

# MESOTHELIOM

benign/	lokal (plauralt fibrom)
malign/	diffus

”Benektet” : ”Sekundære carcinomer”  
(Robertson, 1924)

”Alveolært- cellecarcinom”  
(Willis, 1953)

Akseptert:

Plaurale mesotheliomer (1960)

Tumor på serosaoverflater,  
plaura, peritoneum,--

Økt hyppighet

Assosiert med asbestpåvirkning

Gruvearbeidere i Syd-Afrika

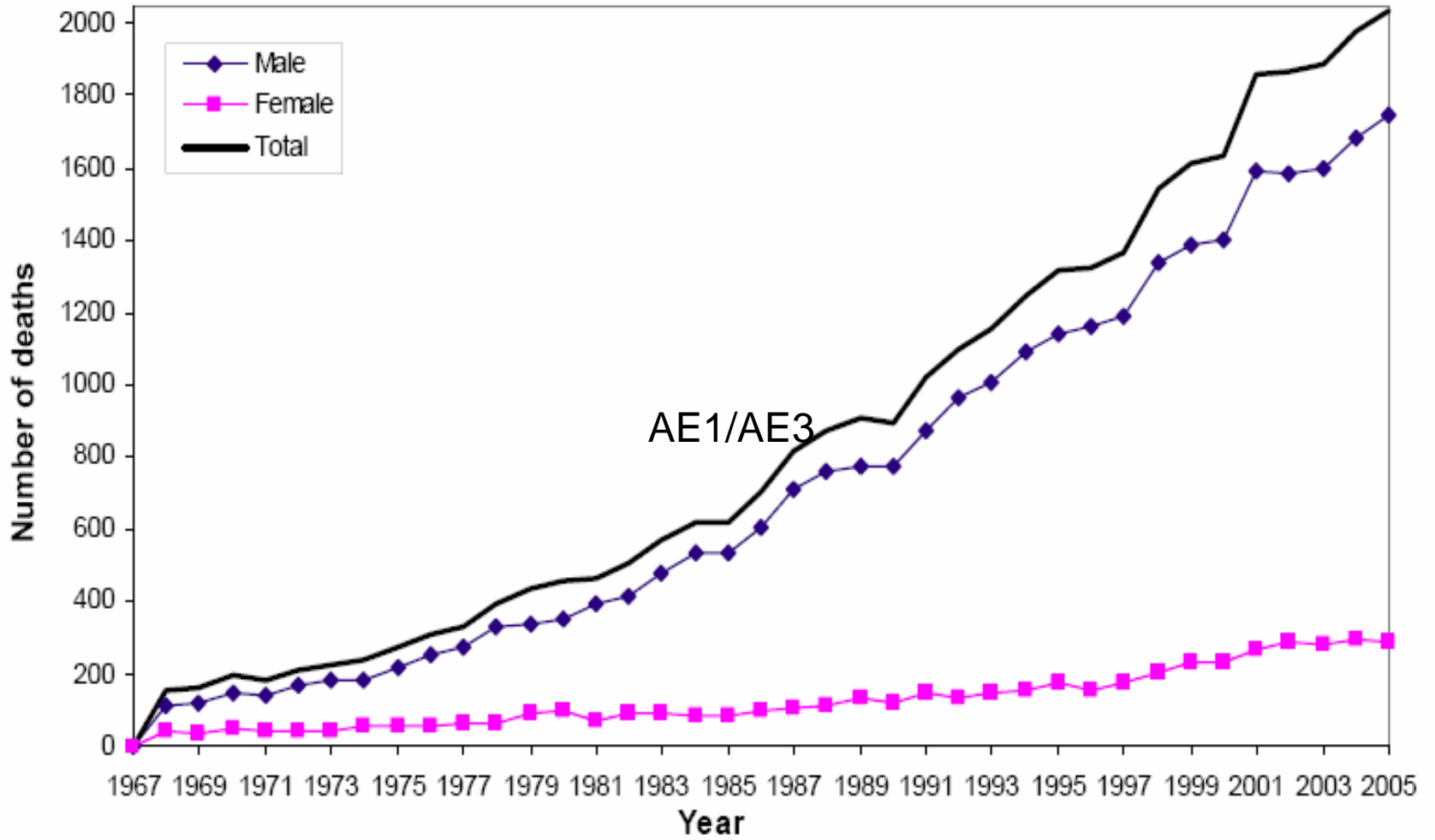
(Godwin, 1957) (Mc Caughey, 1958)

(Wagner, 1960)

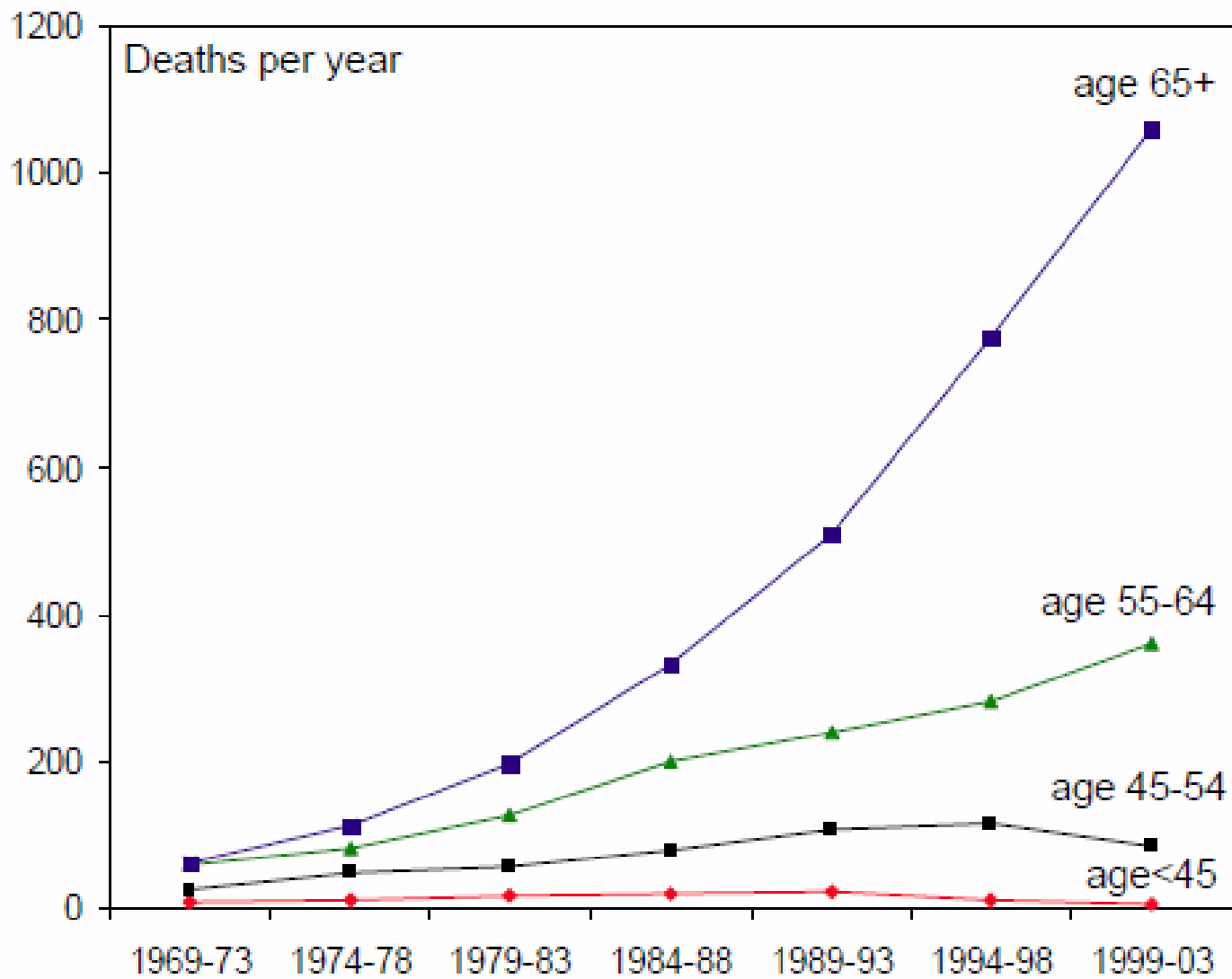
Vest-Europa, Nord-Amerika, Australia

Kontakt med Crocidolite- Asbest

Også viktig økonomisk for familien!



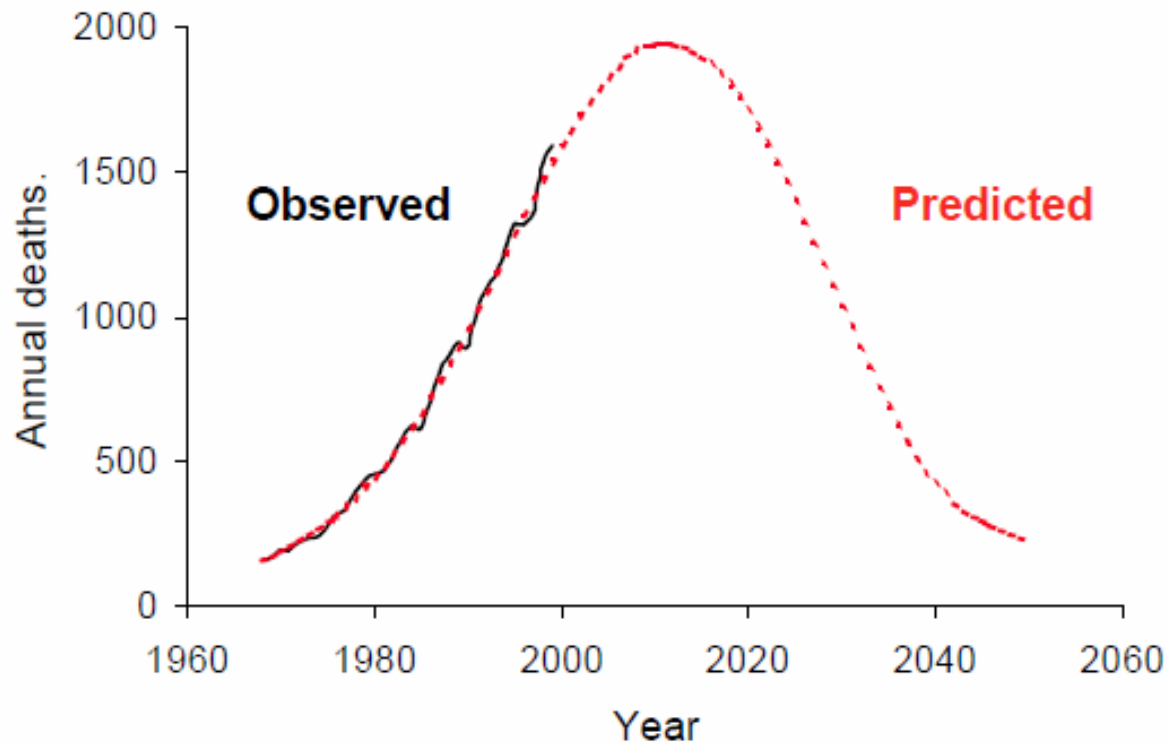
## British male mesothelioma deaths since 1969



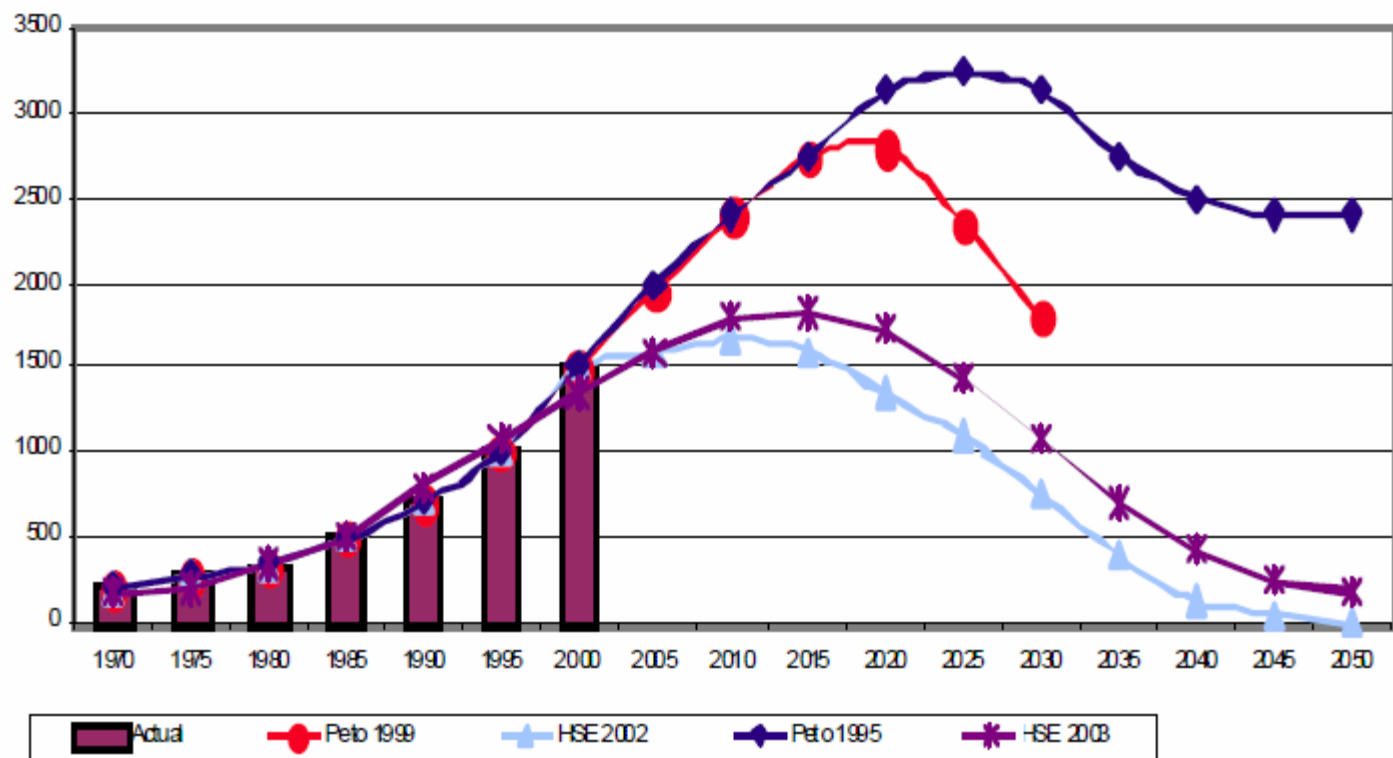
# 30,000 deaths already and a further 60,000 by 2050

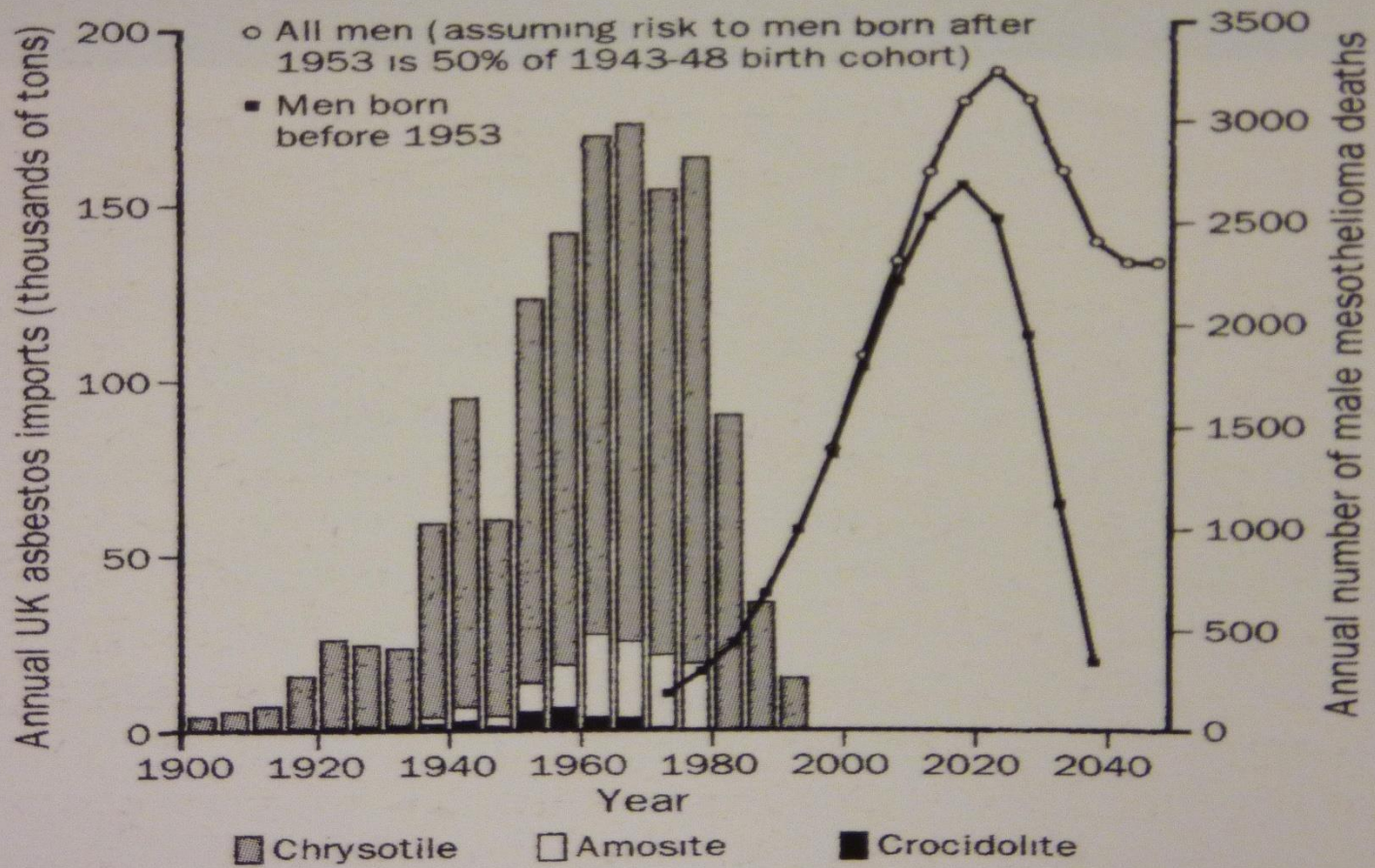
Male mesothelioma deaths in Britain and predicted numbers based on new HSE model

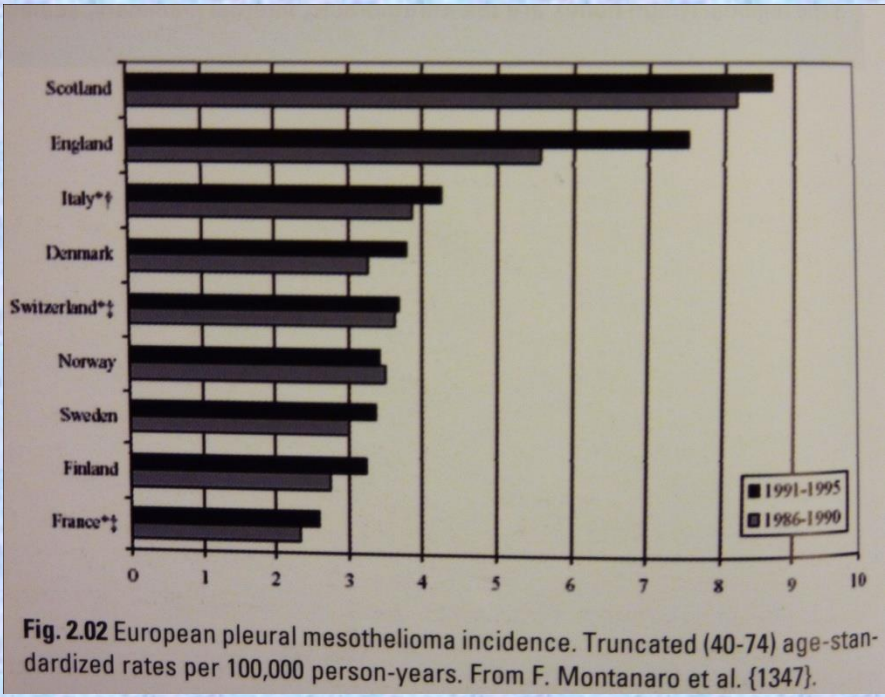
Hodgson et al (2005) Br J Cancer 92: 587-93



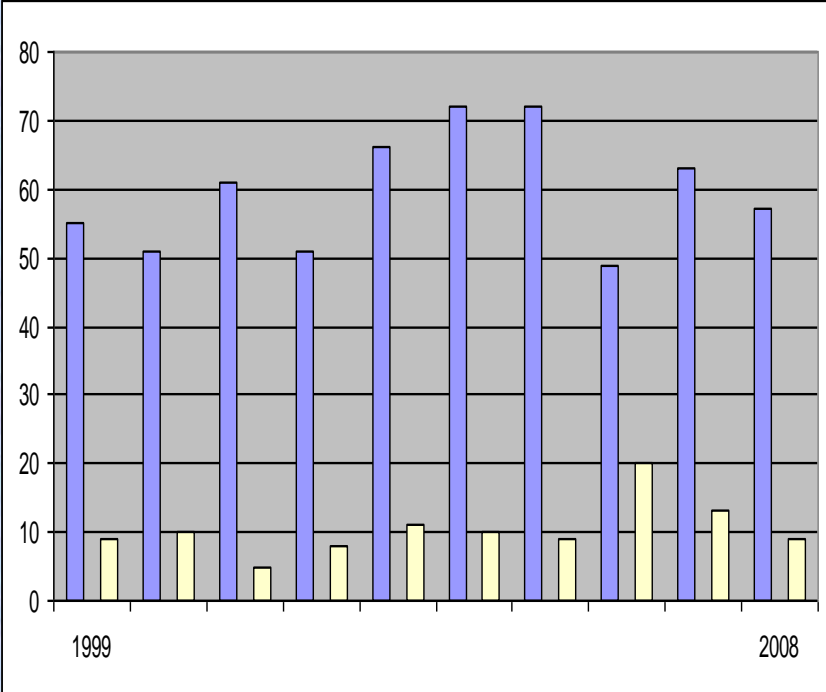
# Mesothelioma – projected male deaths to 2050







# Norge, menn og kvinner





# Etiologi

**Eneste cancer med unik og klar link til en enkel  
Eksponering ! !**

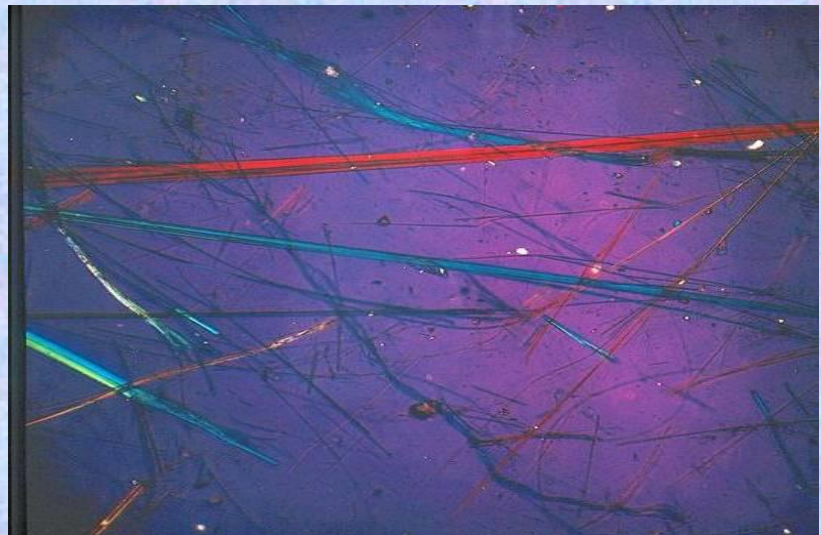
Asbestos (amphibole)

Non-asbestos mineral fibres – erionite

Radiation

Chronic inflammation

Virus (SV40)



Diagnose:

Rtg.

”Frozen chest”

Cytologi

**Histologi**

Yrkesanamnese

Thoracotomi (Laparotomi)

Crocidolite:  
"Blue asbest"



Chrysotile:  
Hvit asbest. Mest brukt, "minst farlig"



Amosite:  
Brown asbest



**Crocidolite** (Cape blue asbestod)

Kumuran/ Cape provinsen

90% av plaural, Peritoneal mesotheliom

**Amosite** Sjelden årsak

**Chrysotile** "Ikke tumorfremkallende"?

Tremolite, farligst



Crocidolite

Amosite

Chrysotile

Actinolite

Anthophyllite

Kontakt 20-40 år før tumor

Asbestindustri

Dokkarbeidere

Selgere av asbestkomponenter

Boligområder i nærheten

Ca. 40% av obd. I USA – funnet  
asbestoselegemer

Ofte nær diagfragma- først  
Plauraoverflate/ sammenvoksning

Plauraeffusjon/ hemorrhagisk

Tykk, fast, hvit "plaura"

Sammenpresser lungen

Pericard

Motsatt plaura

Metastaser, sent

L.k., regionalt

**Hjerne**

Ben

Lever

Lunge

Invaderer ofte opr.-/ biopsiområdet

Hematogene metastaser



Plaura/ ikke lunge– hvorfor??

Asbestfibre- trofisme for mesothelialt vev?

Røykoing, adjuvant faktor?



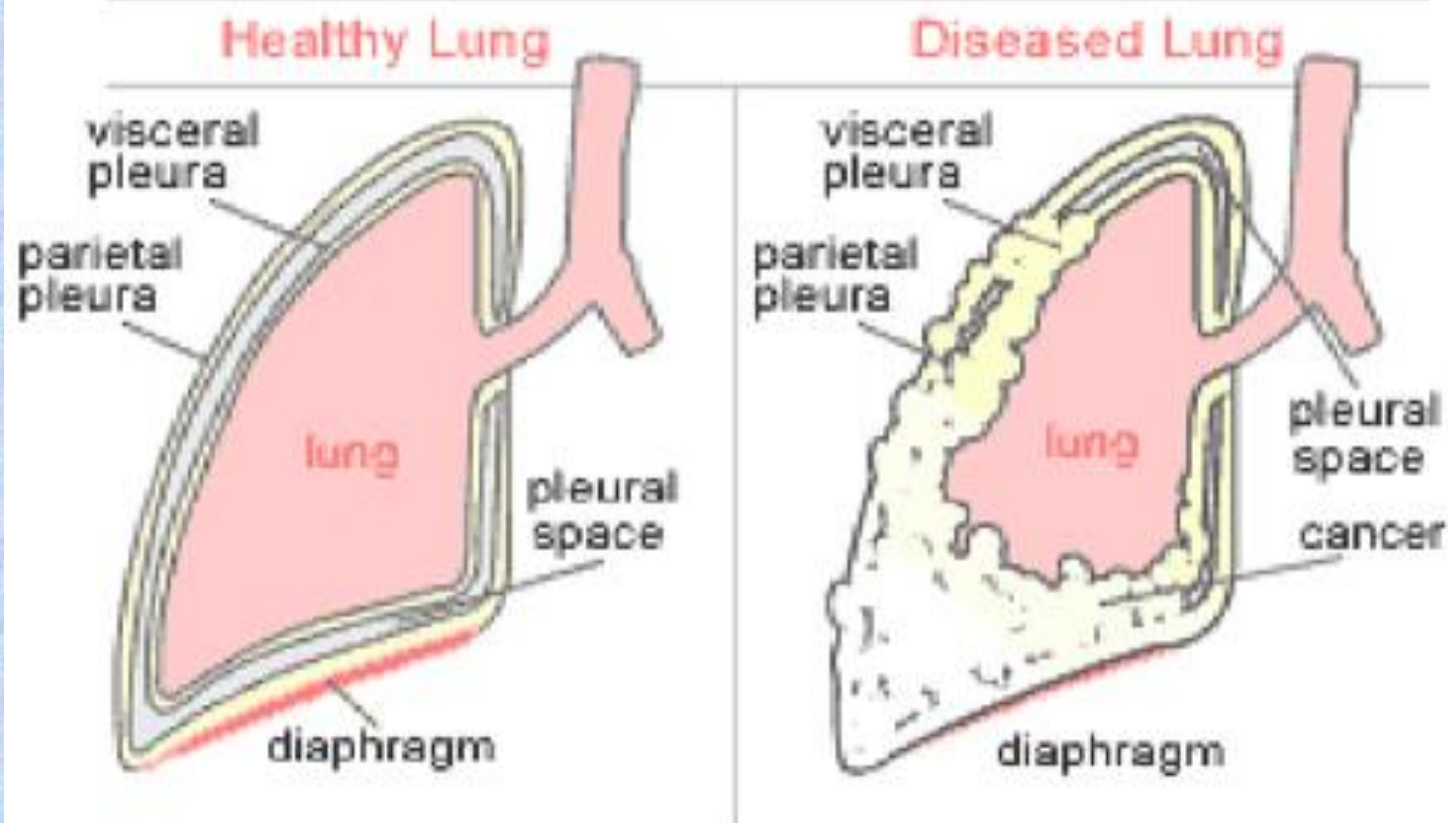
Asbestfibre migrerer av respirasjon- bevegelser?

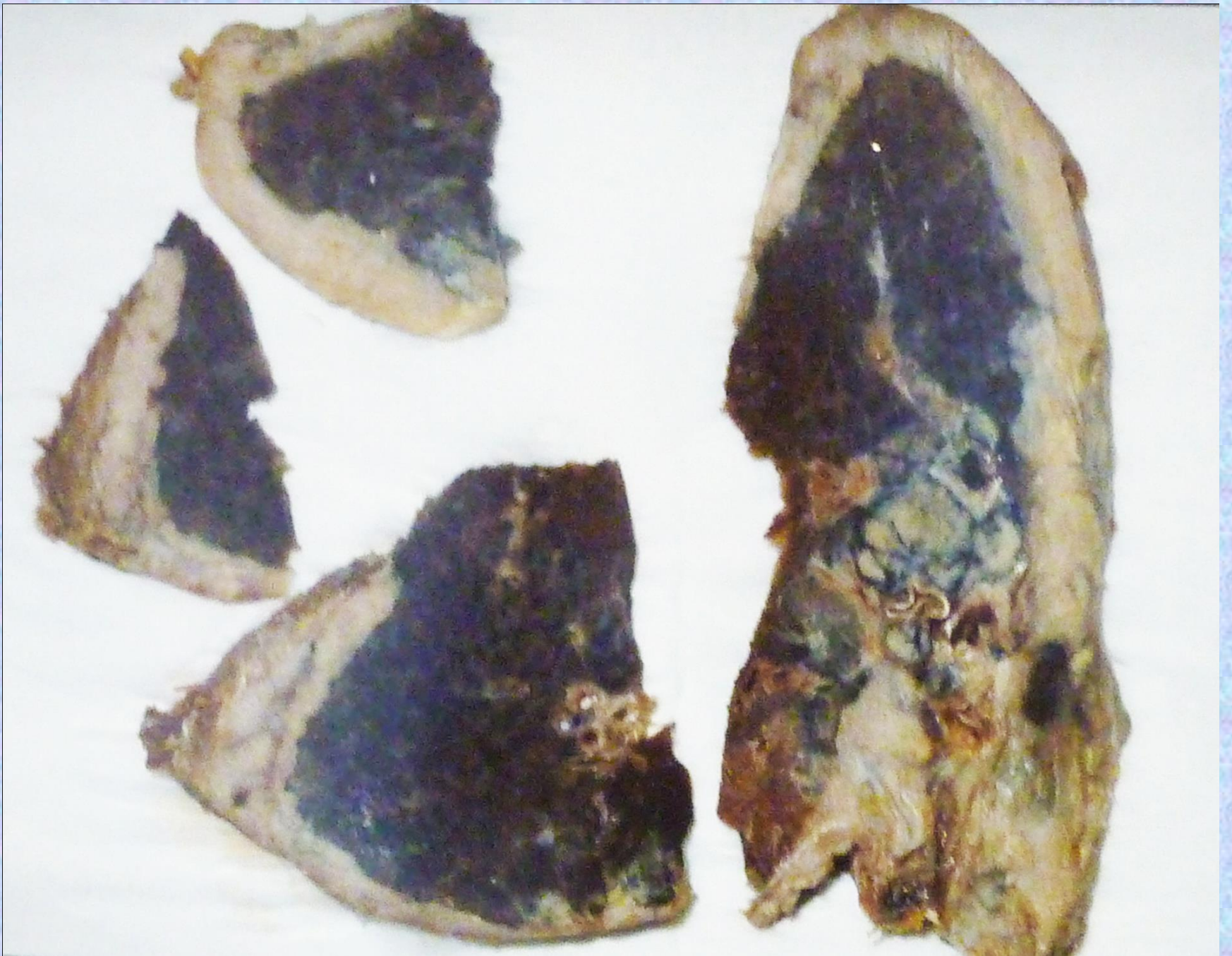
Asbestfibre

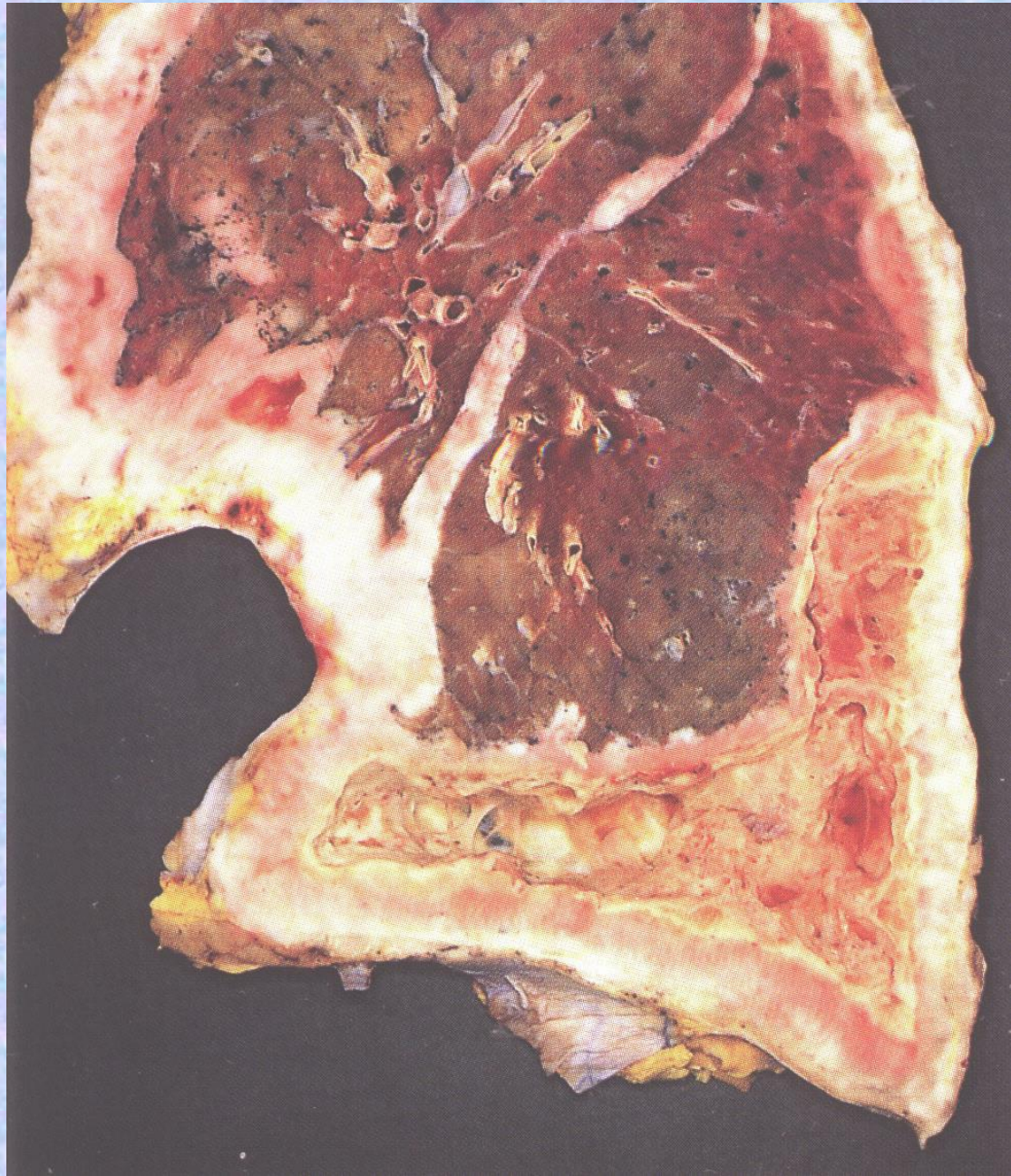
Uvanlig i plauraplaque

Sjelden i mesotheliom

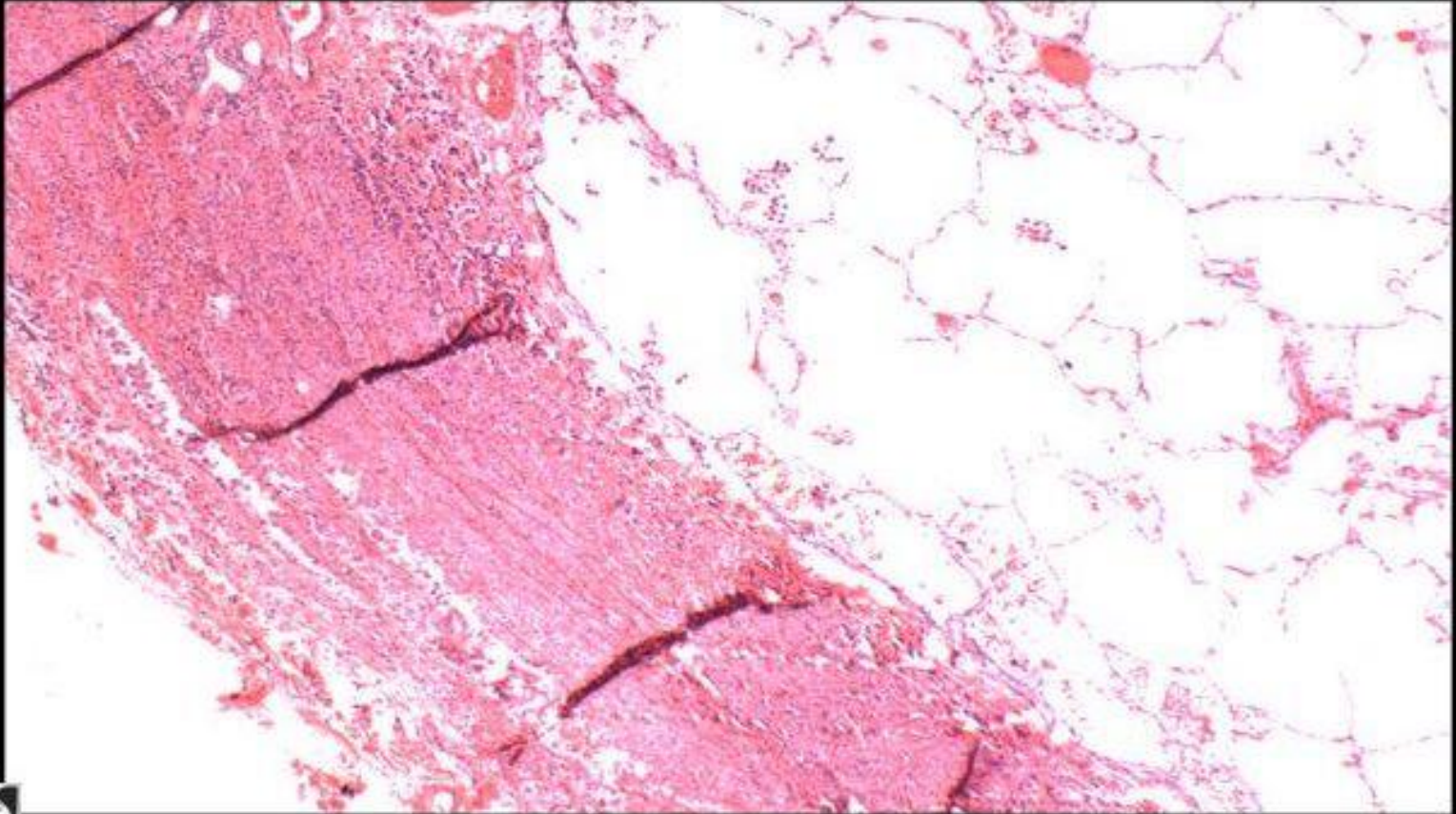
## Pleural Mesothelioma



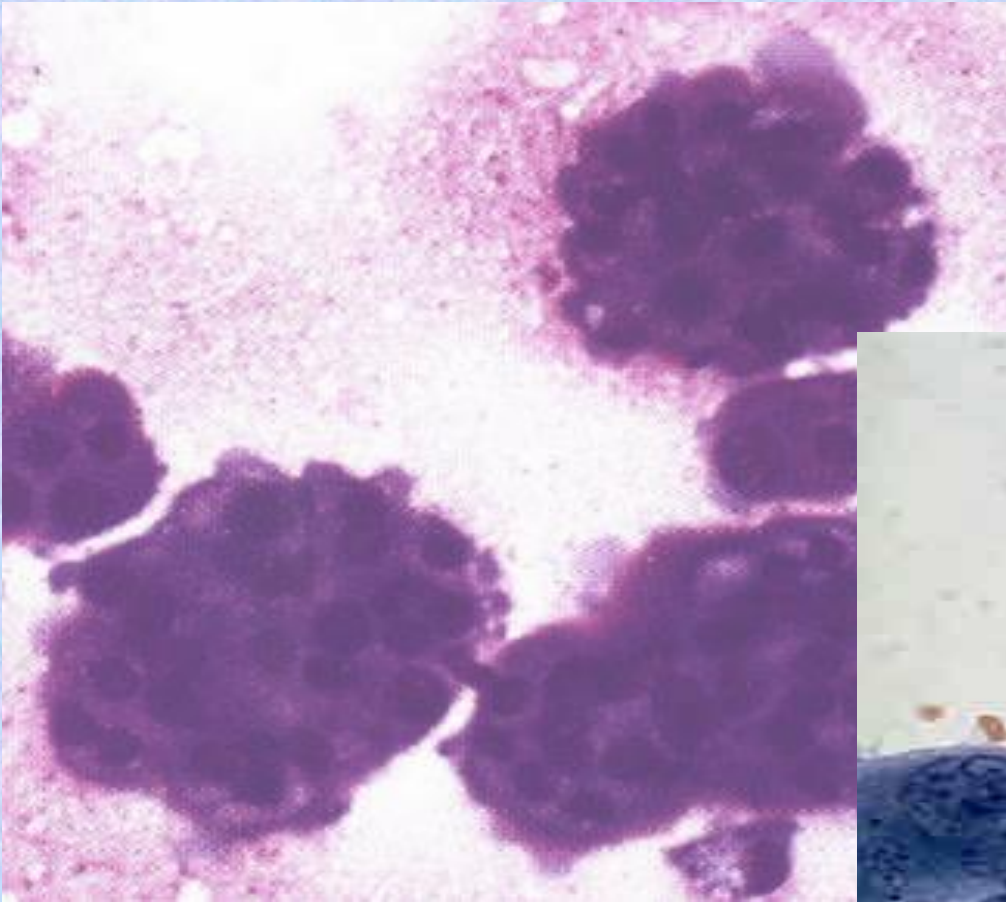




# Pathology Low Power



# Cytologi



## Hovedtyper:

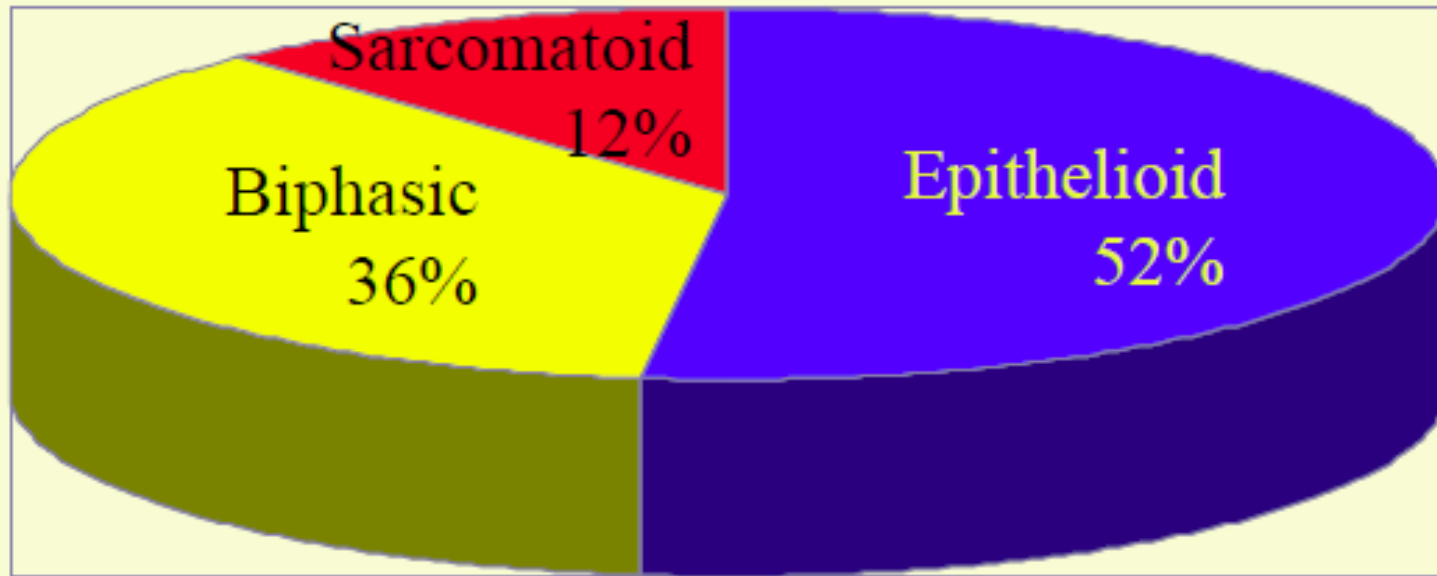
1 Monofasisk epitel

2 Monofasisk sarkomatøs

3 Bifasisk=

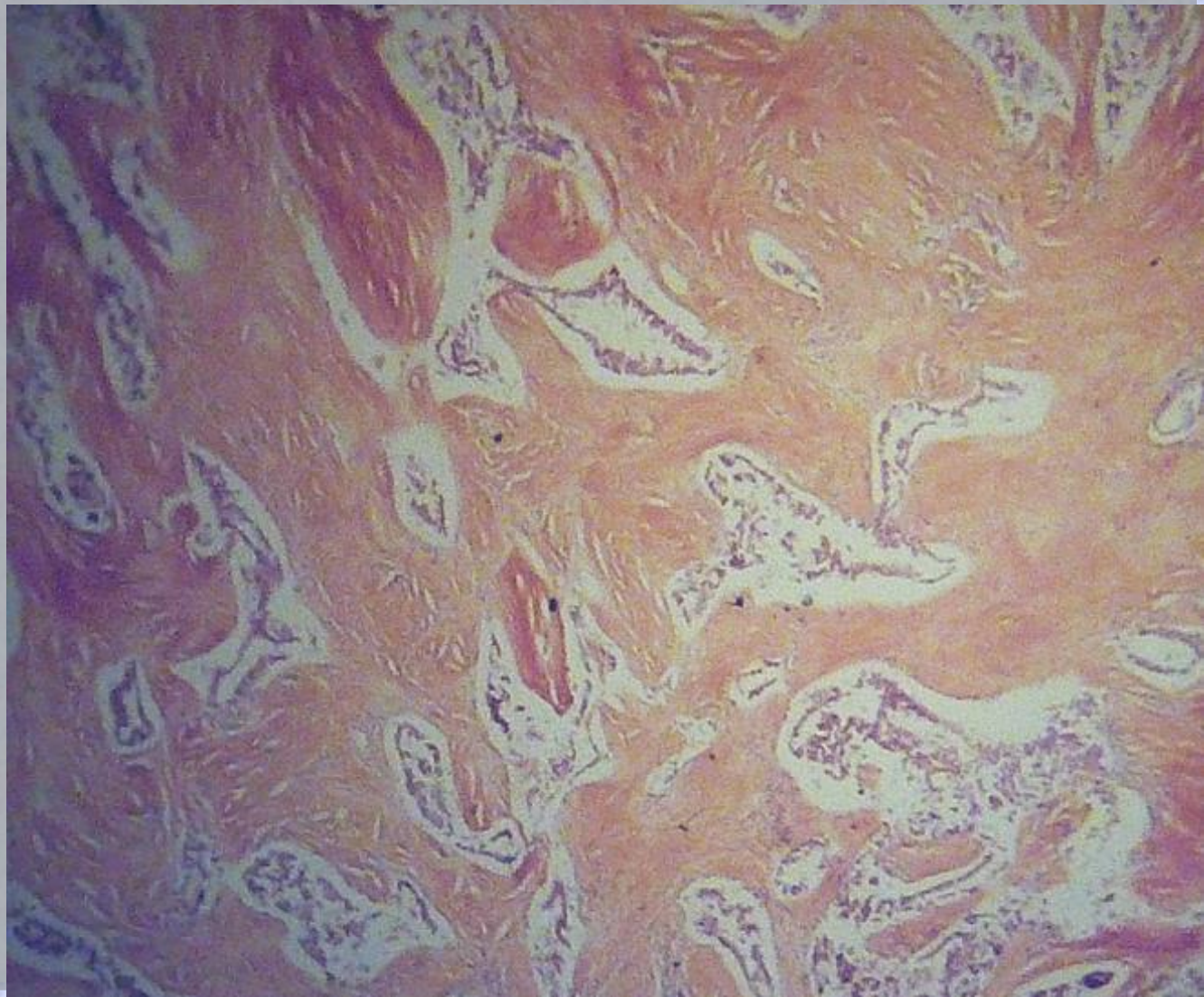
Blandet epitel/ sarkomatøs

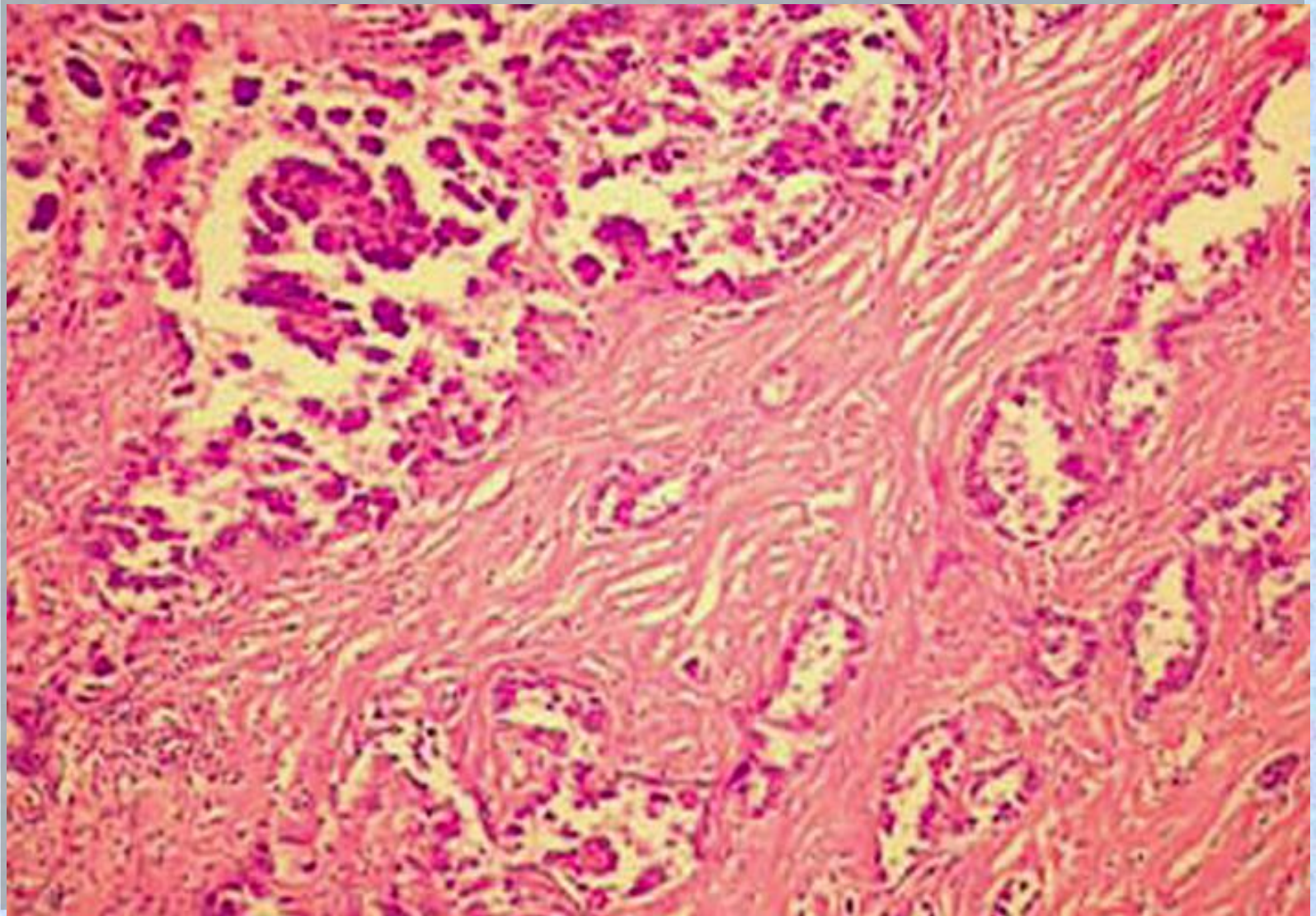




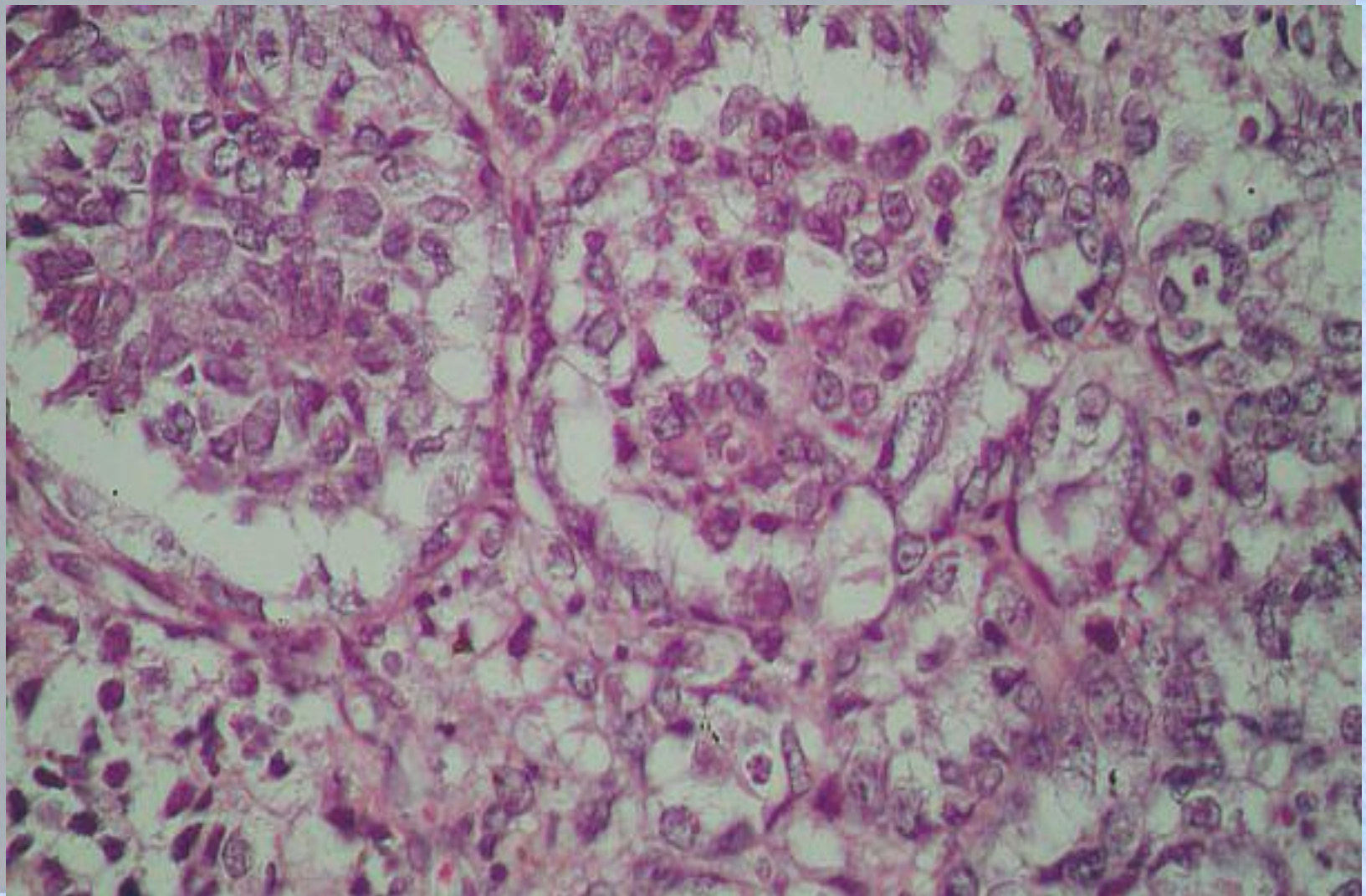
Epithelioid  
Sarcomatoid  
Biphasic (mixed)



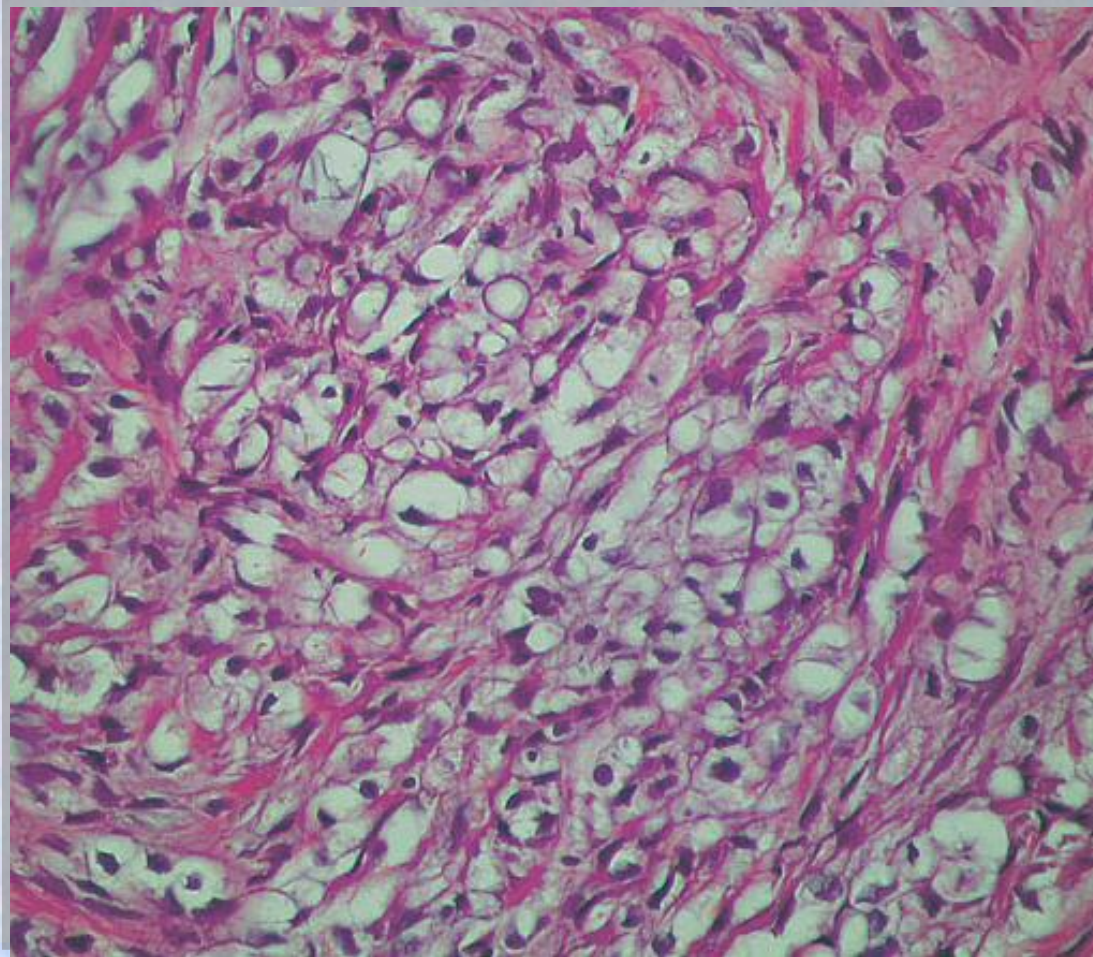




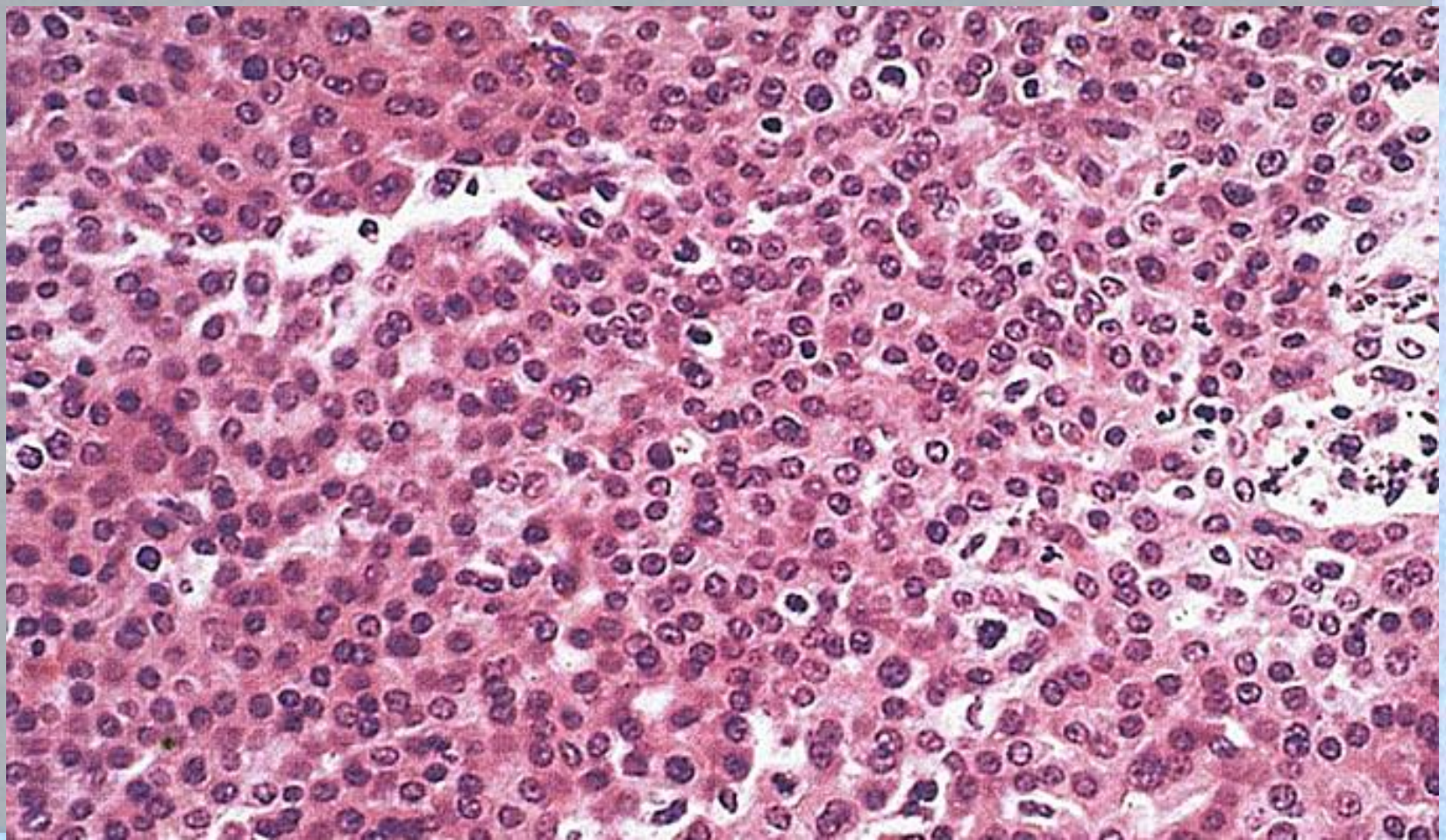
# Tubulopapillært



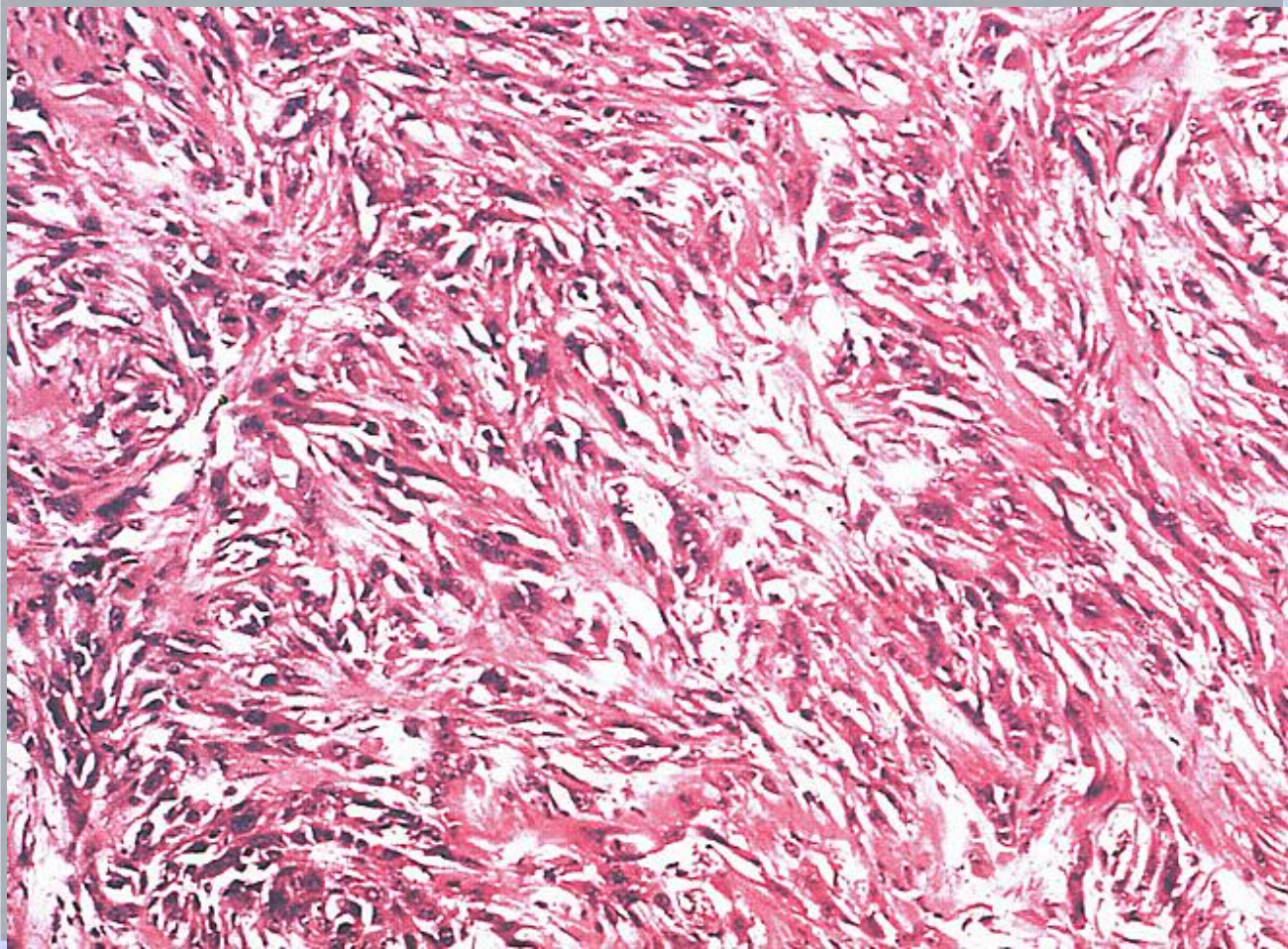
# Signet ring



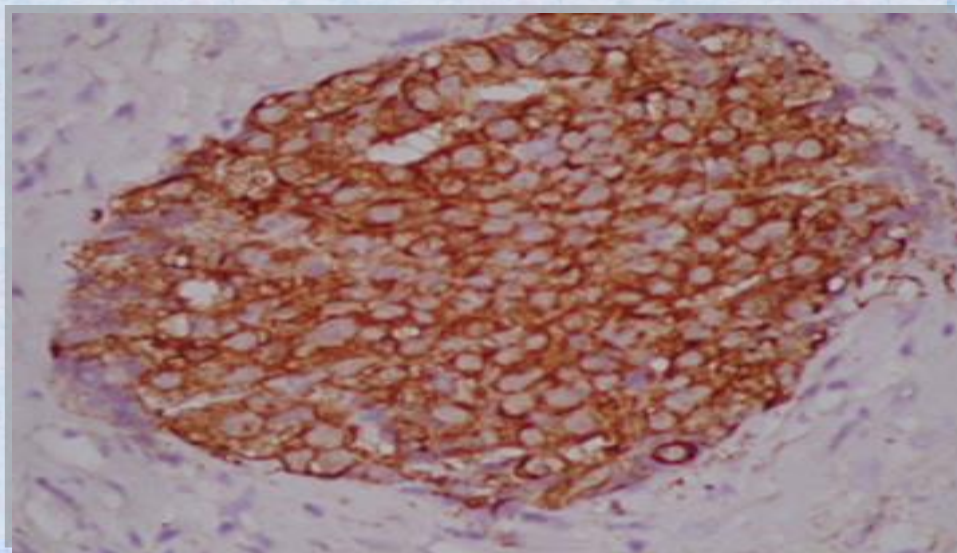
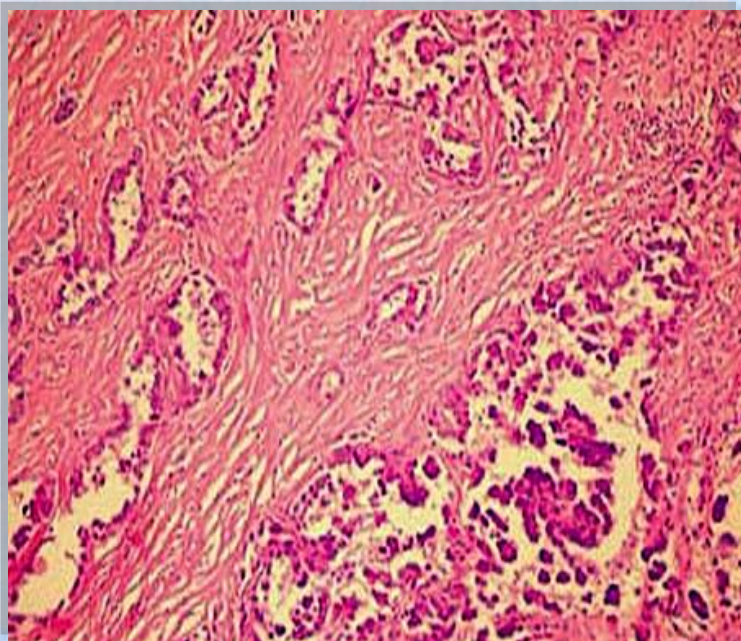
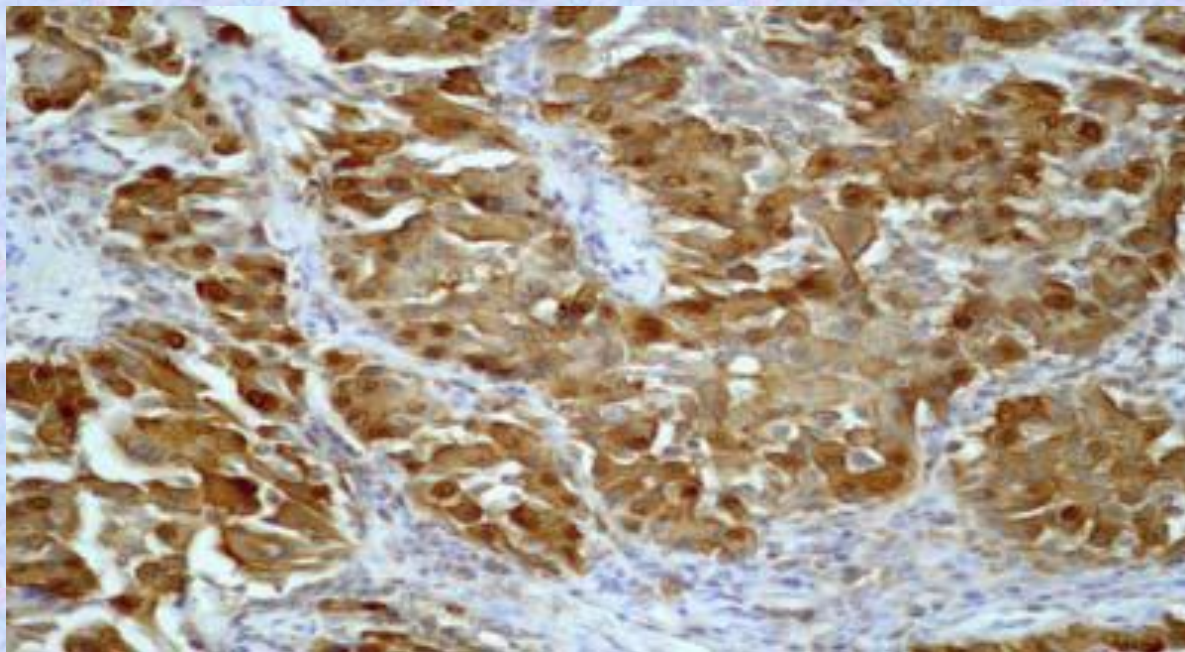
# Småcellet



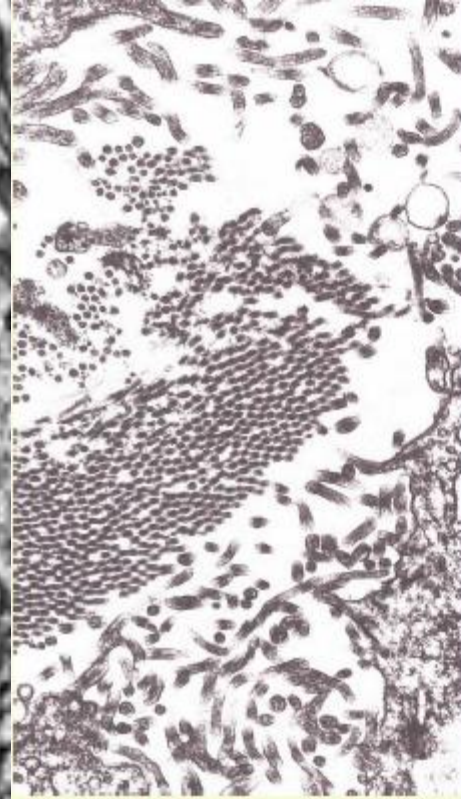
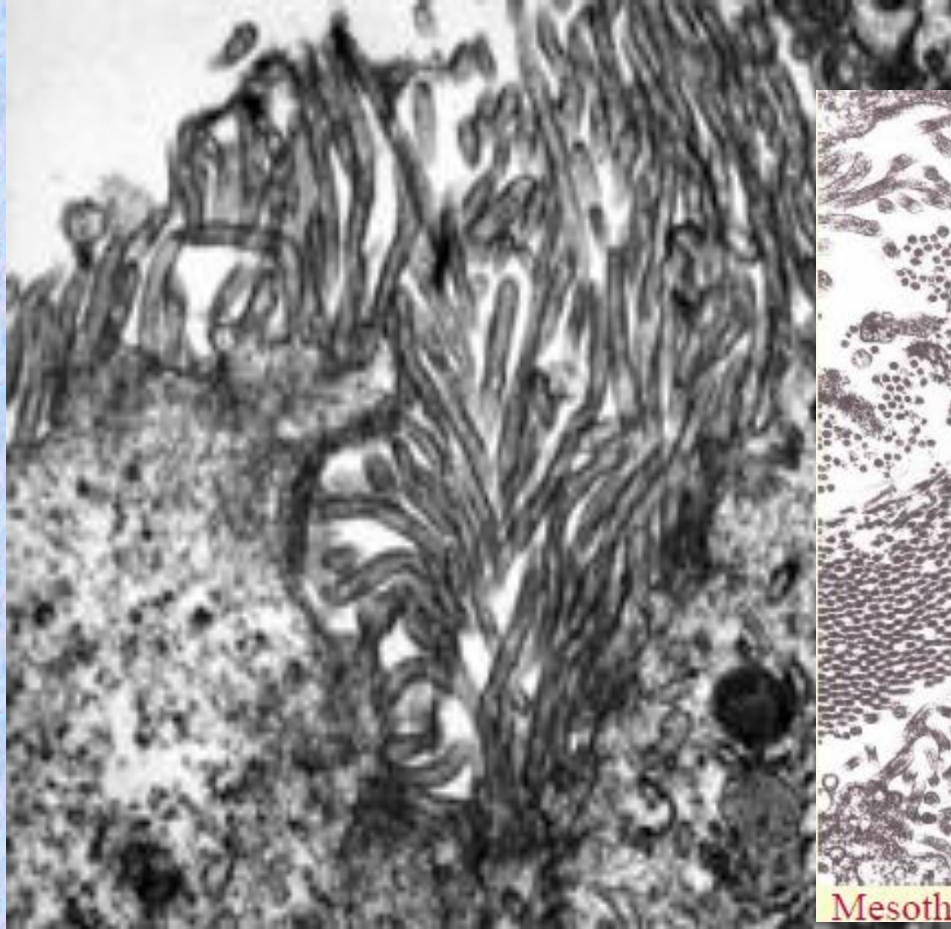
# Sarkomatoid



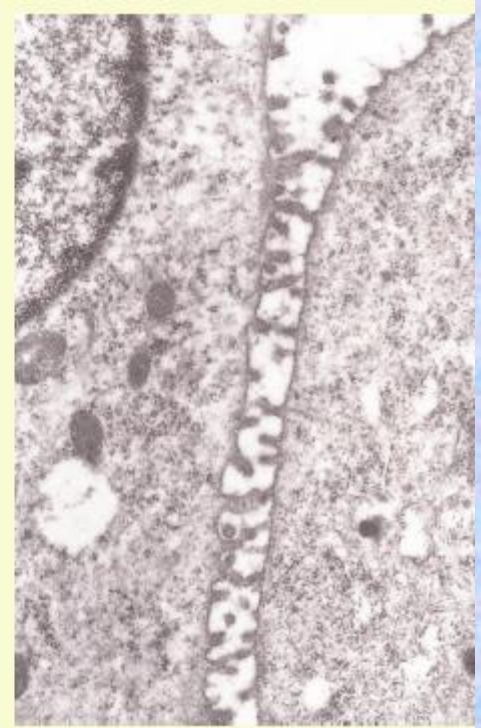
# Calretinin



# EL: Lange, slanke microvilli



Mesothelioma



Adenocarcinoma



DD

Sarkomatoid type V andre sarkomer  
fibrose

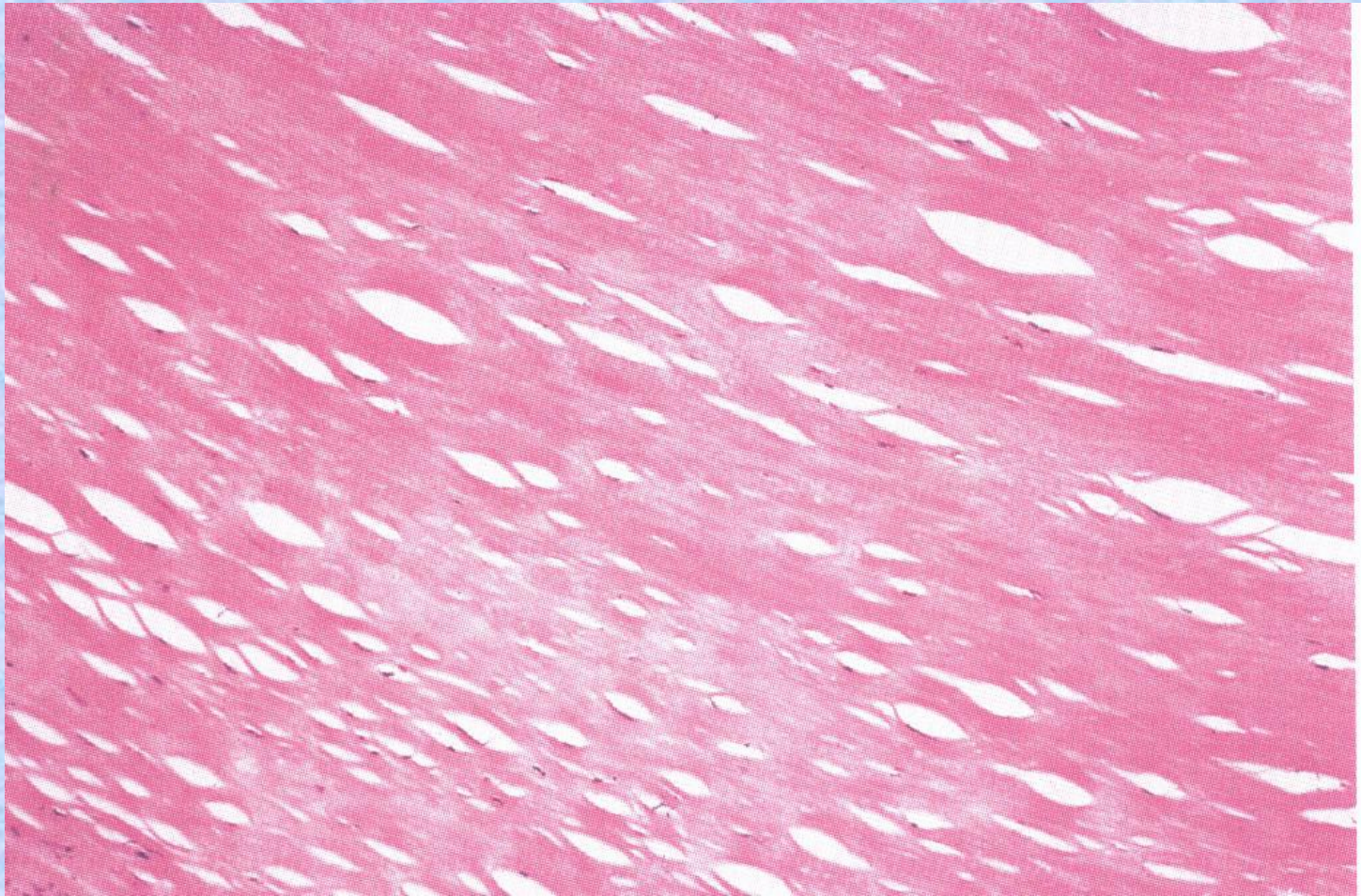
lokalisert fibrøs tumor

Mesotheliom V adenokarsinom

Mesotheliom V reaktive mesothel

Bifasisk V synovial tumor,  
carcinoma-sarcoma

# Arr, fibrose. Plaque



# **Immunhistokjemi**

**Pos.: Calretinin, AE1/AE3**

**Cytokeratin**

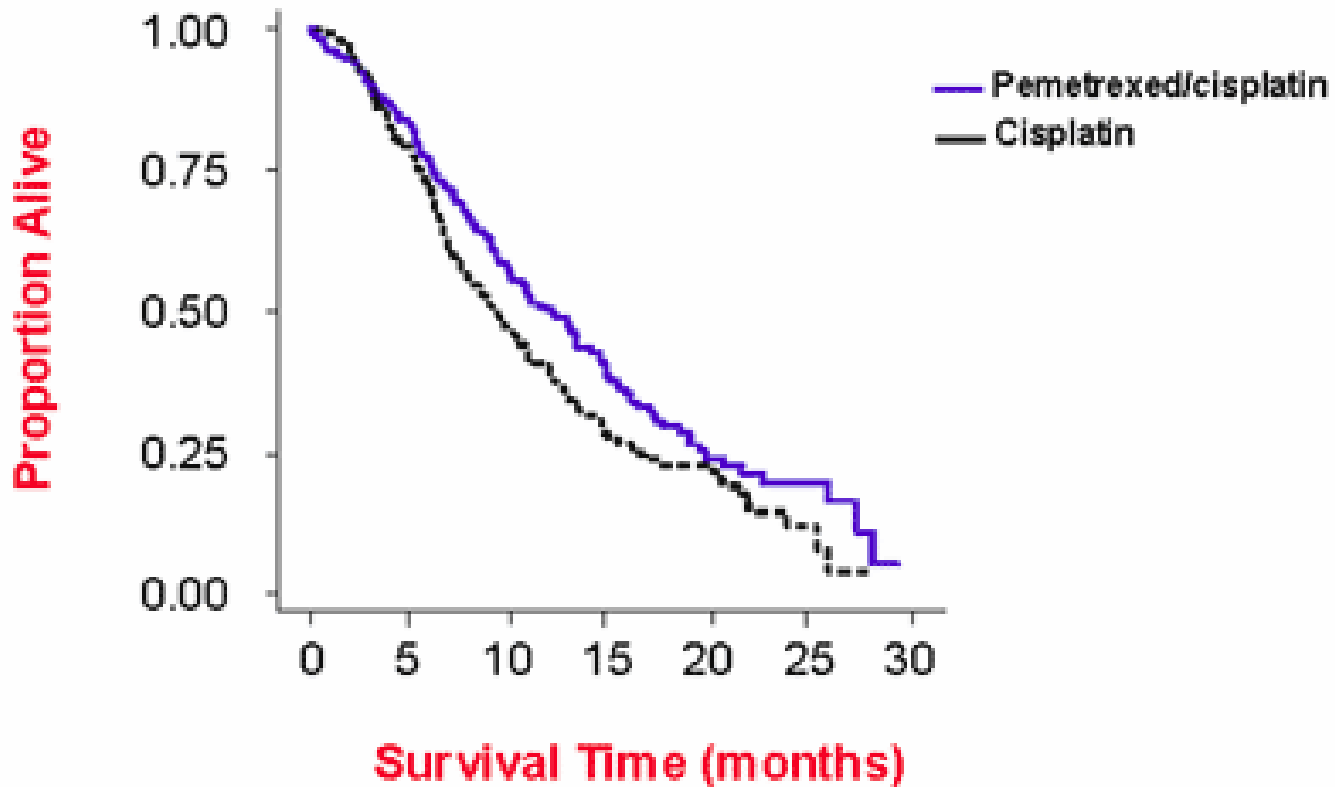
**EMA, WT1, 5/6, HBME-1,**

**Mesothelin**

**Neg.: CEA, TTF-1, BG8**

**EM mikroskopi**

Ca. 50% dør < 1 år etter diagnosen  
Ca. 10% lever > 5 år



Vogelzang NJ, et al. J Clin Oncol. 2003;21:2636-2644.

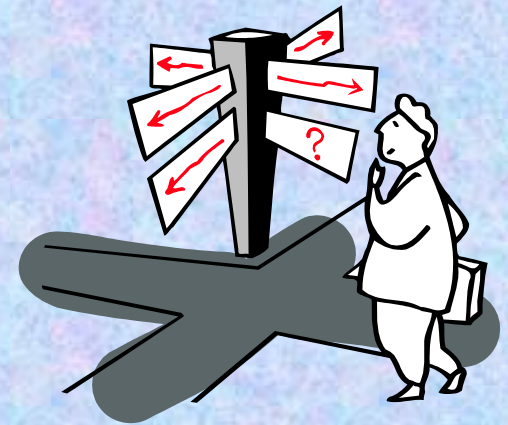
# Behandling:

Kir., Rtg., Med., Immun., Gen, ---dårlig

*“I have never seen a patient with (a histologically secure diagnosis of) malignant mesothelioma who has been cured.....”*



***Unngå asbest!***





”Hvis det er mistanke om en slik årsakssammenheng, kan det fremmes krav om yrkesskadetrygd og -erstatning på lokale trygdekontor”. (“Før mors”)

Kirurgisk skandinavisk senter i Danmark.  
Kan henviser pasienter!