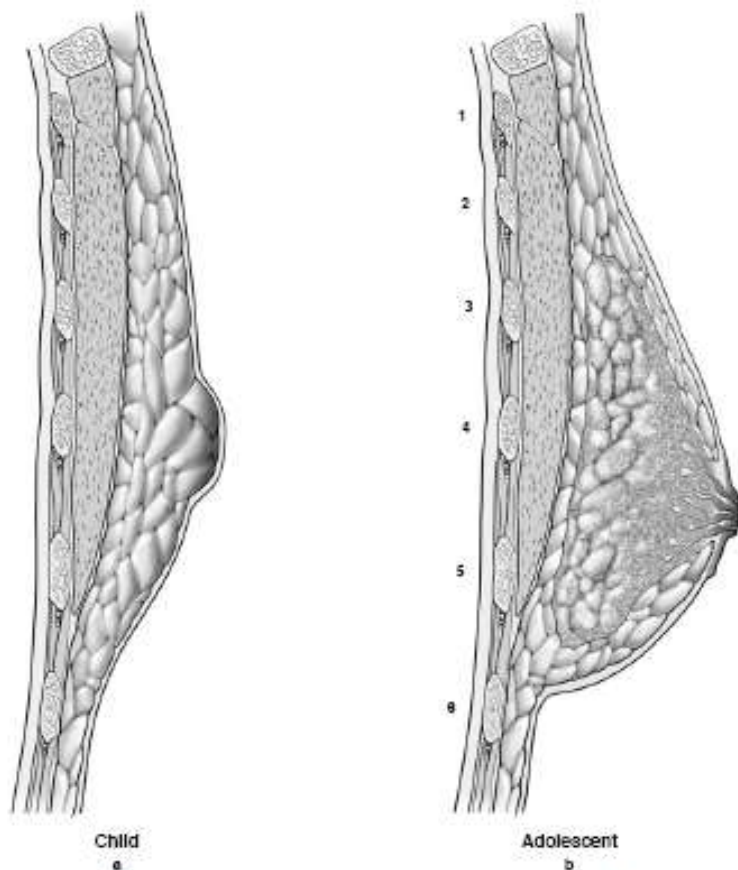


Fig. 2.2a-d. Breast development. **a** In a prepubertal girl, the mammary glands grow and branch slowly. **b** In adolescence the mammary glands develop rapidly, with the growth of the duct system influenced by estrogen and progesterone

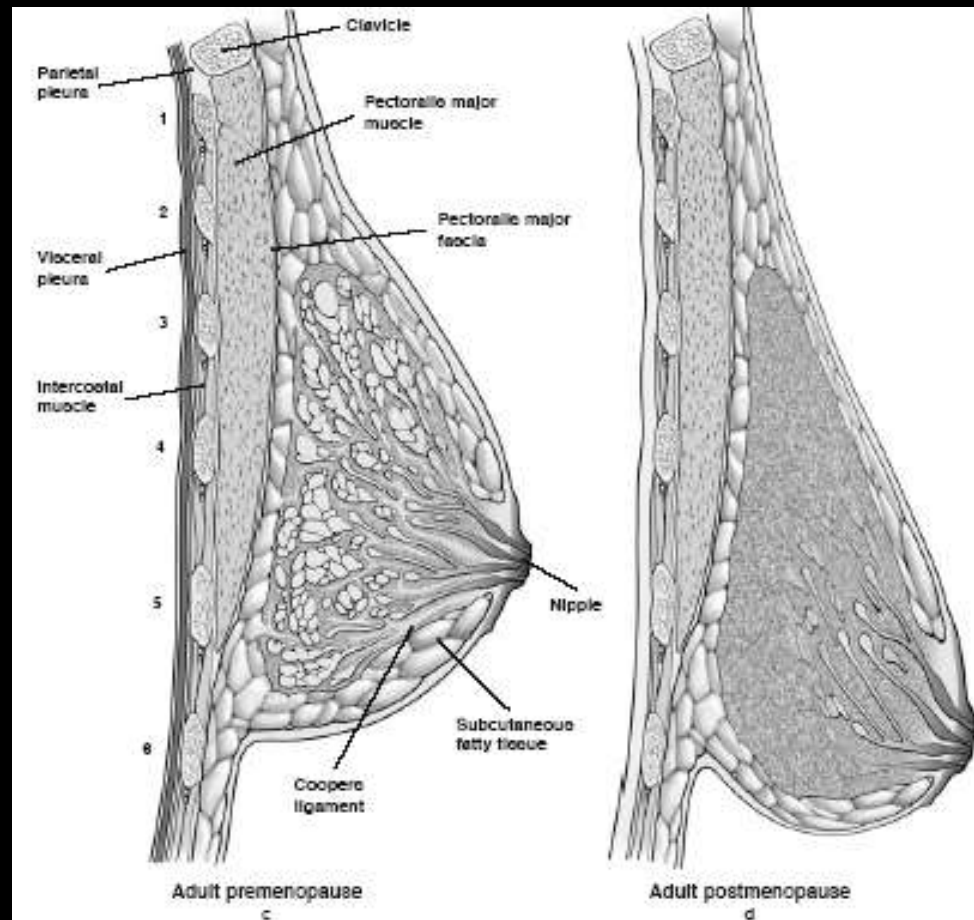


Fig. 2.2c, d. **c** The adult premenopausal breast. **d** The adult postmenopausal breast. Ribs are numbered in **b** and **c**

FISIOLOGI

Perubahan sesuai daur haid

- Menjelang menstruasi payudara tegang, nyeri krn pembesaran kelenjar
- Pada saat ini, pemeriksaan payudara sulit krn benjolan tumor sukar dibedakan dg kelenjar yg sedang besar
- Setelah haid, kelenjar mengecil kembali

FISIOLOGI

Perubahan saat hamil dan menyusui

- Hamil: duktus bertambah, dinding tebal dan besar
- Karena pengaruh hormon prolaktin: kelenjar mengeluarkan air susu
- Setelah 1 - 2 th air susu berkurang, kelenjar mengecil kembali

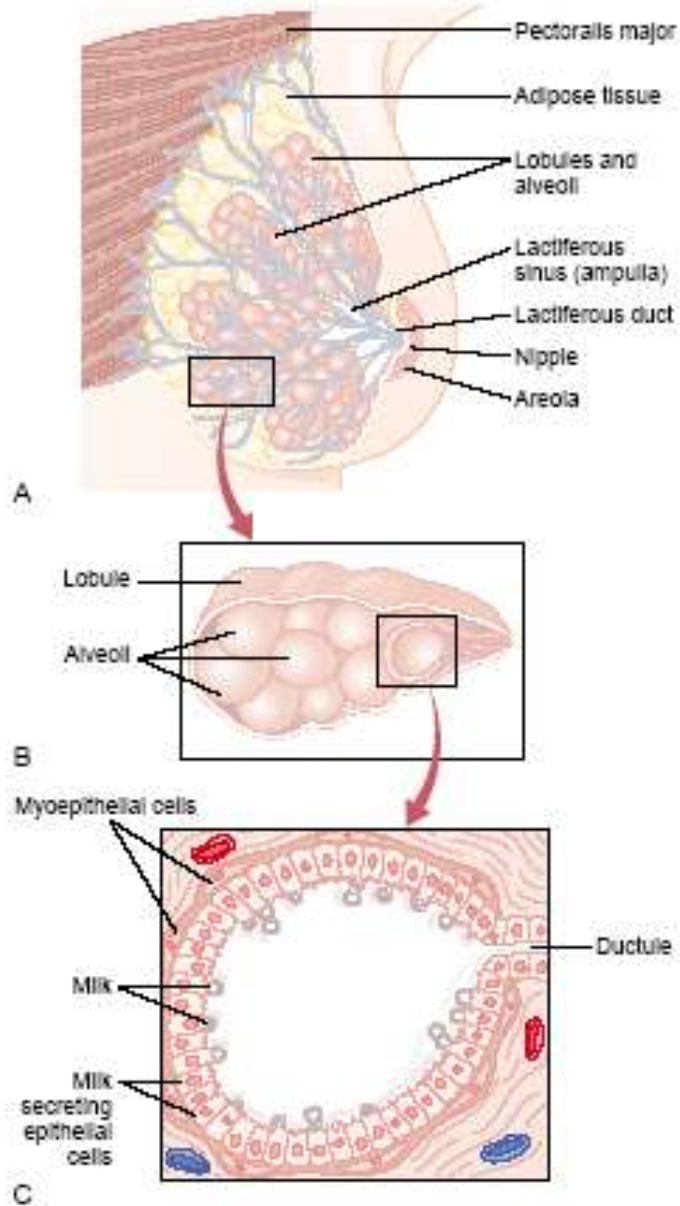


Figure 82-10

The breast and its secretory lobules, alveoli, and lactiferous ducts (milk ducts) that constitute its mammary gland (A). The enlargements show a lobule (B) and milk-secreting cells of an alveolus (C).

Payudara waktu menyusui

PEMERIKSAAN PAYUDARA SENDIRI / SADARI

- Karena kompleksnya perubahan dan anatomi payudara, sebaiknya dikenali sendiri
- Hampir seluruh tumor ganas payudara ditemukan penderita sendiri
- Hanya sebagian kecil yg ditemukan pada pemeriksaan chek-up / rutin
- Makin kecil ditemukan, makin baik prognosisnya

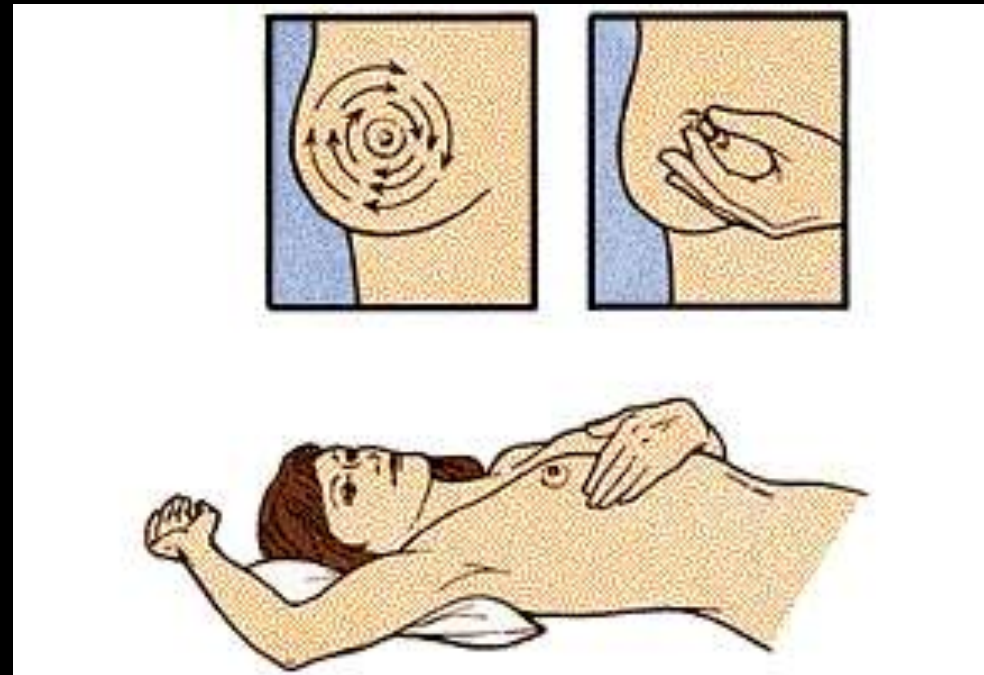
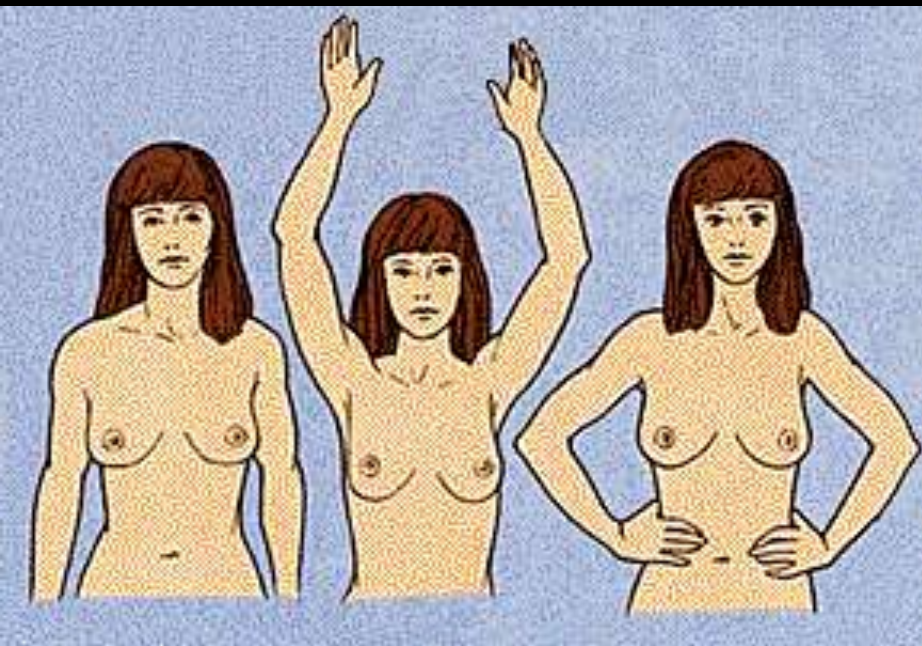
PEMERIKSAAN PAYUDARA SENDIRI / SADARI

- Dilakukan dari mulai pubertas, terutama setelah berumur > 30 tahun
- Dilakukan sebulan sekali secara teratur
- Sebaiknya dilakukan di kamar mandi, dengan waktu tetap (2-7 hari setelah hari haid pertama)
- Apabila ada perubahan, segera periksakan ke rumah sakit

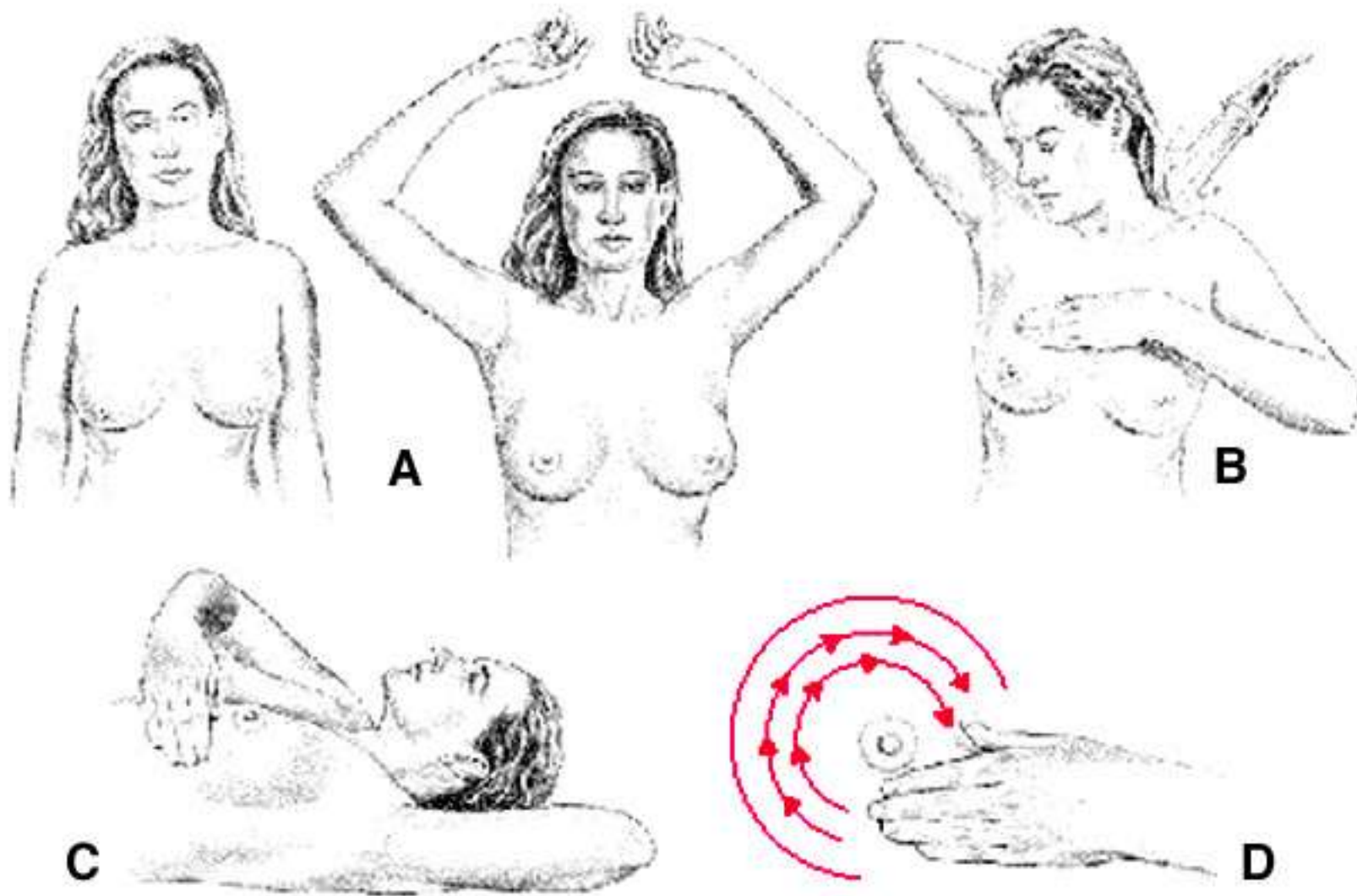
PEMERIKSAAN PAYUDARA SENDIRI / SADARI



PEMERIKSAAN PAYUDARA SENDIRI / SADARI



Breast Self-Examination



Breast Self-Examination



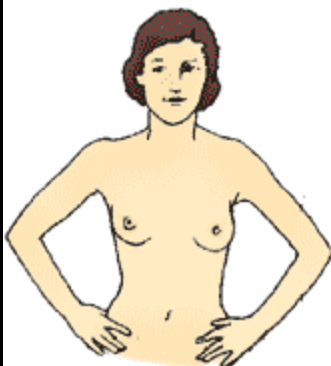
Step 1

Lie down and put your left arm under your head. Use your right hand to examine your left breast. With your 3 middle fingers flat, move in a circular motion over the breast, checking for any lump, hard knot, or thickening. Use different levels of pressure to feel breast tissue at different levels in your breast. Next, put your right arm under your head and examine your right breast with your left hand in the same way. Be sure to check the whole breast, from your collar bone above your breast and down until you feel only ribs below your breast.



Step 2

Look at your breasts while standing in front of a mirror with your hands on your hips. Look for lumps, new differences in size and shape, and swelling or dimpling of the skin.



Step 3

Raise one arm, then the other, so you can check under your arms for lumps.

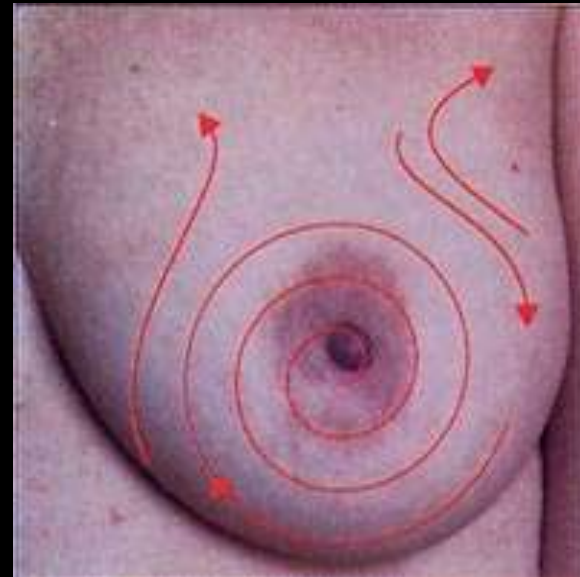
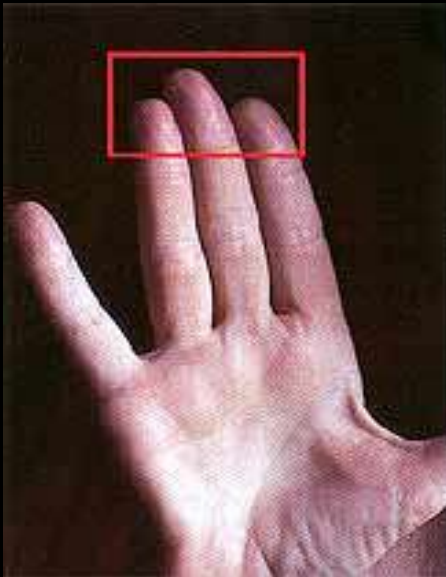


Step 4

Squeeze the nipple of each breast gently between your thumb and index finger. Report any discharge or fluid to your health care provider right away.



PEMERIKSAAN PAYUDARA



Dengan jari 2-3-4 periksa seluruh payudara
Jangan ada yg terlewat



ARMS OVER HEAD



HANDS PRESSED AGAINST HIPS



LEANING FORWARD





**Inspeksi
Palpasi**

KELAINAN PERTUMBUHAN

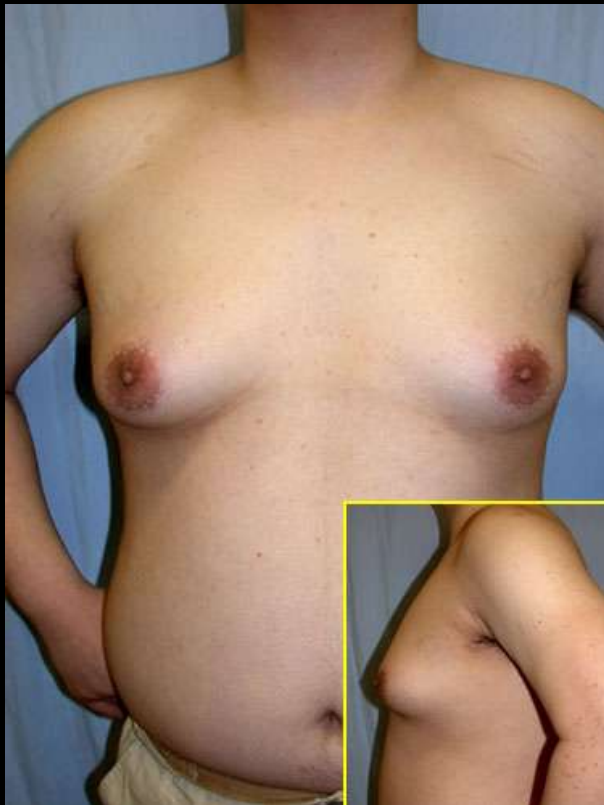
- Payudara tidak berkembang : amastia
- Payudara lebih dari satu : polymastia
- Kelenjar payudara tambahan, terutama di axilla : mamma accessoria. Bila mengganggu → operasi



Susu tambahan

KELAINAN PERTUMBUHAN

- Payudara yang membesar pada laki-laki :
gynecomastia



KELAINAN PERTUMBUHAN

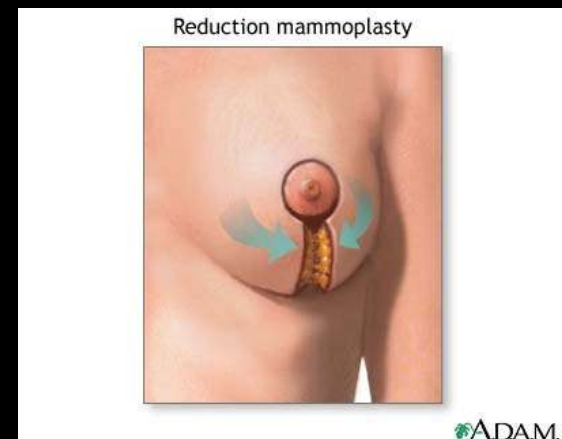
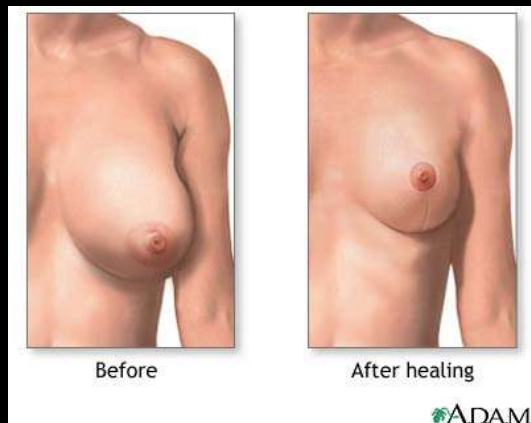
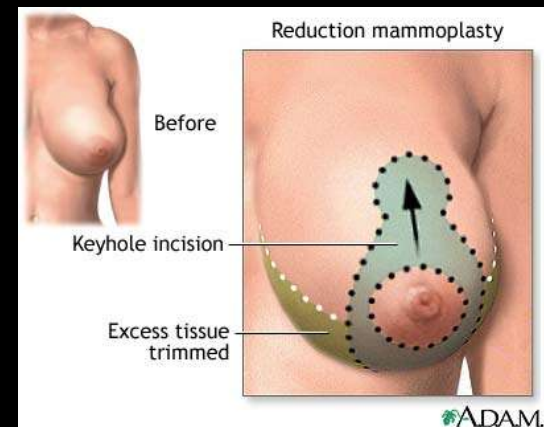
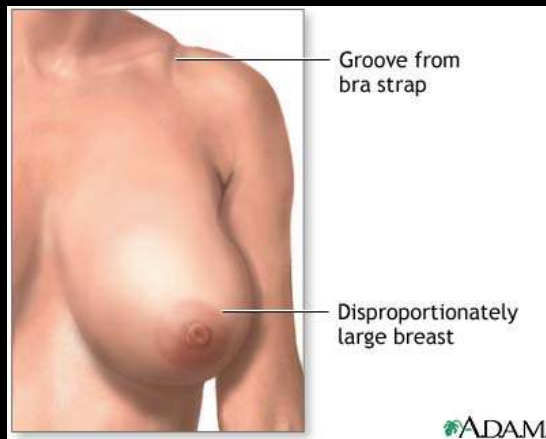
- Puting susu tambahan (dikira andeng2) sepanjang garis susu : polythelia



Polythelia

KELAINAN PERTUMBUHAN

- Payudara terlalu besar: macromastia atau hipertrofi payudara



KELAINAN PERTUMBUHAN



Hipertrofi payudara
sebelum dan sesudah operasi

KELAINAN PERTUMBUHAN

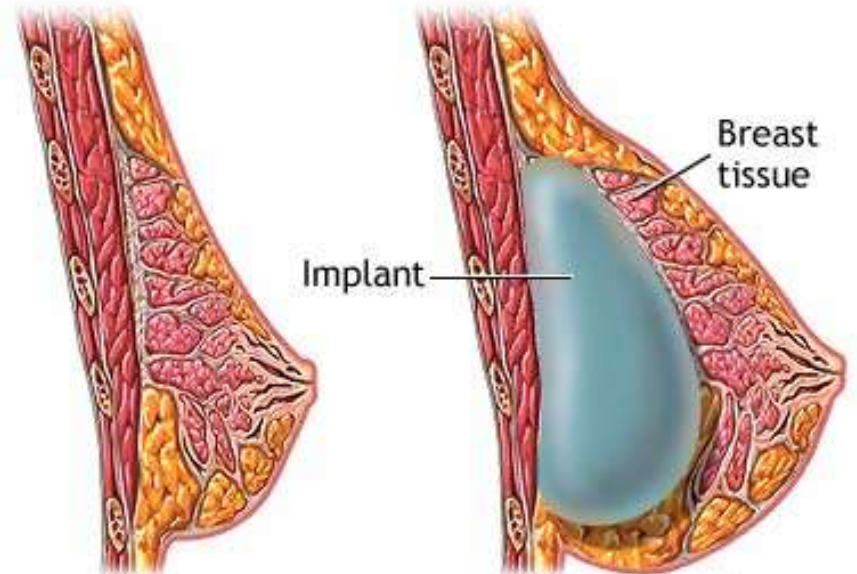


KELAINAN PERTUMBUHAN

Payudara terlalu kecil ??



Implant may be placed beneath the breast tissue



KELAINAN PERTUMBUHAN

Before



After



TUMOR JINAK

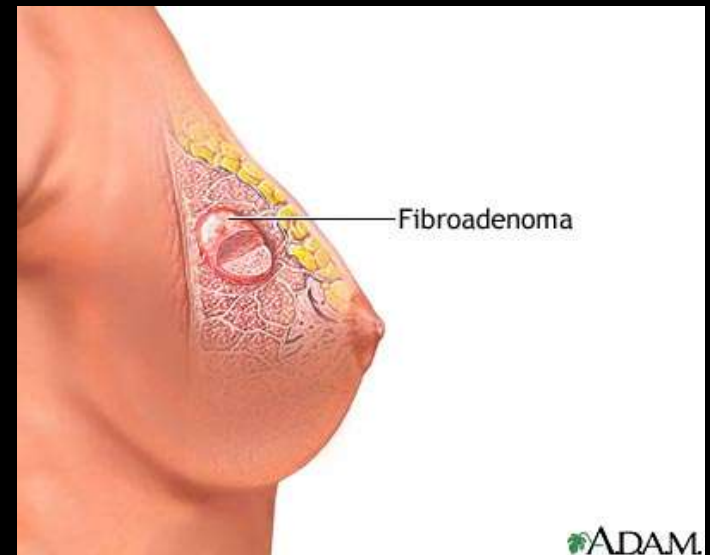
Fibroadenoma mammae = FAM

- Tumor jinak payudara yang paling sering
- Setelah menopause tidak pernah didapati
- Berasal dari kelenjar dan jaringan ikat
- Teraba sbg benjolan bulat, kenyal padat, simpai licin, batas tegas, mudah digerakkan

TUMOR JINAK

Fibroadenoma mammae = FAM

- Tidak terasa nyeri
- Pada masa kehamilan, menyusui dan menjelang menopause dpt cepat membesar
- Tidak jarang multipel / banyak
- Terapi : operasi



TUMOR JINAK

Kelainan fibrokistik

- Nama lainnya: mastitis kronik kistik, hiperplasi kistik, mastopati kistik atau displasia payudara
- Tumor tidak berbatas tegas, berbenjol
- Nyeri sekali, terutama menjelang haid

TUMOR JINAK

Kelainan fibrokistik

- Bila dapat diatasi dg obat-obatan anti nyeri, vit E dan menjelang mens diberikan diuretik
- Bila tidak menolong, atau ditakutkan suatu keganasan → operasi

TUMOR JINAK

Kista air susu

- Galaktokel disebabkan air susu yg terperangkap dlm kelenjar susu dan membeku
- Terdapat pd wanita menyusui
- Berupa benjolan kistik / lunak, bulat
- Bila tidak bisa keluar, infeksi → mastitis

TUMOR JINAK

Kista air susu

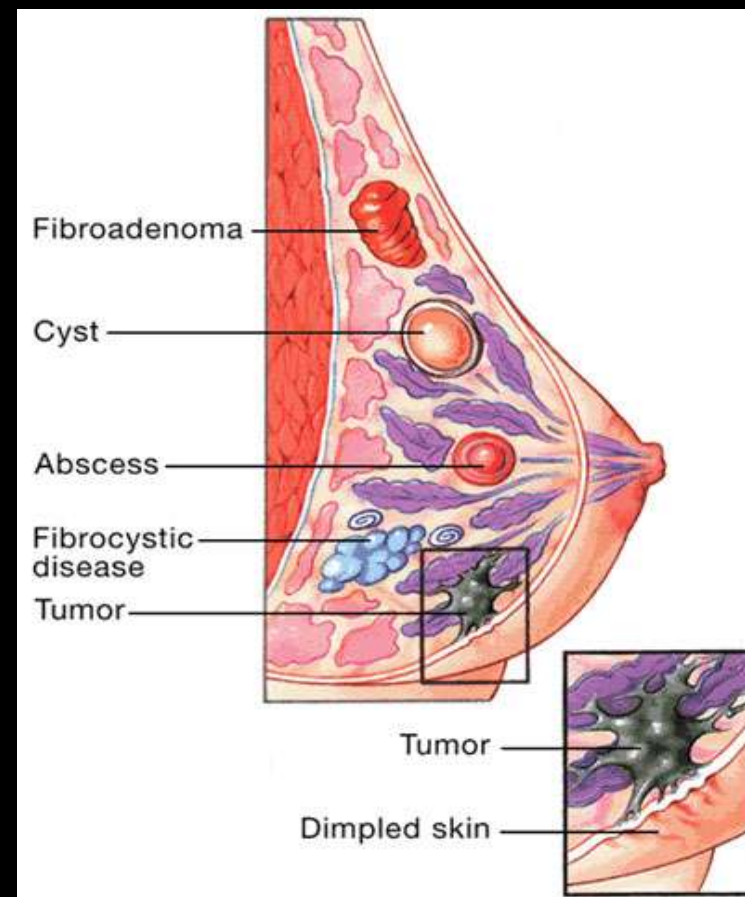
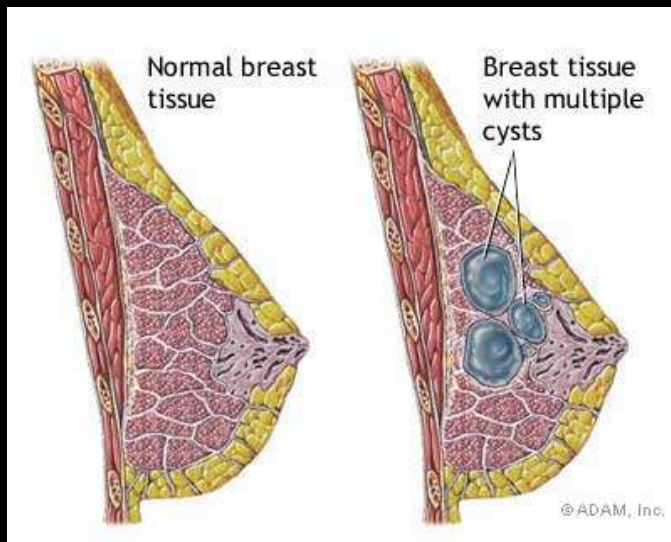
- Bila masih baru, dilakukan masase atau dikeluarkan dg vakum
- ASI sisi yg sakit tidak boleh diberikan pd bayi
- Bila terjadi infeksi diberi antibiotika
- Bila terbentuk nanah → insisi

TUMOR JINAK

Fibroadenoma mammae

Kista air susu

Fibrokistik



TUMOR JINAK

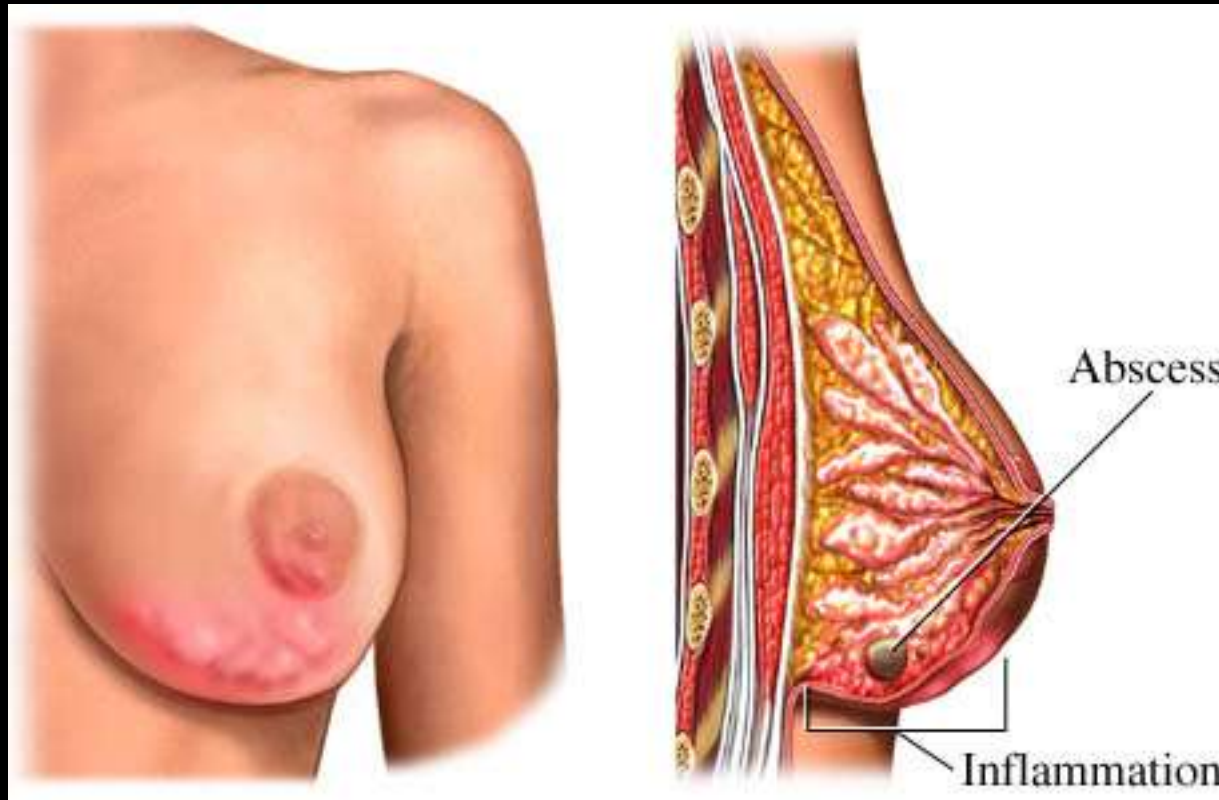
Nekrosis lemak

- Terjadi krn trauma
- Berupa benjolan keras, nyeri
- Biasanya mengecil sendiri

INFEKSI

- Mastitis terjadi biasanya pada masa menyusui, yg dpt berkembang menjadi abses
- Bisa juga krn higiene tidak dilakukan dg baik
- Bisa pula infeksi tbc, jamur dll pada payudara

INFEKSI



TUMOR GANAS

- Merupakan keganasan yg sering dijumpai pd wanita setelah tumor ganas kandungan
- Biasanya datang sudah dalam keadaan lanjut
- Penyebabnya tidak diketahui pasti, tetapi ada faktor resiko timbulnya tumor ganas payudara



TUMOR GANAS

Faktor resiko

- Umur.
- Menarche < 12 th dan menopause lambat > 50 th
- Tidak punya anak
- Hamil pertama umurnya > 30 th
- Tidak menyusukan anaknya

TUMOR GANAS

Faktor resiko

- Dikeluarganya ada penderita tumor payudara → gen BRCA-1 dan BRCA-2 (*Breast Cancer Susceptibility Gene*) → tumor suppressor proteins, membantu memperbaiki kerusakan DNA → mutasi → kerusakan DNA tidak dapat diperbaiki → sel kanker (BRCA-1 55-65 %, BRCA-2 45 % menjadi ca mamma)
- Banyak makan lemak
- Merokok
- Minum alkohol

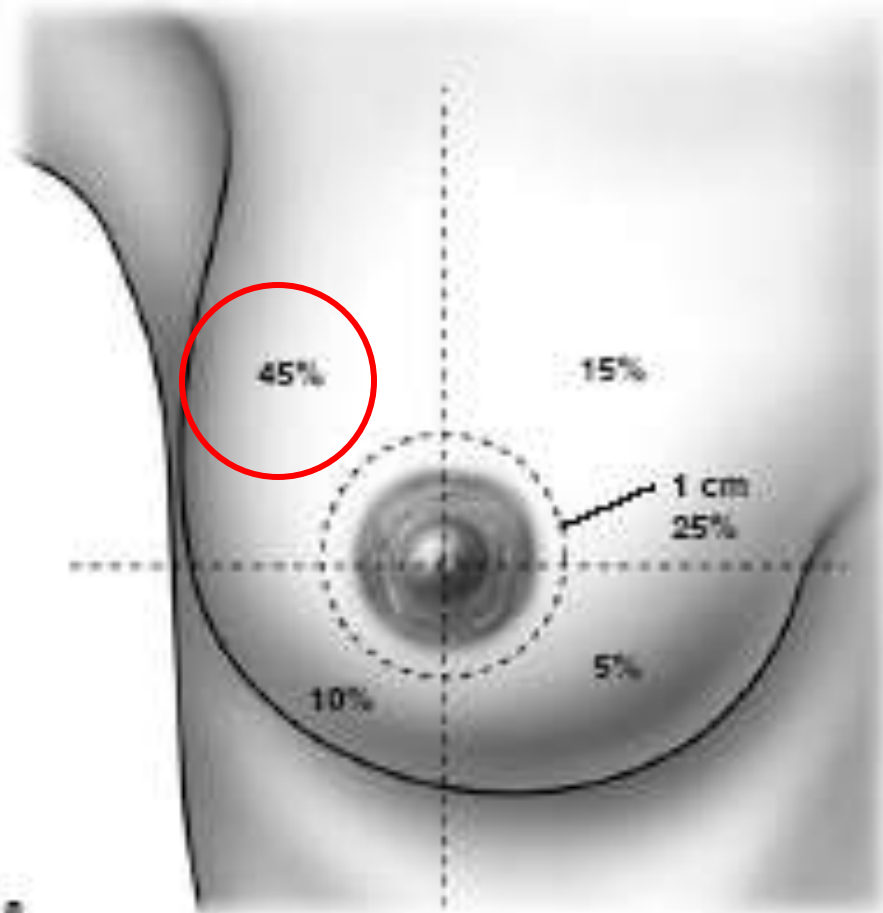
Established and probable risk factors for breast cancer

Factor	Relative risk	High risk group
Age	> 10	Elderly
Geographical location	5	Developed country
Age at menarche	3	Menarche before age 11
Age at menopause	2	Menopause after age 54
Age at first full pregnancy	3	First child in early 40s
Family history	≥ 2	Breast cancer in first degree relative when young
Previous benign disease	4-5	Atypical hyperplasia
Cancer in other breast	> 4	
Socioeconomic group	2	Groups I and II
Diet	1.5	High intake of saturated fat
Body weight:		
Premenopausal	0.7	Body mass index > 35
Postmenopausal	2	Body mass index > 35
Alcohol consumption	1.3	Excessive intake
Exposure to ionising radiation	3	Abnormal exposure in young females after age 10
Taking exogenous hormones:		
Oral contraceptives	1.24	Current use
Hormone replacement therapy	1.35	Use for ≥ 10 years
Diethylstilbestrol	2	Use during pregnancy

TUMOR GANAS

Pertumbuhan dan Penyebaran

- Dimulai dari 1 sel, menggandakan diri
- Setelah lebih dari 1 cm (perlu waktu 8 tahun), tumbuh cepat
- Perlu darah banyak, timbul tukak, busuk
- Menjalar ke jaringan sekitarnya (kulit)



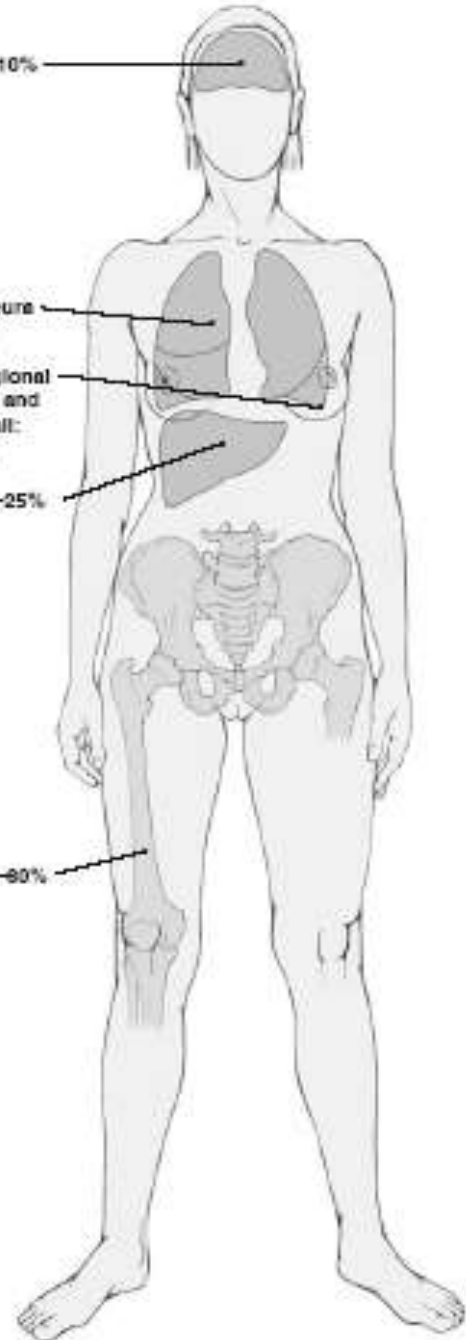
Brain 5-10%

Lung/Pleura 15-25%

Loco-regional (Breast and chest wall: 20-40%)

Liver 10-25%

Bone 20-80%



b

Keluhan yg membawa penderita payudara berobat

- 33% keluhan : benjolan pada payudara
- Payudara bertambah besar / asimetris
- Puting : keluar cairan, retraksi
- Ulkus / perubahan warna kulit payudara
- Benjolan pada aksilla
- Sakit / ngilu pada tulang

Signs and Symptoms

Most common:
lump or
thickening in
breast. Often
painless



Lump in breast or
underarm area



Change in size or
shape of breast

Nipple changes



Discharge or bleeding
from the nipple

Discharge
or bleeding

Change in size or
contours of
breast

Inversion



Crusting



Change in color or
appearance of
areola

Redness or pitting of
skin over the breast,
like the skin of an
orange



Retraksi puting

Peau d'orange = kulit jeruk



TUMOR GANAS

Pertumbuhan dan
Penyebaran

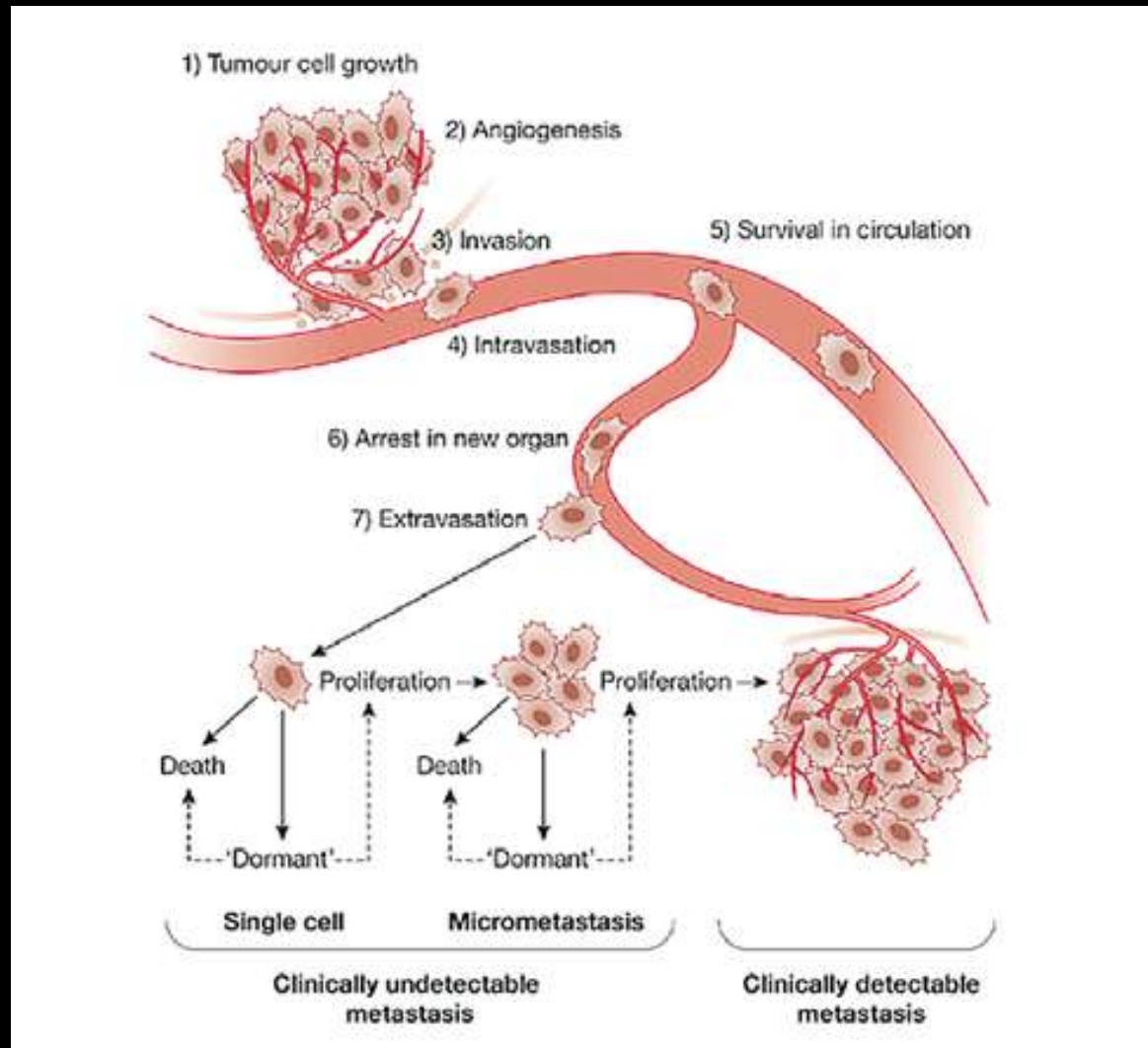


TUMOR GANAS

Pertumbuhan dan Penyebaran

- Menyebar ke kelenjar getah bening axilla dan kel regional lainnya
- Menyebar melalui pembuluh darah dan pembuluh getah bening sampai ke liver, tulang, paru-paru, otak
- Kalau sudah metastasis jauh → tidak mungkin operasi

Metastasis Carcinoma Mamma



Metastasis

The spread of cancer usually happens through one or more of the following steps:

Cancer cells invade nearby healthy cells. When the healthy cell is taken over, it too can replicate more abnormal cells.

Cancer cells penetrate into the circulatory or lymph system. Cancer cells travel through the walls of nearby lymph vessels or blood vessels.

Migration through circulation. Cancer cells are carried by the lymph system and the bloodstream to other parts of the body.

Cancer cells lodge in capillaries. Cancer cells stop moving as they are lodged in capillaries at a distant location and divide and migrate into the surrounding tissue.

New small tumors grow. Cancer cells form small TUMORS at the new location (called micrometastases.)

TUMOR GANAS

Pertumbuhan dan
Penyebaran



kambuh

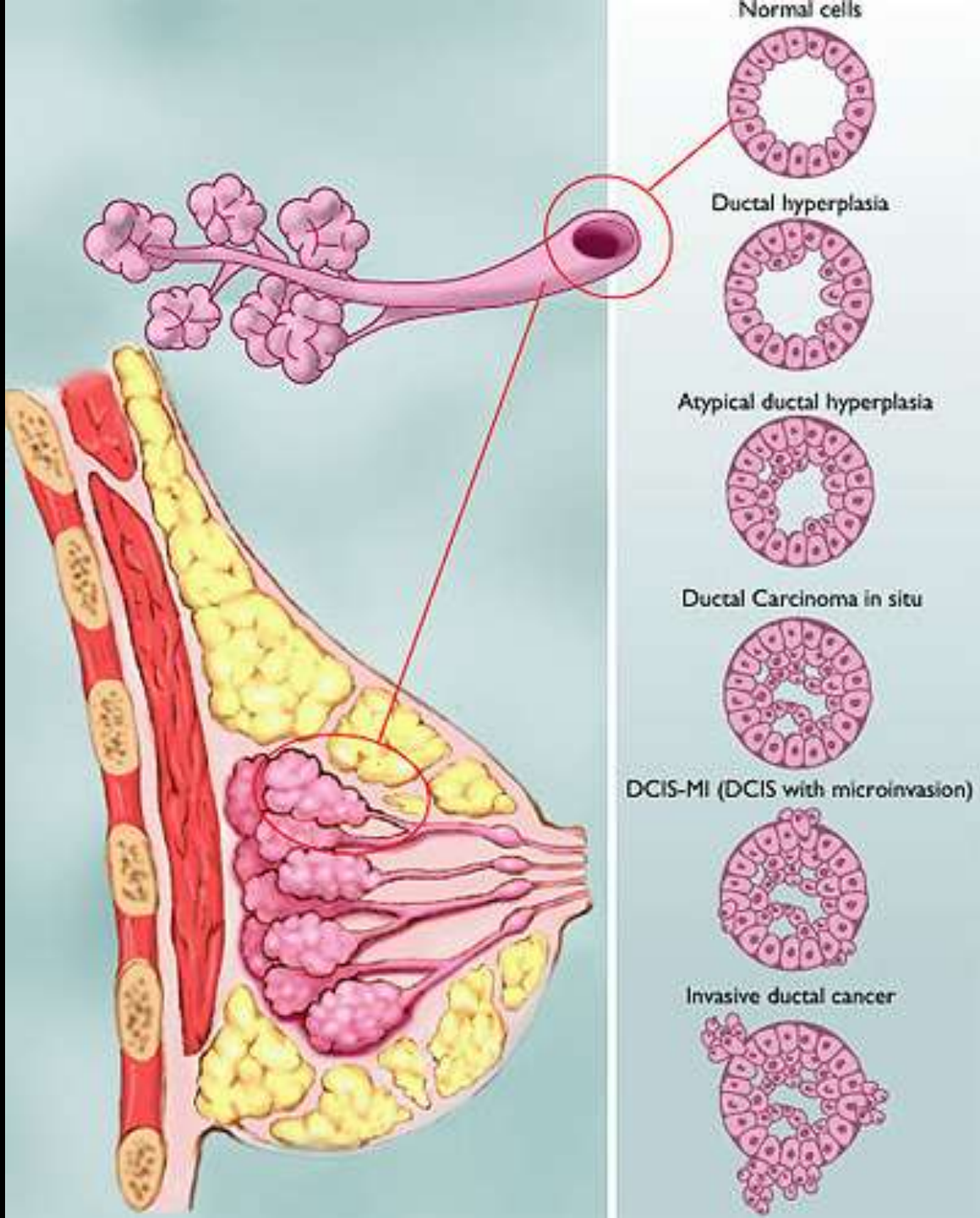


metastasis ke tulang

TUMOR GANAS

Pemeriksaan

- Sebagian besar ditemukan sendiri
- Diagnosis pasti dengan biopsi dan pemeriksaan patologi (PA)
- Pemeriksaan USG hanya membedakan tumor padat atau kista
- Pemeriksaan radiologi: mammografi



TUMOR GANAS

Pemeriksaan

- Tumor = T. Tx, Tis, T0, T1, T2, T3, T4
- Nodul = N. Nx, N1, N2, N3
- Metastasis = M Mx, M0 dan M1



Stadium I, stadium II, stadium III, stadium IV

- Tx Tumor primer tdk dpt ditentukan
- Tis Karsinoma in situ
- T0 Tidak ada tumor primer
- T1 Tumor kurang dari 2 cm
- T2 Tumor > 2 cm tetapi < 5 cm
- T3 Tumor > 5 cm
- T4 :

Tumor dg penyebaran dinding dada (T4a),

Ulkus - peau d'orange (T4b)

Dinding dada dan kulit (T4c)

Inflamasi/mastitis karsinomatosa (T4d)

- Nx Kelenjar regional tidak ditentukan
- N0 Tidak teraba kelenjar aksilla
- N1 Kelenjar aksilla homolateral dan tidak melekat
- N2 Kelenjar aksilla homolateral, melekat satu sama lain / dg jaringan sekitar
- N3
 - N3a : Kelenjar infraclavicular
 - N3b : Kelenjar aksilla dan mammae interna homolateral
 - N3c : kelenjar supraclavicular

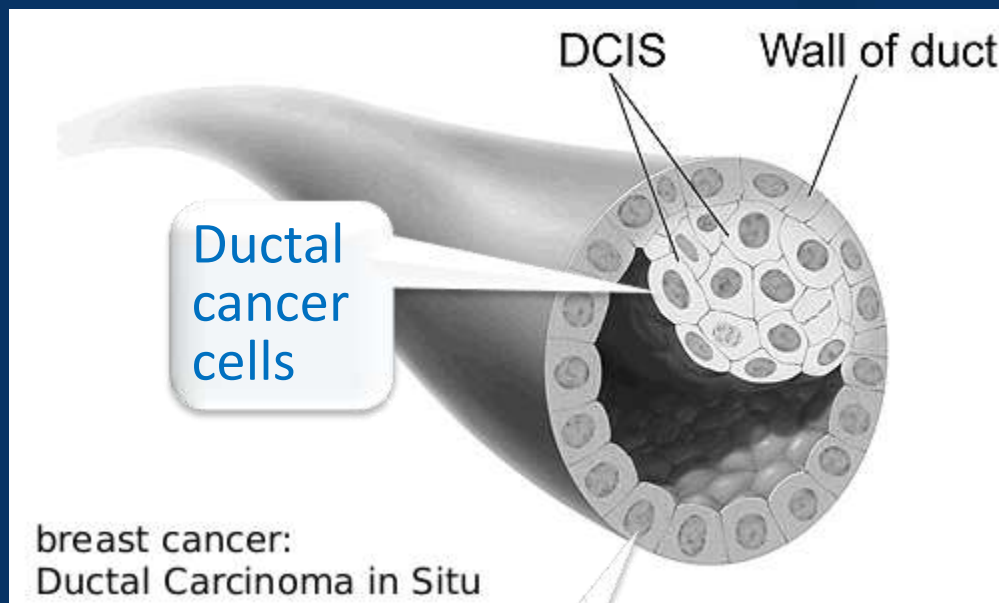
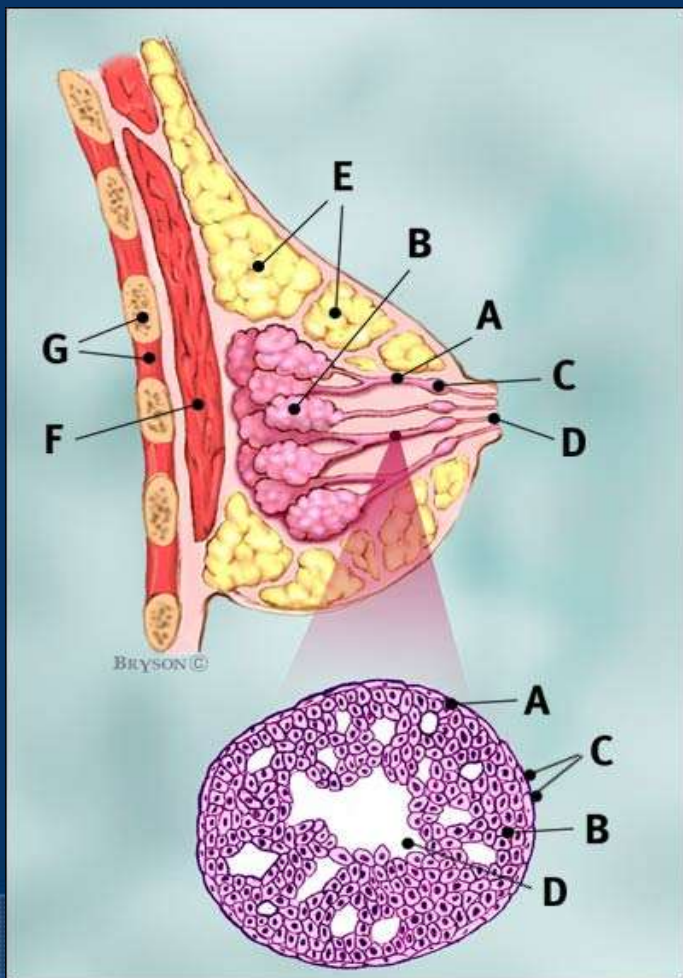
- Mx Tidak dapat ditentukan metastasis jauh
- M0 Tidak ada metastasis jauh
- M1 Terdapat metastasis jauh, termasuk kelenjar supraklavikula

Stadium dan Progressi Ca Mamma

Stage 0 Breast Cancer

- Known as “cancer in situ,” meaning the cancer has not spread past the ducts or lobules of the breast (the natural boundaries)
- Also called noninvasive cancer
- Ductal carcinoma in situ (DCIS) is the most common in situ breast cancer

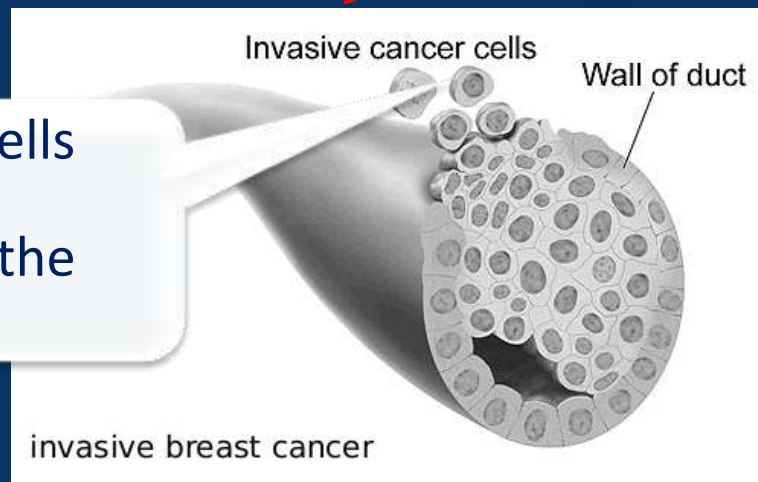
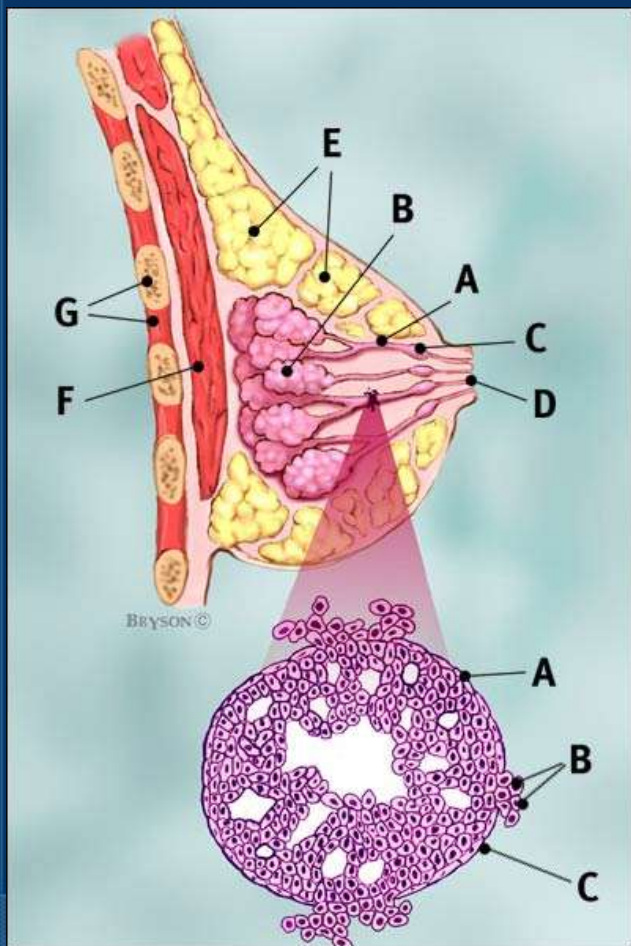
Ductal Carcinoma in situ (DCIS)



breast cancer:
Ductal Carcinoma in Situ

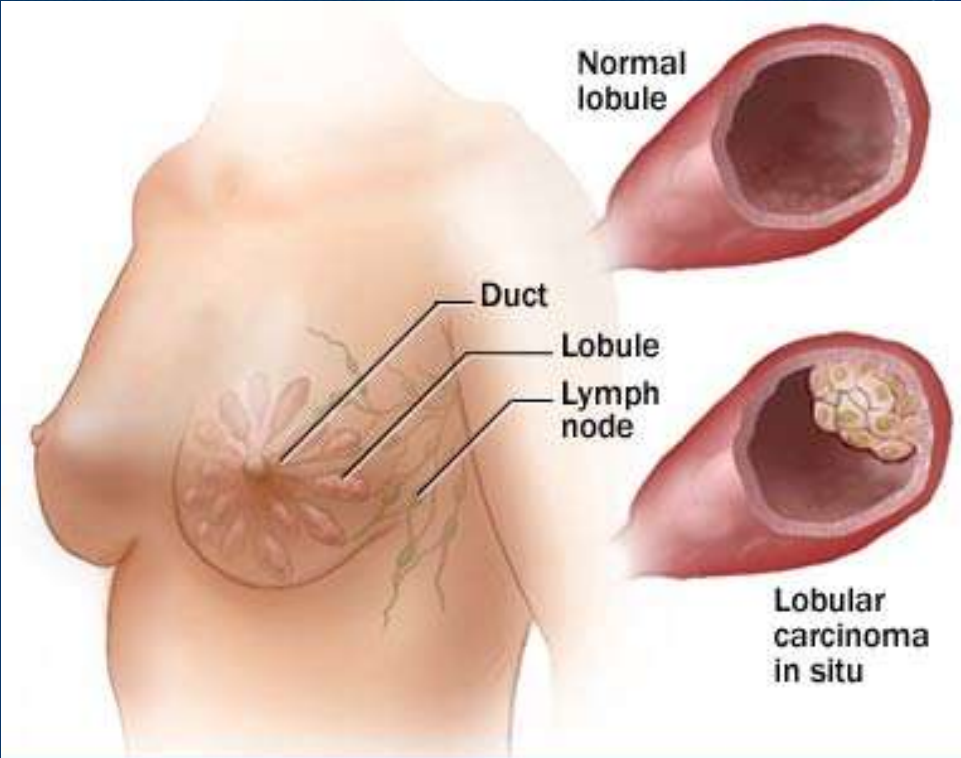
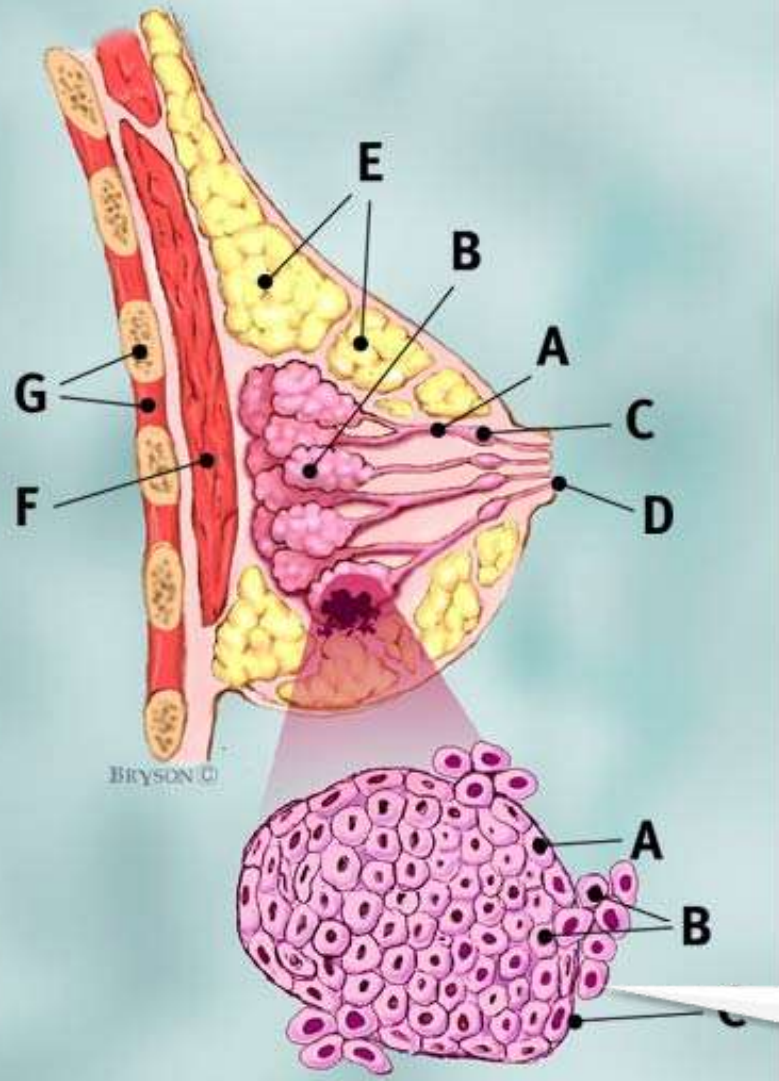
Normal
ductal
cell

Invasive Ductal Carcinoma (IDC – 80% of breast cancer)



Cancer cells breaking through the wall

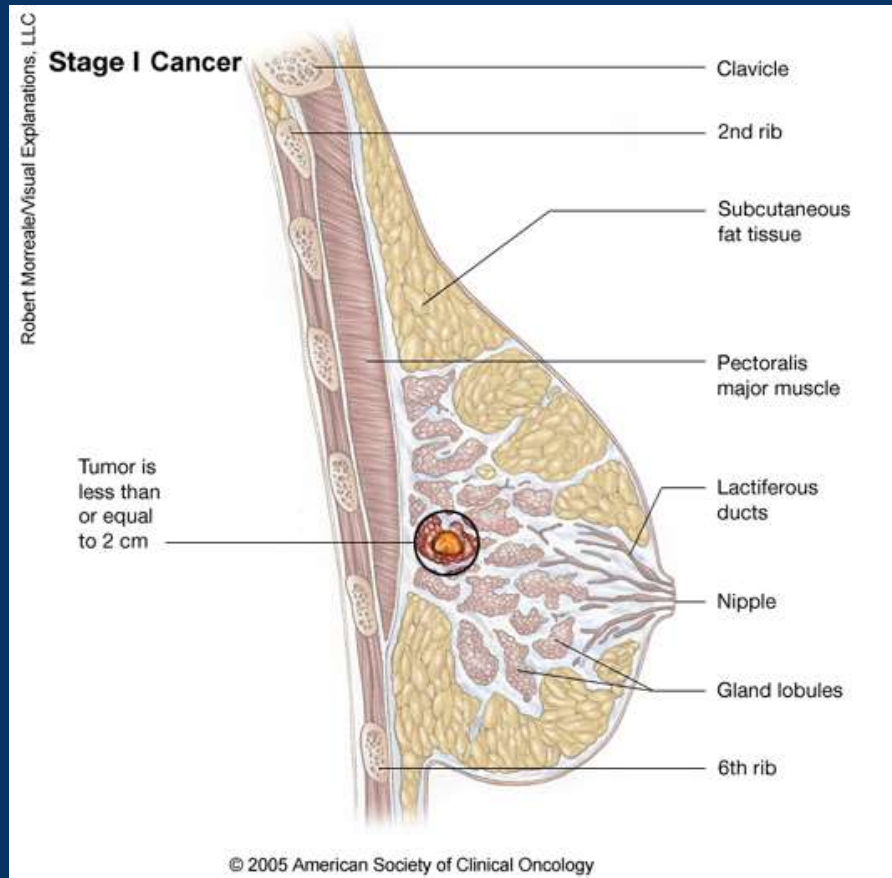
- The cancer has spread to the surrounding tissues
- **Carcinoma** refers to any cancer that begins in the skin or other tissues that cover internal organs



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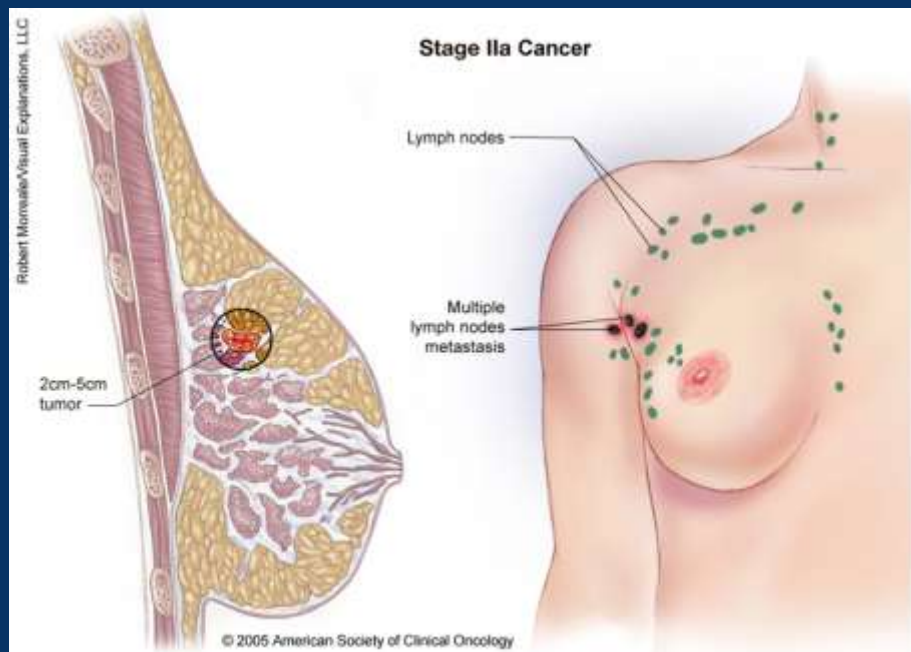
Lobular cancer cells breaking through the wall

Stage I Breast Cancer



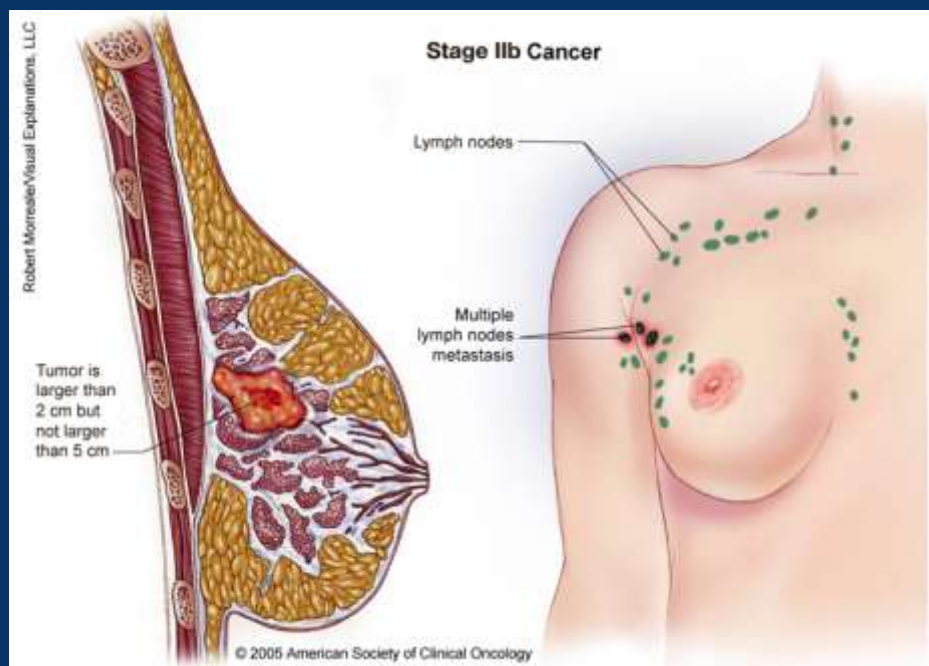
- The tumor is small and has not spread to the lymph nodes

Stage IIa Breast Cancer



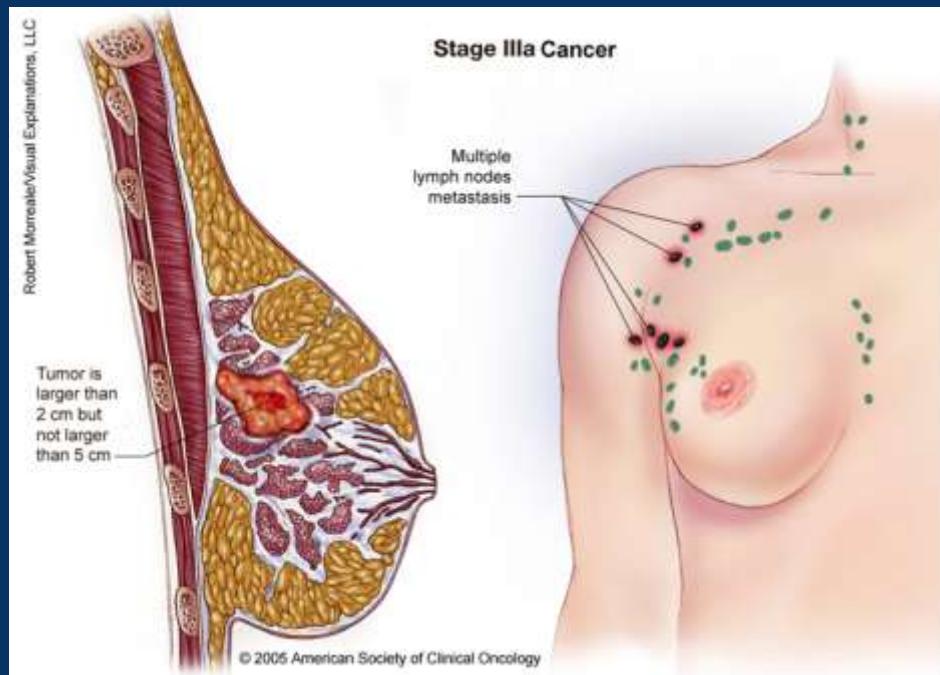
- Stage IIa breast cancer describes a smaller tumor that has spread to the axillary lymph nodes (lymph nodes under the arm), or a medium-sized tumor that has not spread to the axillary lymph nodes
- Stage IIa may also describe cancer in the axillary lymph nodes with no evidence of a tumor in the breast

Stage IIb Breast Cancer



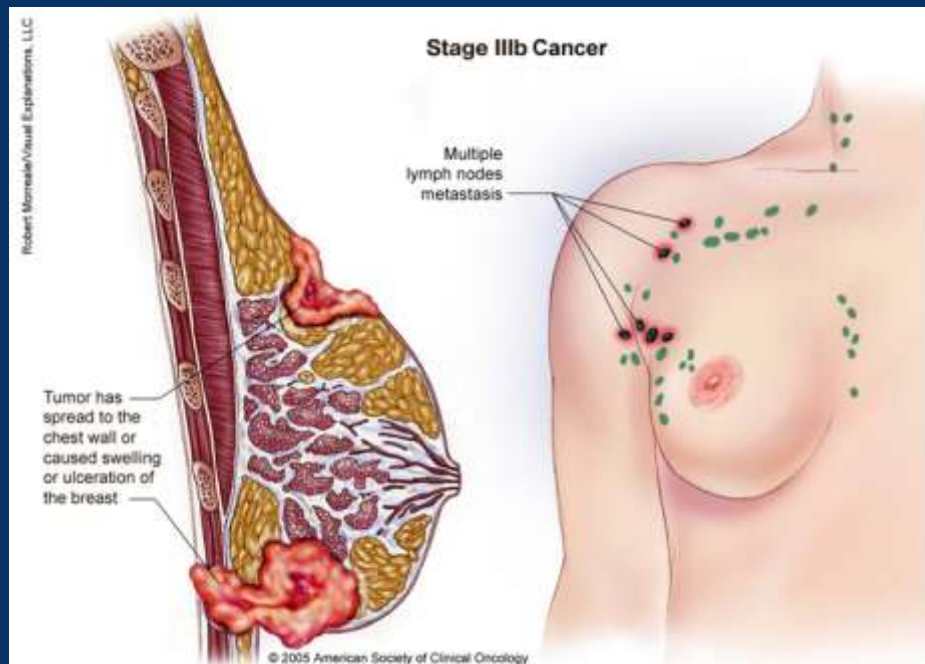
- Stage IIb breast cancer describes a medium-sized tumor that has spread to the axillary lymph nodes
- Stage IIb may also describe a larger tumor that has not spread to the axillary lymph nodes

Stage IIIa Breast Cancer



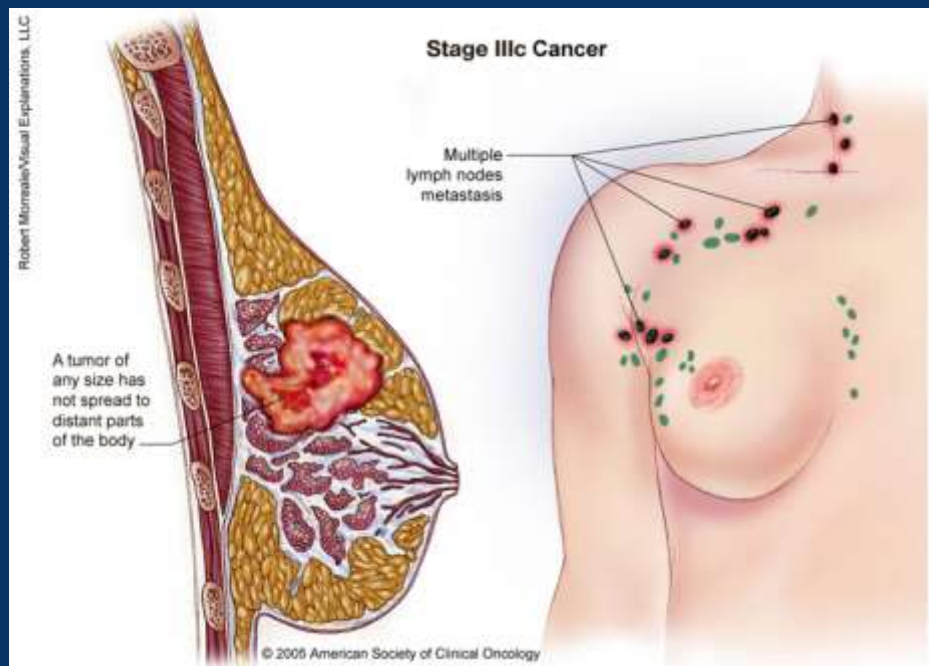
- Stage IIIa breast cancer describes any size tumor that has spread to the lymph nodes

Stage IIIb Breast Cancer



- Stage IIIb breast cancer has spread to the chest wall, or caused swelling or ulceration of the breast, or is diagnosed as inflammatory breast cancer

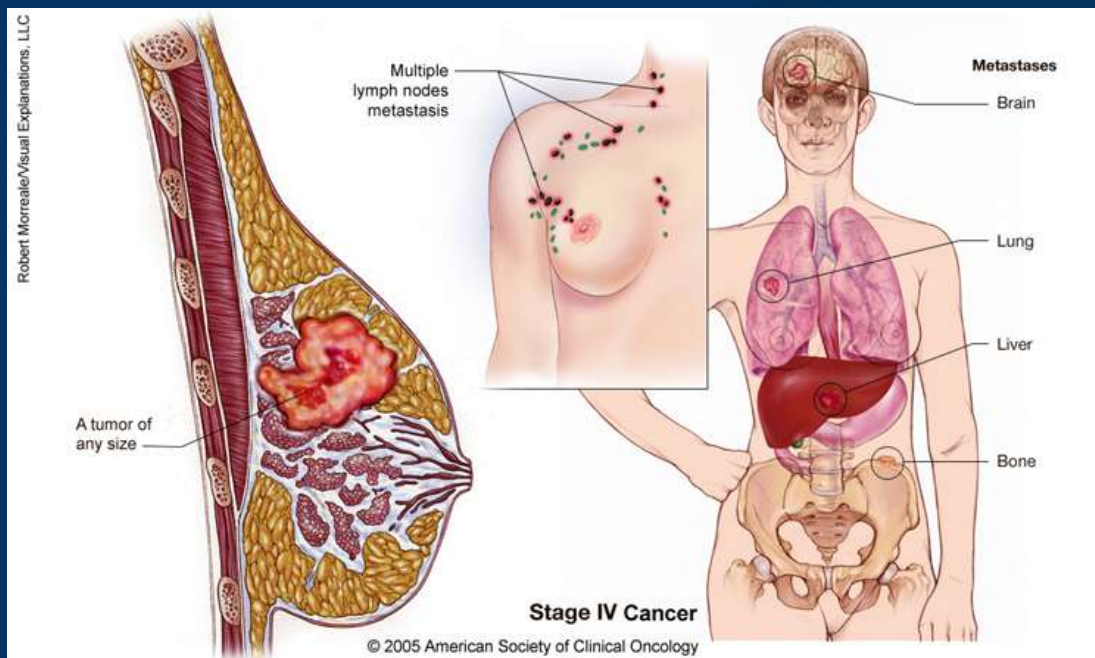
Stage IIIc Breast Cancer



- Stage IIIc breast cancer has spread to distant lymph nodes but has not spread to distant parts of the body

Stage IV Breast Cancer

- Stage IV breast cancer can be any size and has spread to distant sites in the body, usually the bones, lungs or liver, or chest wall



TNM classification of breast tumours

T_{is}	Cancer in situ
T_1	≤ 2 cm ($T_{1a} \leq 0.5$ cm, $T_{1b} > 0.5-1$, $T_{1c} > 1-2$ cm)
T_2	> 2 cm-5 cm
T_3	> 5 cm
T_{4a}	Involvement of chest wall
T_{4b}	Involvement of skin (includes ulceration, direct infiltration, peau d'orange, and satellite nodules)
T_{4c}	T_{4a} and T_{4b} together
T_{4d}	Inflammatory cancer
N_0	No regional node metastases
N_1	Palpable mobile involved ipsilateral axillary nodes
N_2	Fixed involved ipsilateral axillary nodes
N_3	Ipsilateral internal mammary node involvement (rarely clinically detectable)
M_0	No evidence of metastasis
M_1	Distant metastasis (includes ipsilateral supraclavicular nodes)

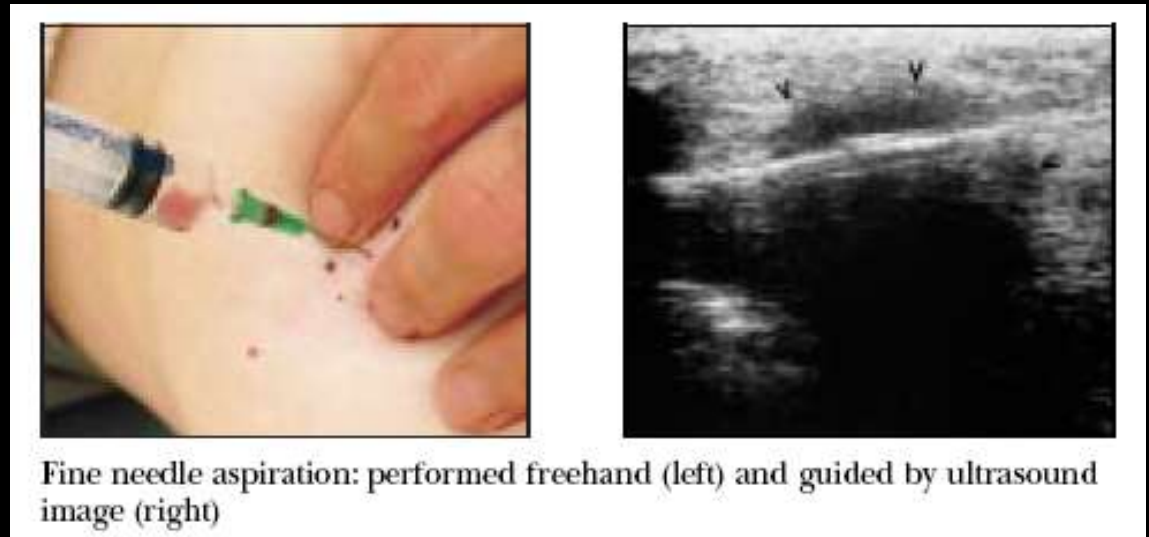
Correlation of UICC (1987) and TNM classifications of tumours

UICC stage	TNM classification
I	T_1, N_0, M_0
II	$T_1, N_1, M_0; T_2, N_{0,1}, M_0$
III	any T, $N_{2,3}, M_0; T_3$, any N, $M_0; T_4$, any N, M_0
IV	any T, any N, M_1

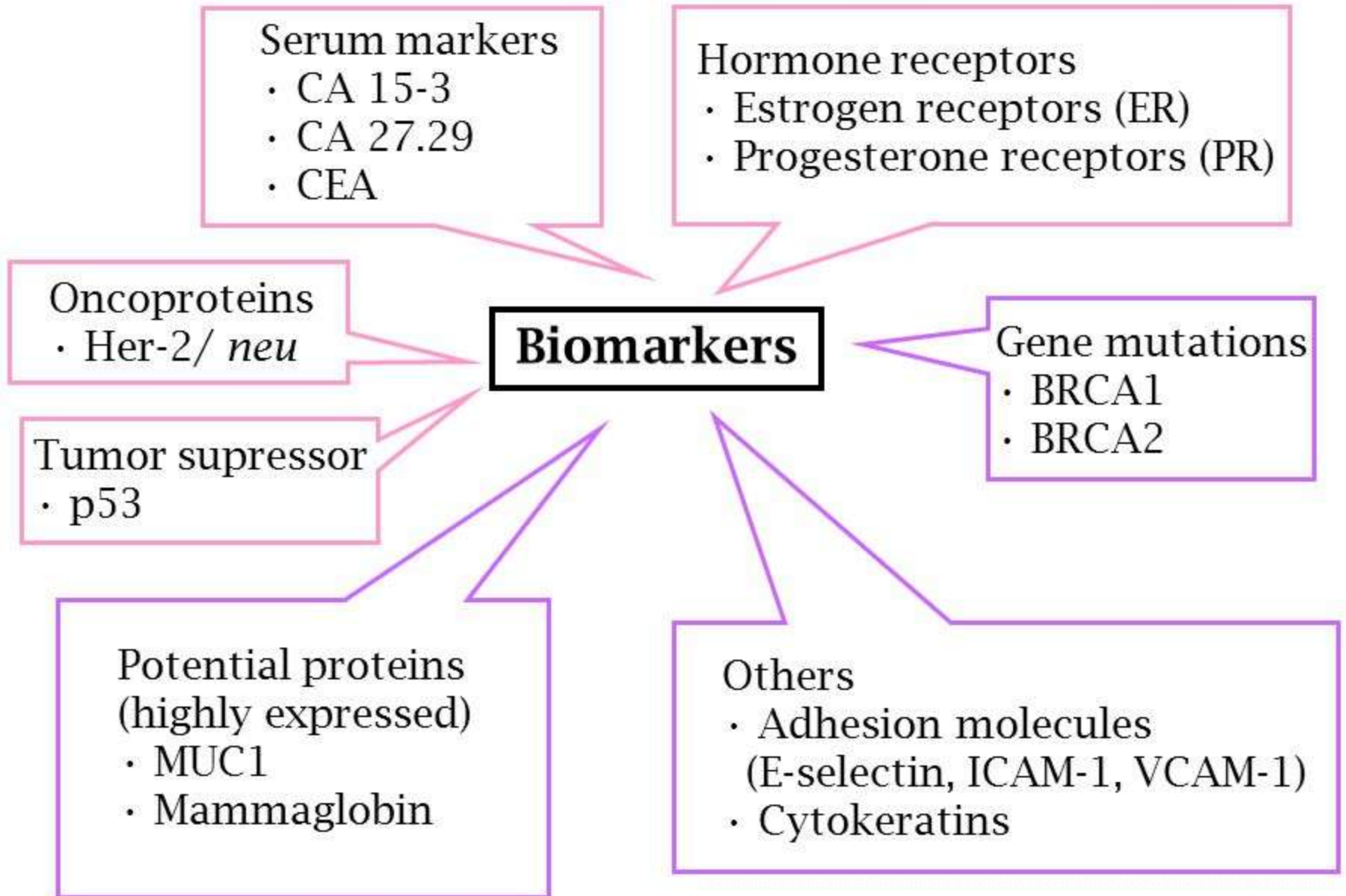
TUMOR GANAS

Pemeriksaan Patologi Anatomi

- Dengan Frozen Section / FS
- FNA = Fine Needle Aspiration Biopsy
- Needle biopsy / Tru Cut
- Biopsi eksisi



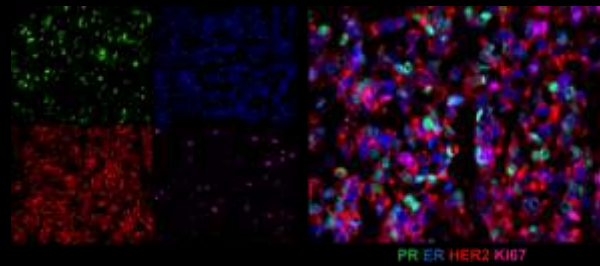
Breast cancer Biomarkers



- **Petanda tumor dalam serum** merupakan molekul atau substansi yang dikeluarkan oleh tumor ke sistem sirkulasi sehingga dapat dideteksi dan dihitung jumlahnya.



- **Petanda tumor non sirkulasi** meliputi petanda-petanda yang hanya dapat dideteksi secara histokimia atau sitogenetik pada sampel jaringan (onkoprotein HER2 untuk kanker payudara, kromosom *Philadelphia* untuk *chronic myelogenous leukaemia*).



TUMOR GANAS

Pemeriksaan Imaging



mammografi

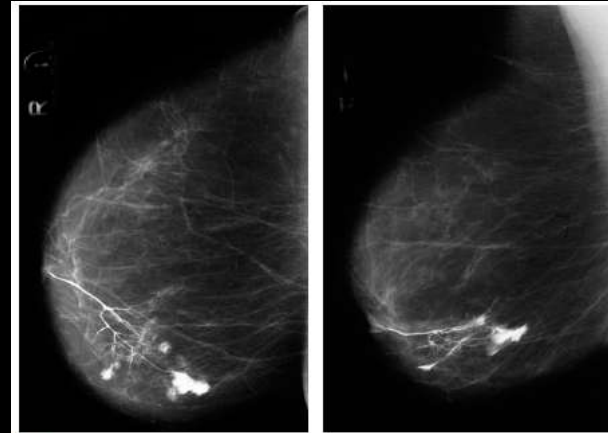
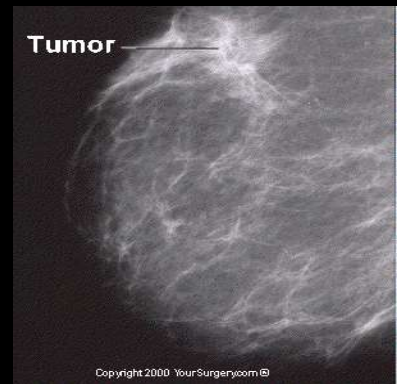
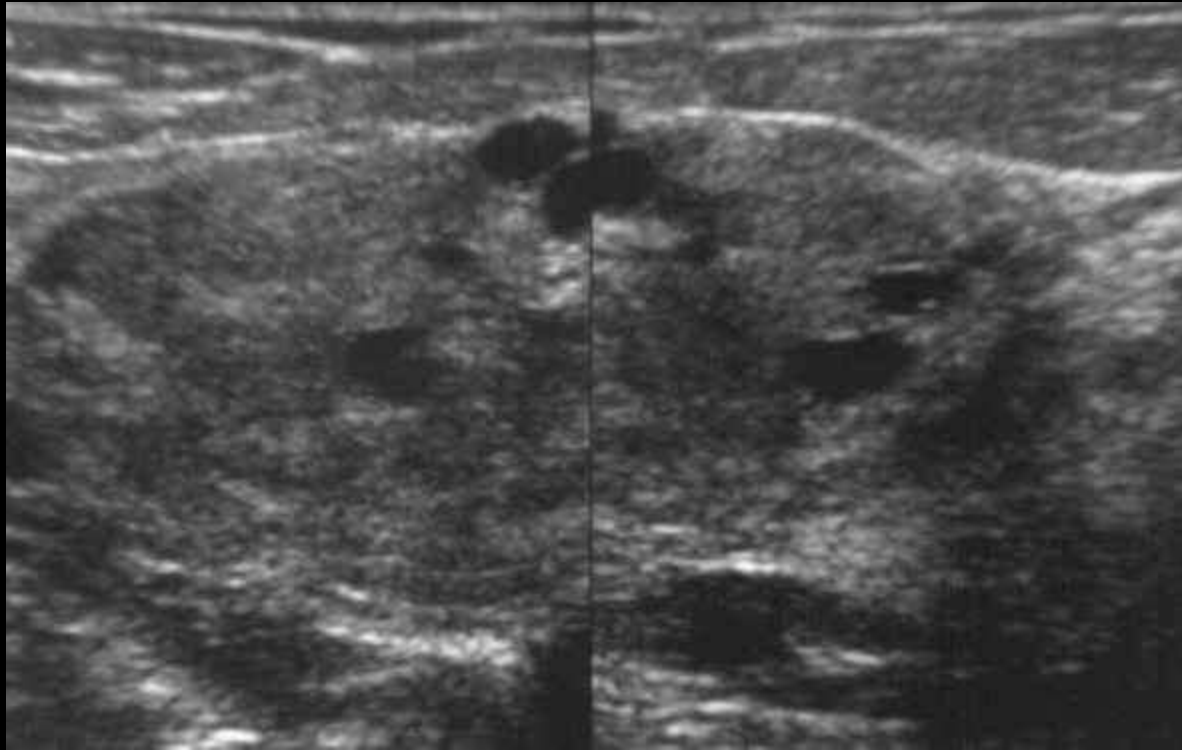


Fig. 4.2. Galactography of an intraductal papilloma

Galaktografi



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US = ultrasonografi

TUMOR GANAS

Pengobatan

5 macam cara penanganan:

1. Operasi (tumor / tumor dan payudara berikut kelenjar regional)
2. Penyinaran / radiasi
3. Kemoterapi
4. Hormon
5. Terapi biologi / imunologi / monoclonal antibody

TUMOR GANAS

Pengobatan

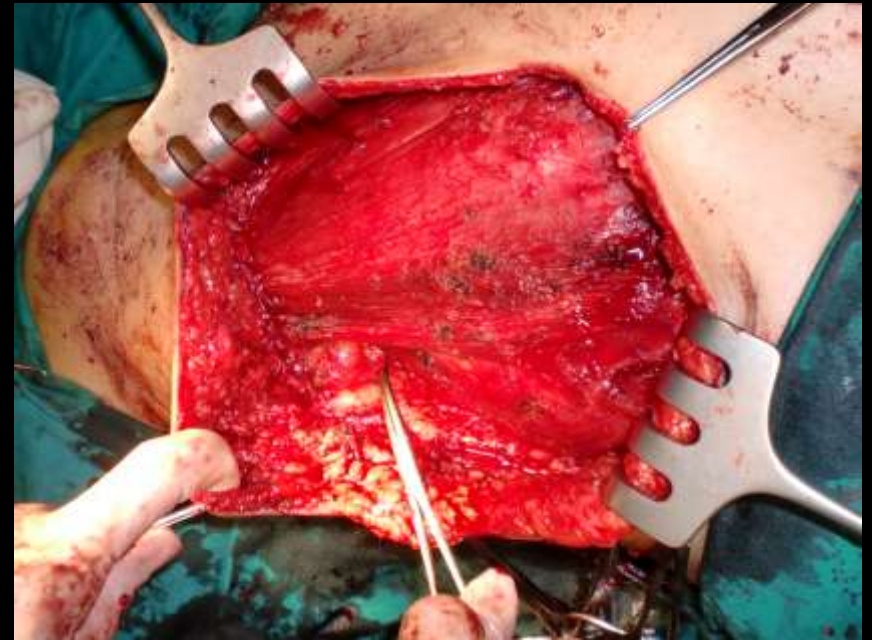
- Operasi dilakukan bila tumor masih terbatas pada payudara (stadium I dan II)
- Atau bila busuk, meskipun sudah menyebar agar kualitas hidup baik
- Dilakukan juga pengangkatan kelenjar regional

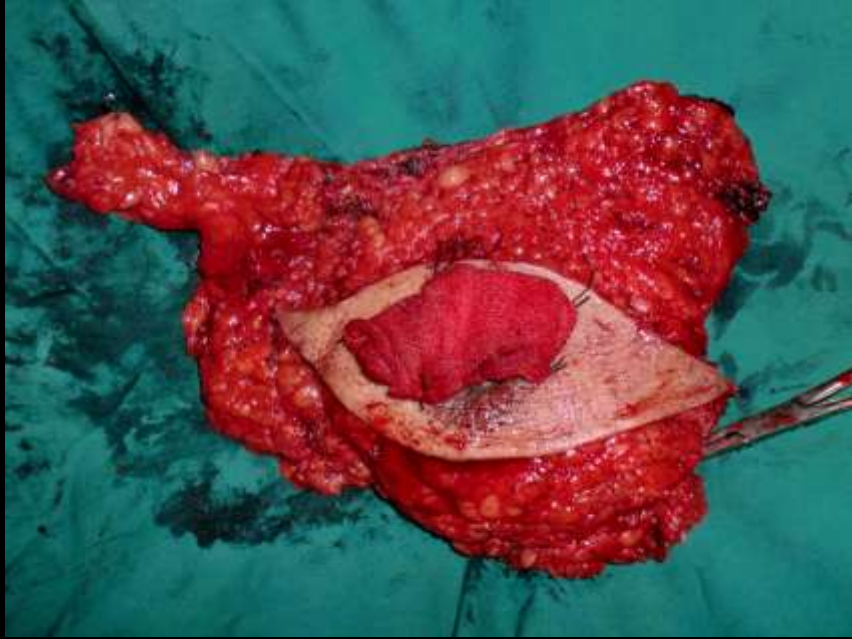
Mastektomi :

- Mastektomi radikal
- Modifikasi mastektomi radikal
- Mastektomi simpel,
- BCT / breast conserving treatment



Modified Radikal Mastektomi





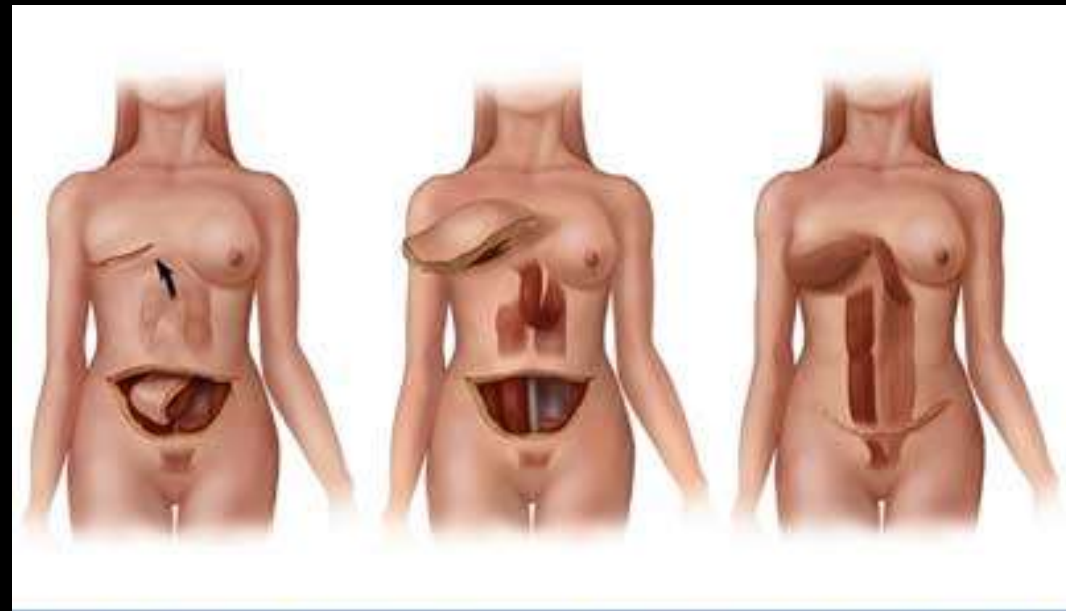
Breast Conserving Surgery (BCS)



TUMOR GANAS



Rekonstruksi payudara



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TRAM Flap



TUMOR GANAS

Pengobatan

- Penyinaran dilakukan untuk membunuh sel-sel yg masih tertinggal
- Dosis 40-50 Gy
- Dilakukan beberapa kali / berulang dalam 3 minggu
- Akibat penyinaran: hitam dan bengkak pada lengan atas

TUMOR GANAS

Pengobatan

- Obat antikanker diberikan untuk membunuh sel kanker
- Diharapkan dpt juga membunuh sel kanker di paru2, tulang dst
- Akibatnya: sel yg normal juga ikut mati → rambut rontok, anemi
- Diberikan per siklus

TUMOR GANAS

Pengobatan

Obat antikanker standard:

- Cyclophosphamide, Methotrexate dan 5-fluoro-uracyl (CMF)
- Cyclophosphamide, Adriamycin dan 5-fluoro-uracil (CAF)

TUMOR GANAS

Pengobatan

- Pemberian hormon pada wanita yg belum menopause dg hormon laki-laki / testosteron dan tamoxifen
- Pada wanita yg menopause diberikan hormon wanita → arimidex (aromatase inhibitor)
- Berguna untuk mengerem pertumbuhan sel kanker yg dipengaruhi hormon

TUMOR GANAS

Pencegahan

- Karena penyebabnya tidak diketahui, belum bisa dicegah dg vaksin
- Menghindari faktor resiko
- Menemukan tumor ganas sedini mungkin, antara lain dg SADARI, mammografi pd wanita resiko tinggi

TUMOR GANAS

Kesembuhan

- Secara teoritis tidak bisa sembuh, kecuali pada tumor dini yg bisa diangkat semua
- Ukuran kesembuhan adalah rata-rata harapan hidup 5 th, 10 th dan 15 th
- Stadium dini harapan hidup 5 th: 90%
- Stadium lanjut harapan hidup 5 th: < 20%

Stages of Breast Cancer



0

Abnormal cells in lining of the ducts or sections of the breast. Results in increased risk of developing cancer in both breasts.

100%
SURVIVAL RATE



1

Cancer in the breast tissue tumor less than 1 inch across.

98%
SURVIVAL RATE



2

Cancer in the breast tissue tumor less than 2 inches across. Cancer may also spread to auxiliary lymph nodes.

88%
SURVIVAL RATE



3

Tumor is larger than 2 inches across with extensive spread to auxiliary or nearby lymph nodes. Possible dimpling, inflammation or change of skin color.

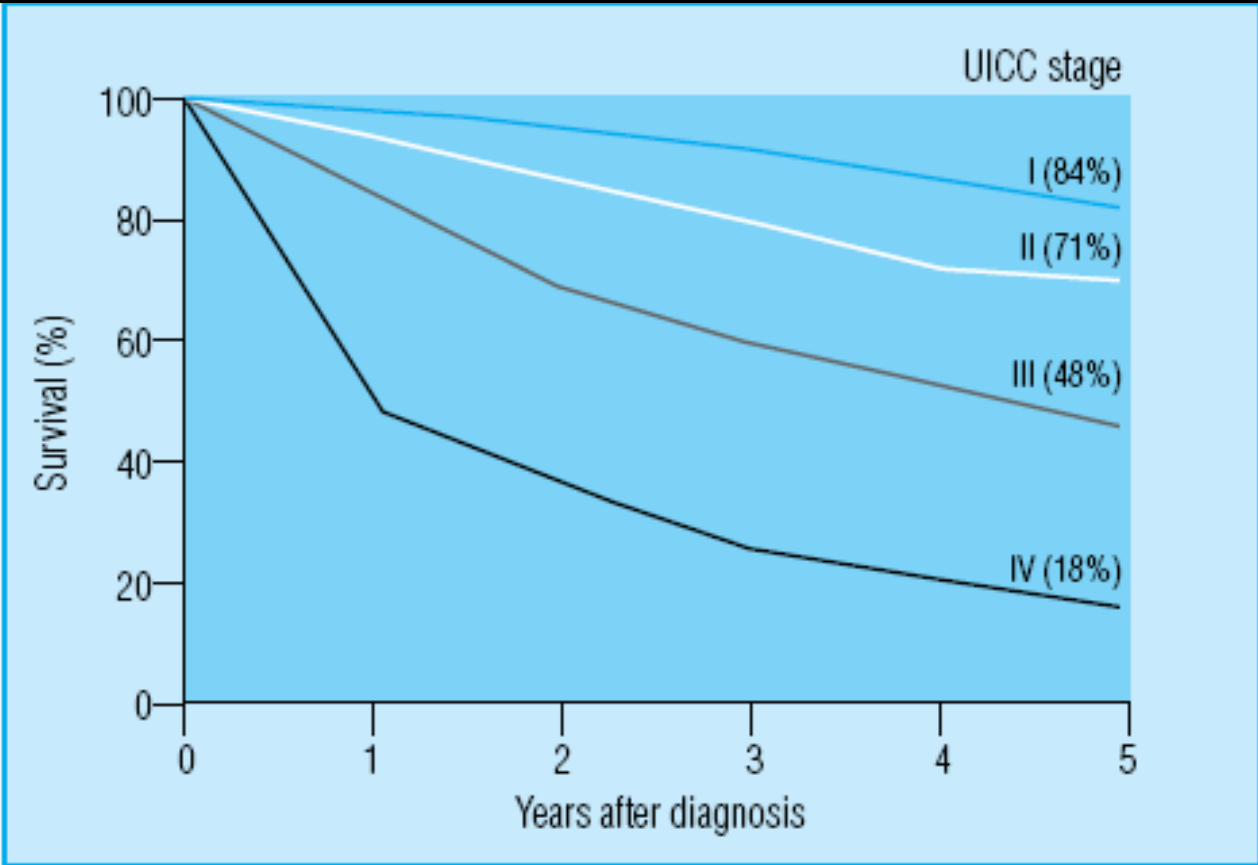
52%
SURVIVAL RATE



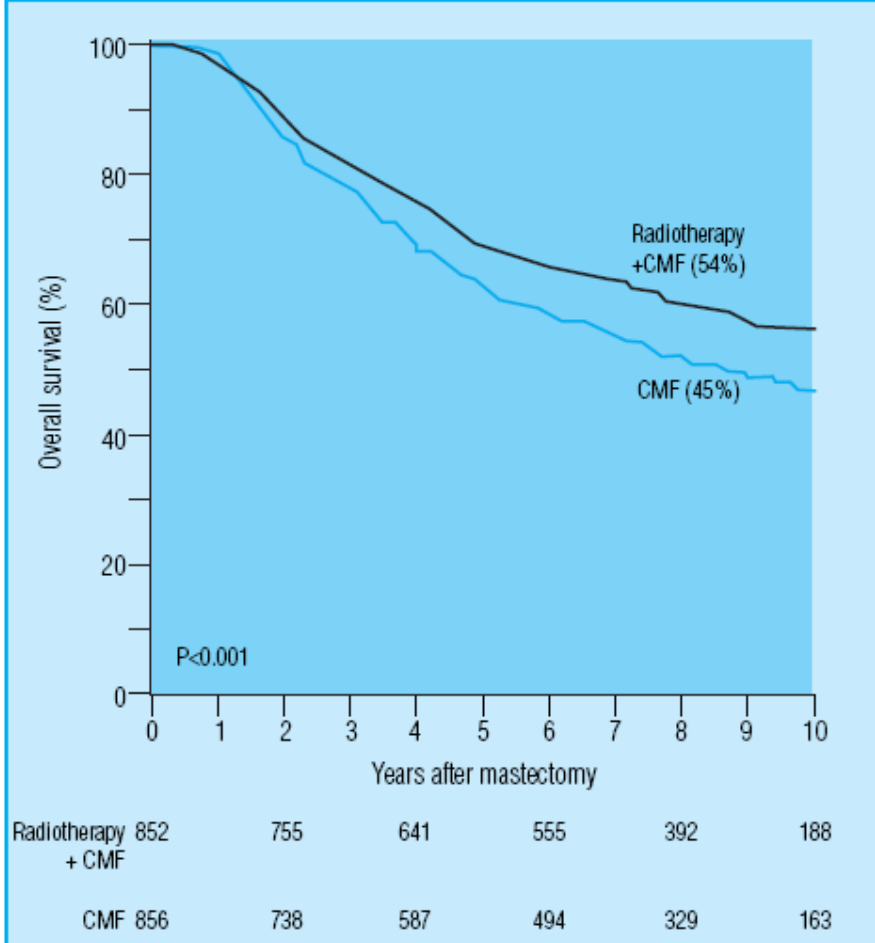
4

Spread of cancer beyond the immediate region of the breast.

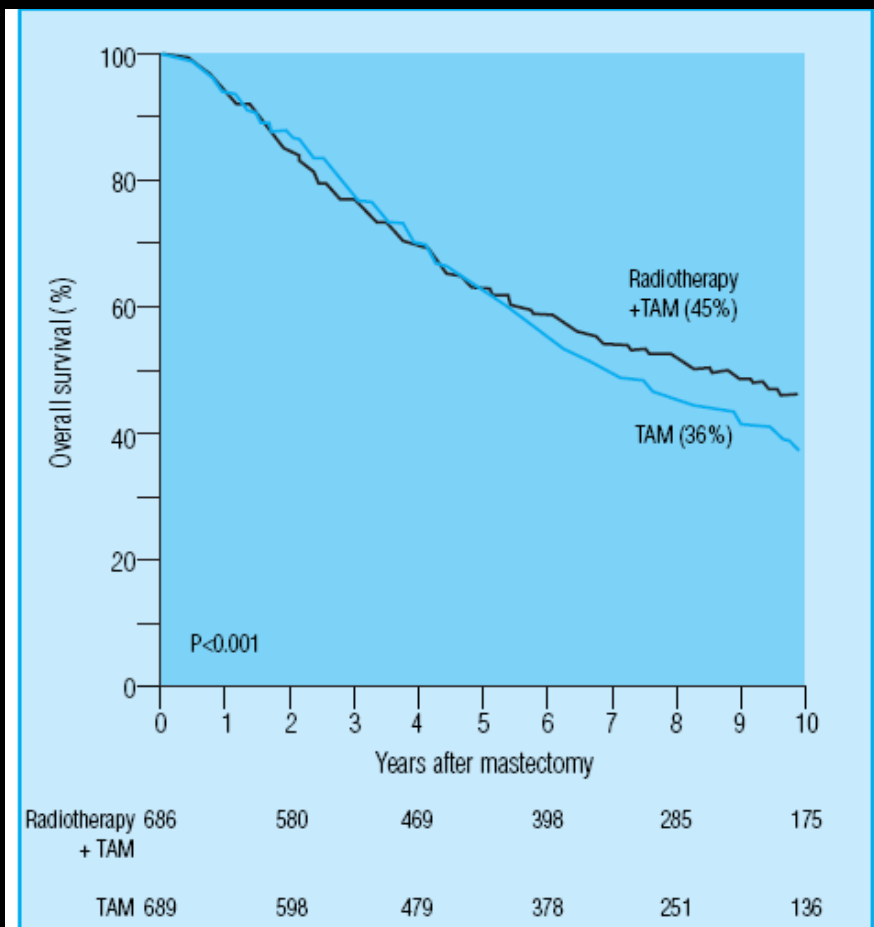
16%
SURVIVAL RATE



Survival associated with invasive breast cancer according to stage of disease



Survival results in the Danish Breast Cancer Cooperative Group trial 82b comparing CMF (cyclophosphamide, methotrexate, 5-fluorouracil) chemotherapy and radiation therapy to chemotherapy alone in premenopausal patients treated with mastectomy



Survival results in the Danish Breast Cancer Cooperative Group trial 82c comparing tamoxifen (TAM) and radiation therapy (RT) to tamoxifen alone in postmenopausal patients treated with mastectomy

QUESTIONS & DISCUSSION

