



*Finnålsaspirasjon (FNAC)
for diagnose av bl. a. svulster*

Historie >100 år

(Exfoliativ cytologi –siste 50 år)

Cytologi

1930- årene: Martin- USA

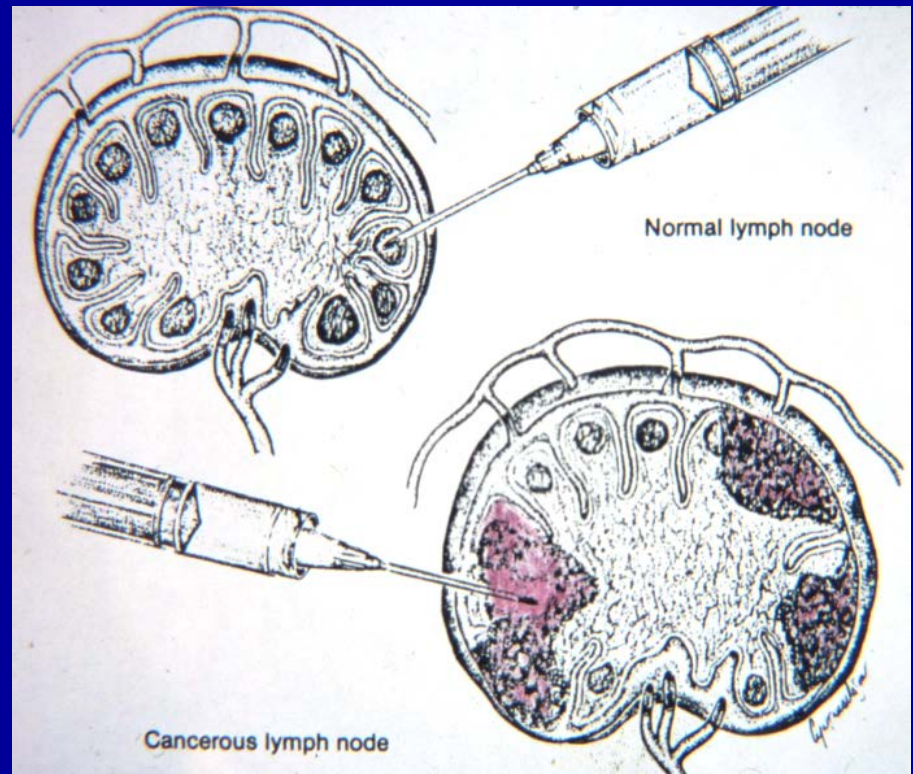
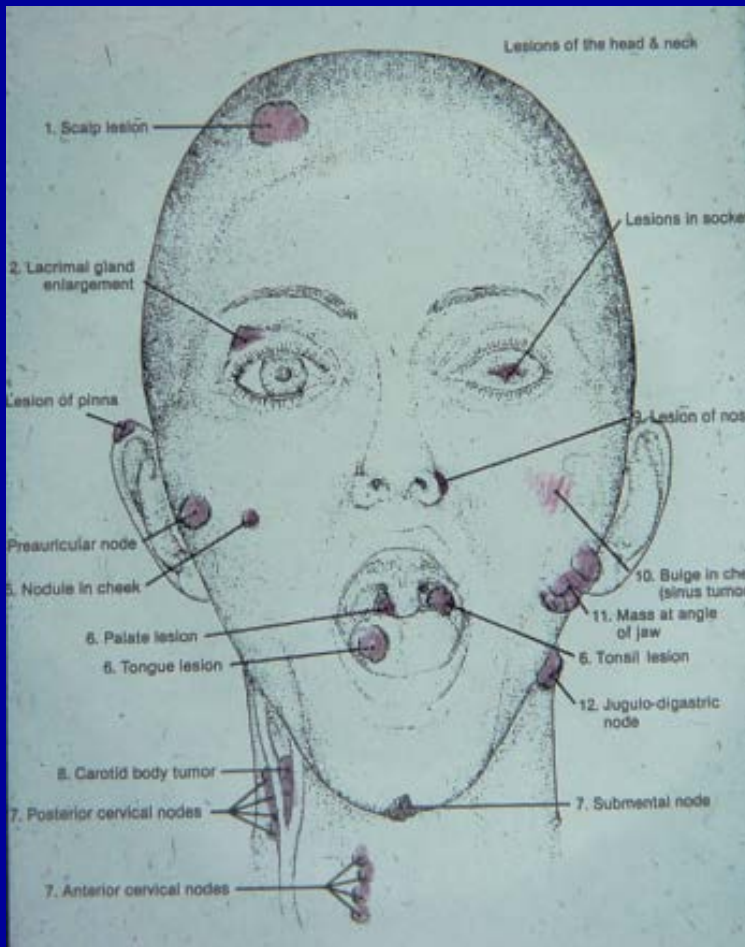
1959-1960: Søderstrøm, **Franzen**,
Zaijek- Stockholm

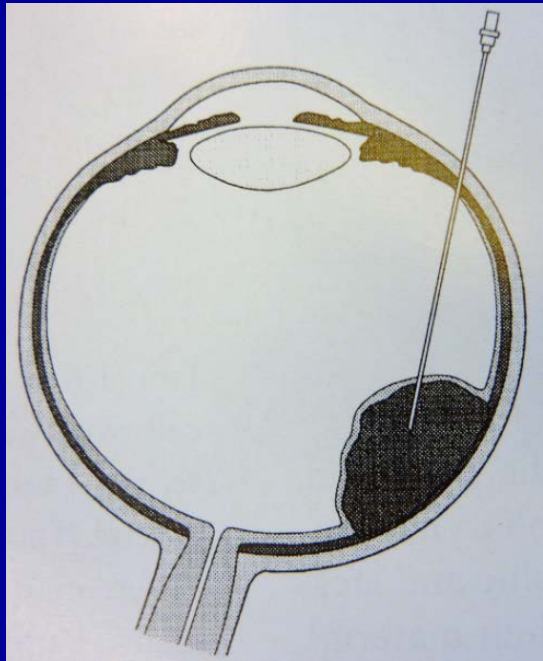
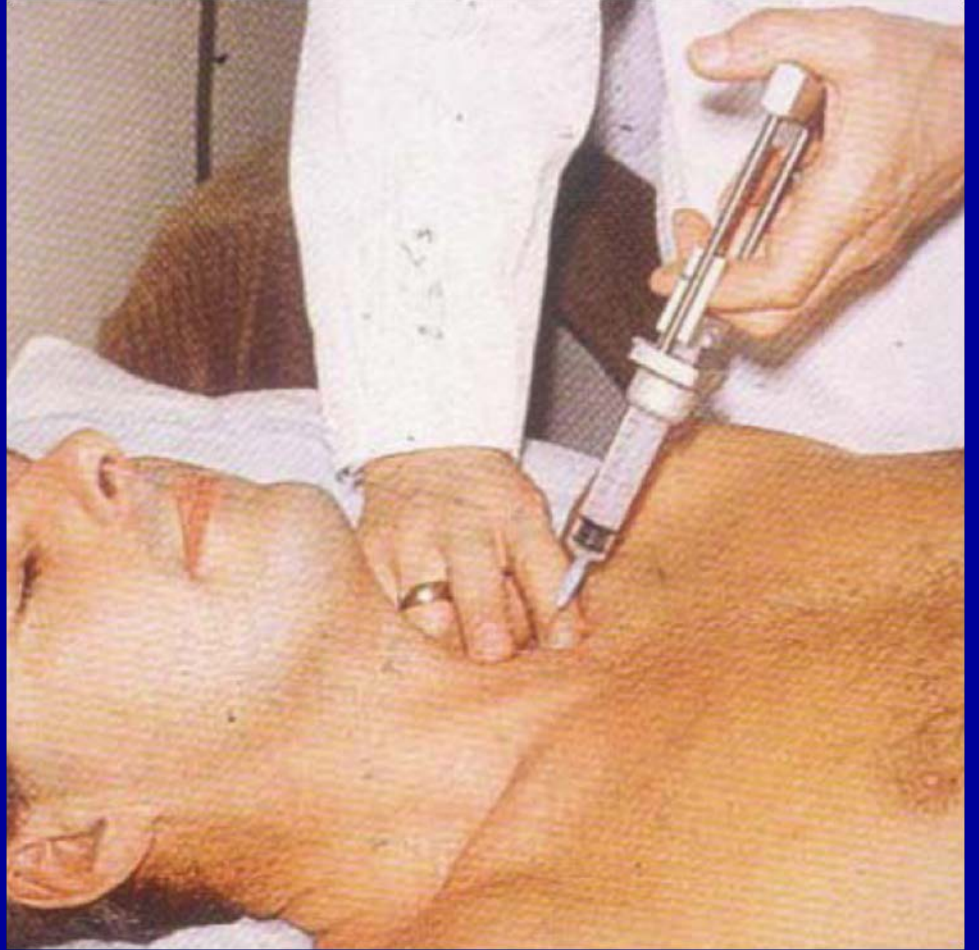
1970- årene; "Ny vår"

- Hurtig
 - Enkel teknikk
 - Atraumatisk
 - Billig
 - "Ikke komplikasjoner"
 - Kan lett utføres på nytt
-
- Må ha erfaring!
 - Må ha kliniske data



”Nærmest alle steder”





Egnede lokalisasjoner

Palpable/ synlige lesjoner i:

- Lymfeknuter
- Gl. thyroidea
- Gl. parotis og submandibularis
- Munnhule/ svelg
- Ansikt/ hode
- Hud/ underhud
- Bløtdeler forøvrig
- Knuter

Ikke-palpable lesjoner

- Gl. Thyroidea + ultralyd

Sensitivitet: >90 (- 95%)

Spesitivitet: >90 (- 95%)

(Hvis man er/ blir god!

Og får bra materiale til
mikroskopering!)

Hvilke kriterier kan vurderes i cytologisk materiale?

- Celletype(r)
- Cellulær atypi
- Gruppering av celler (begrenset grad vekstmønster) (papillære/ tubulære strukturer)
- Mitoser
- Cytoplasmadifferensiering
- Ekstracellulære komponenter

Hva kan ikke vurderes cytologisk?

- Lesjonen har kapsel?
- Kapselinnvekst?/ gjennomvekst?
- Karinfiltrasjon?
- Invasiv vekst? (Finnes unntak!)

Komplikasjoner (Sjelden)

- Blødning (kompresjon)
- Synkope
- Infeksjon
- Emboli i a. carotis etter FNAC ?
- Utsæd av tumorceller i stikkanalen ??
- Blødning/ infarsering/ reaktive forandringer i tumor: Histologisk vurdering vanskelig?
- Pneumothorax!

Diagnostisk

Beskrive materialet

Utseende

Mengden materiale

- antall glass
- fiksering
- farging
- evt. artefakter

Diagnostikk

Dessverre ofte:

Non-diagnostisk:

- for sparsomt
- feilaktig lufttørket / større tekniske artefakter, knusingsartefakter av cellene
- ikke sikkert fra aktuell lesjon

Diagnose

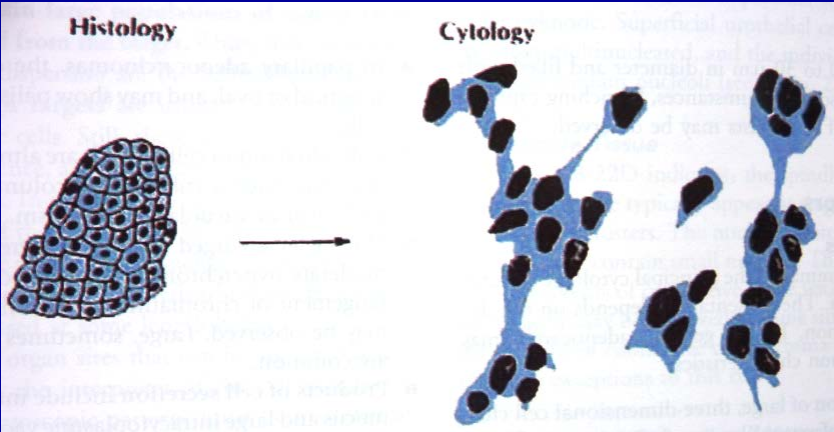
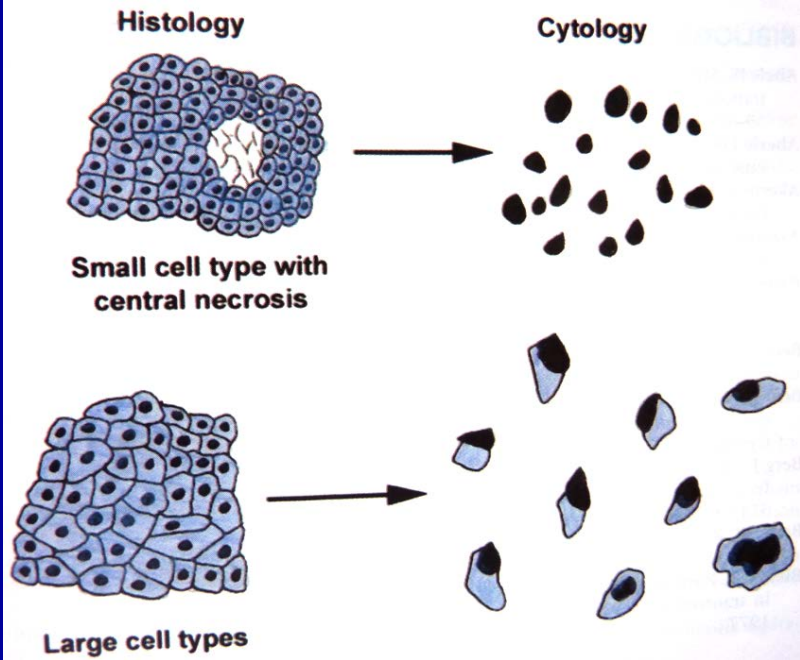
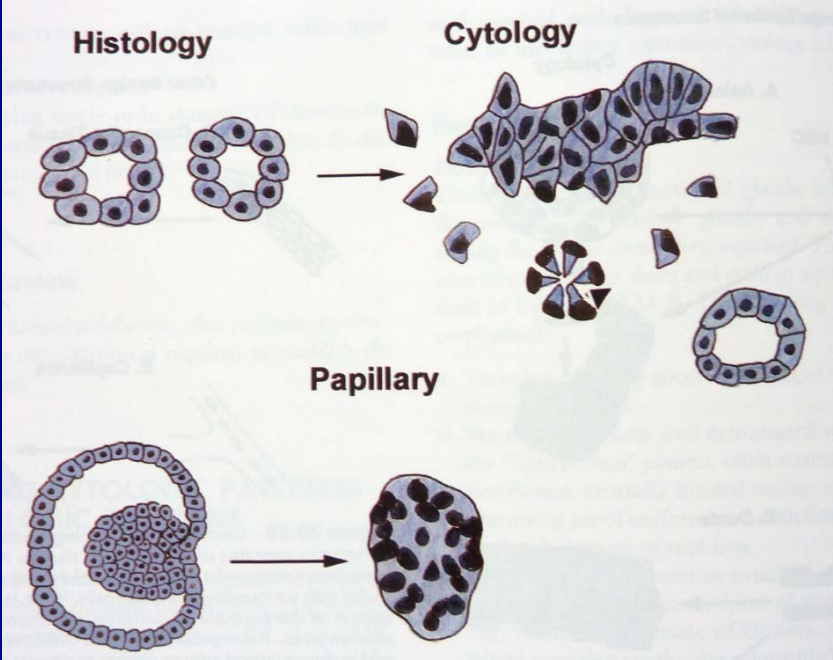
Formulering

Helst noe liknende histologi

og

- 1. Benign
- 2. Sannsynlig benign (Irregulær)
- 3. Uviss/ usikker benign- malign (atypi)
- 4. Sannsynlig malign
- 5. Malign

Histologi- Cytologi



Utstyr

- 21-23-25G nål (25 gauge= 0,5 mm.)
- Nål lengde 3.6- 7.8cm
- 10-20-30 ml LUER-LOK sprøyte
- Cameco- pistol (Franzen)

- Objektglass/ slides (Embalasje)

- Sprayfix
95% alcohol fixative

(Anestesi ikke nødvendig)

FNA: (Fine needle aspiration)

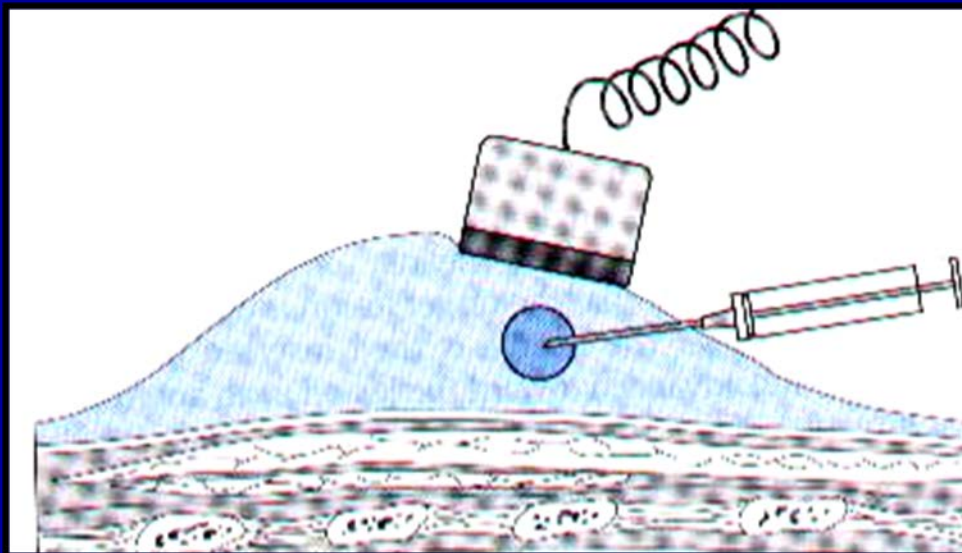
23-25 gauge nål

LNB: (Large Needle Biopsy)

16-18 gauge nål

CNB: (Core needle biopsy)

14 gauge nål



Teknikk

- Nåltykkelse
 - < 0,7 mm./ vanlig
 - < 0,6 mm./ lymfeknute/ gl. thyreoidea
(Tykkere nål- mer blødning!)

25 gauge (0,5 mm.) bra!

Ingen anestesi!

Teknikk

Nål oftest loddrett på tumor/ lesjon
(ellers bommer ofte)

Aktiv: beveg raskt nålen/ forskjellige
retninger

(Ikke la nålen stå og suge-
mye blod)

Stopp før blod kommer i sprøyten!

Bytt nål ved hvert innstikk!

Teknikk, utstryk

Lufttørket: Håndriste/ hårtørrer
(noe avstand: 30 cm.)



Fix: Alkohol, Sprayfix (ristes)/ væskebad (<15 sek.)

(Noen sprayfiksativer kan gi tørkeartefakter)

Bruk rikelig væske! (Glasset horisontalt)

Ikke for nærme: blåser bort cellene! (bra 20-30 cm.)

Cystisk materiale: halvblendes med 50% alk.

Teknikk, utstryk

RASKT!

Fordeling av materialet:

2 luft og 2 fix. glass

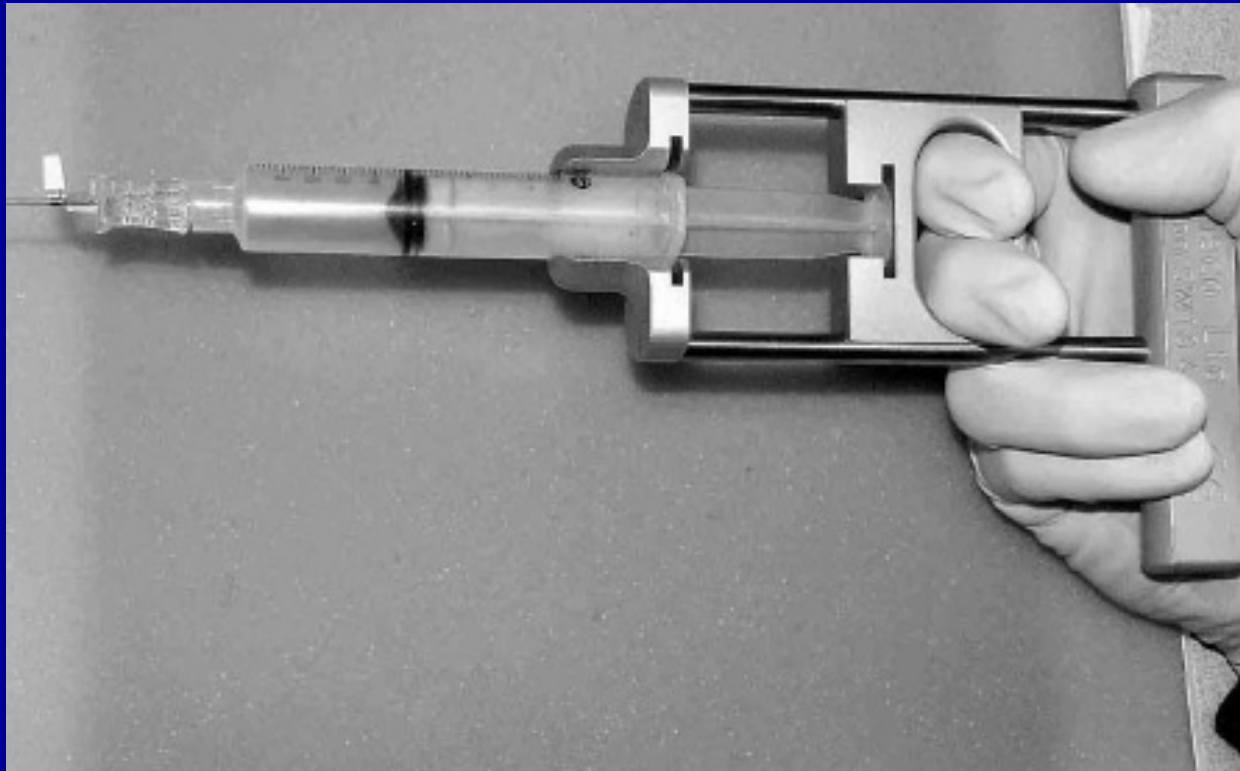
Rest i sprøyte/ også koagler: i alkohol, (50%),
evnt. Formalin.

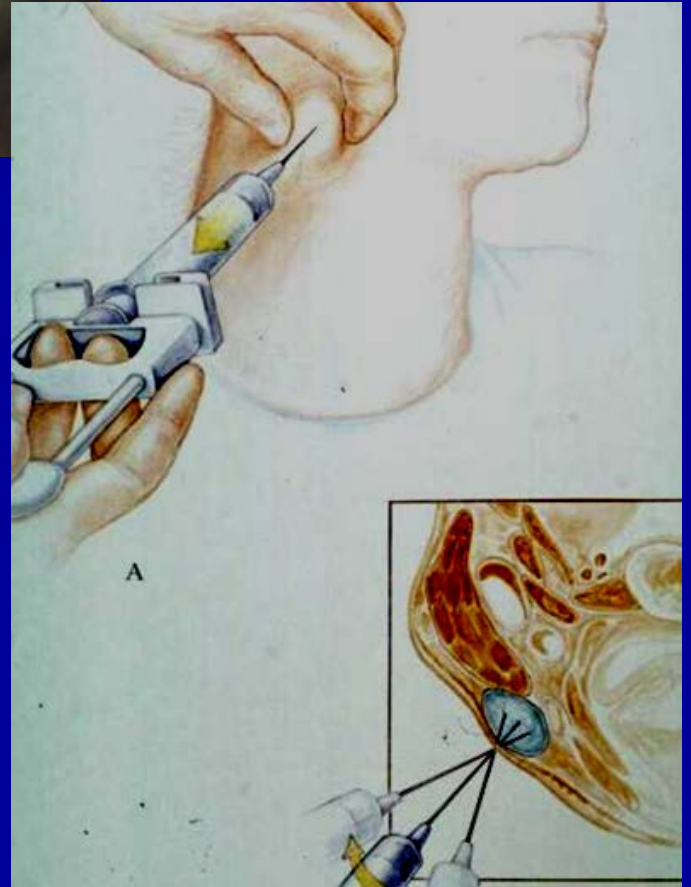
Saltvann (avtale- ring!)

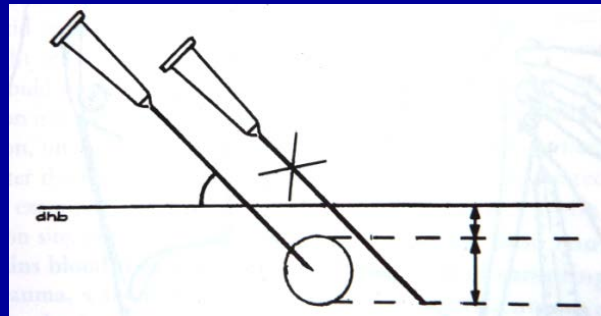
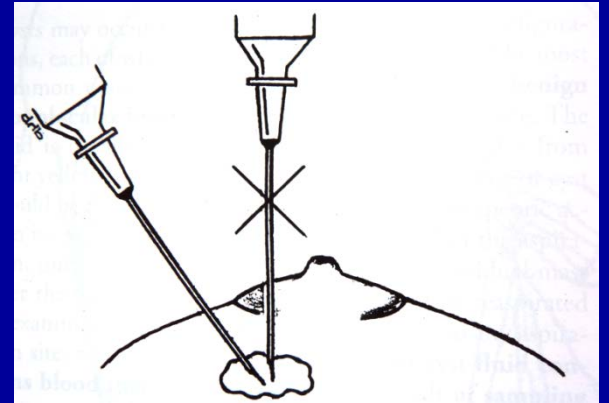
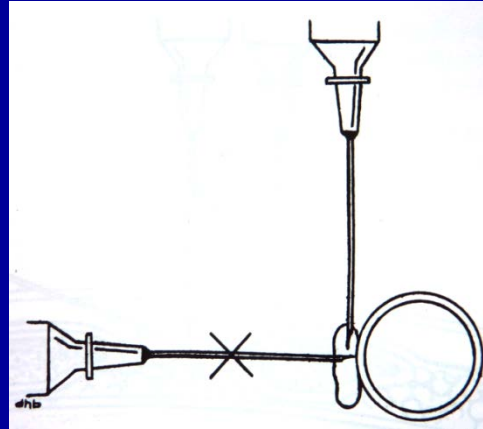
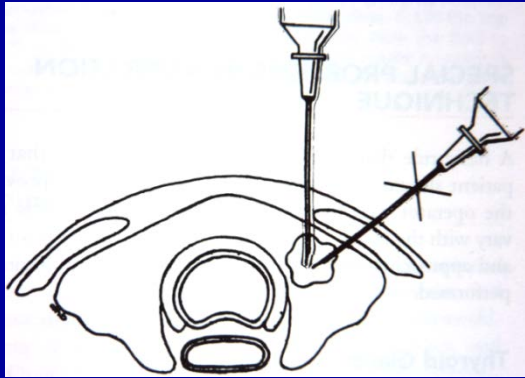
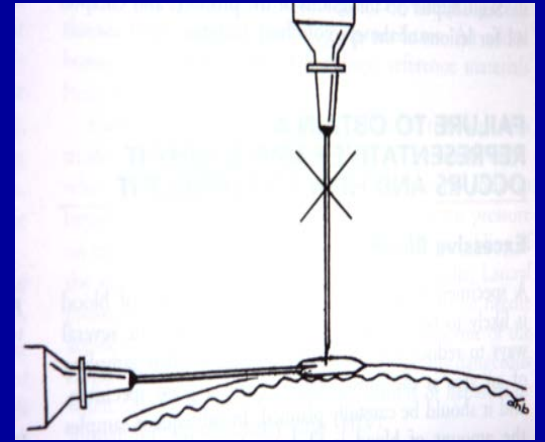
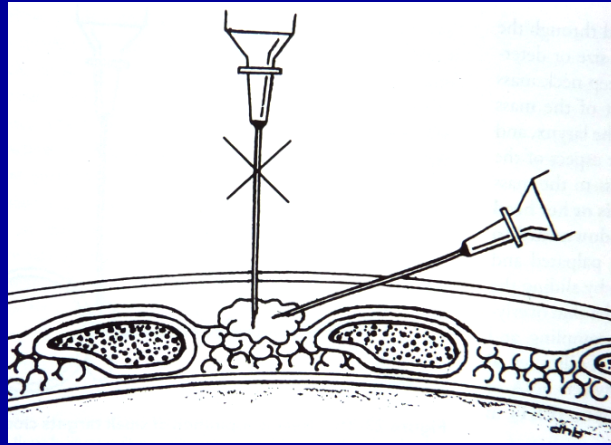
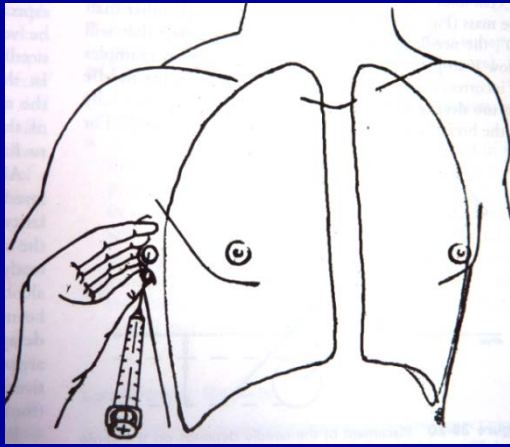
Ny punksjon (2-3 x med **ny** nål)

Luftfiksert og fixert: *godt separat ved teknisk
behandling!*

Cameco sprøyte- pistol







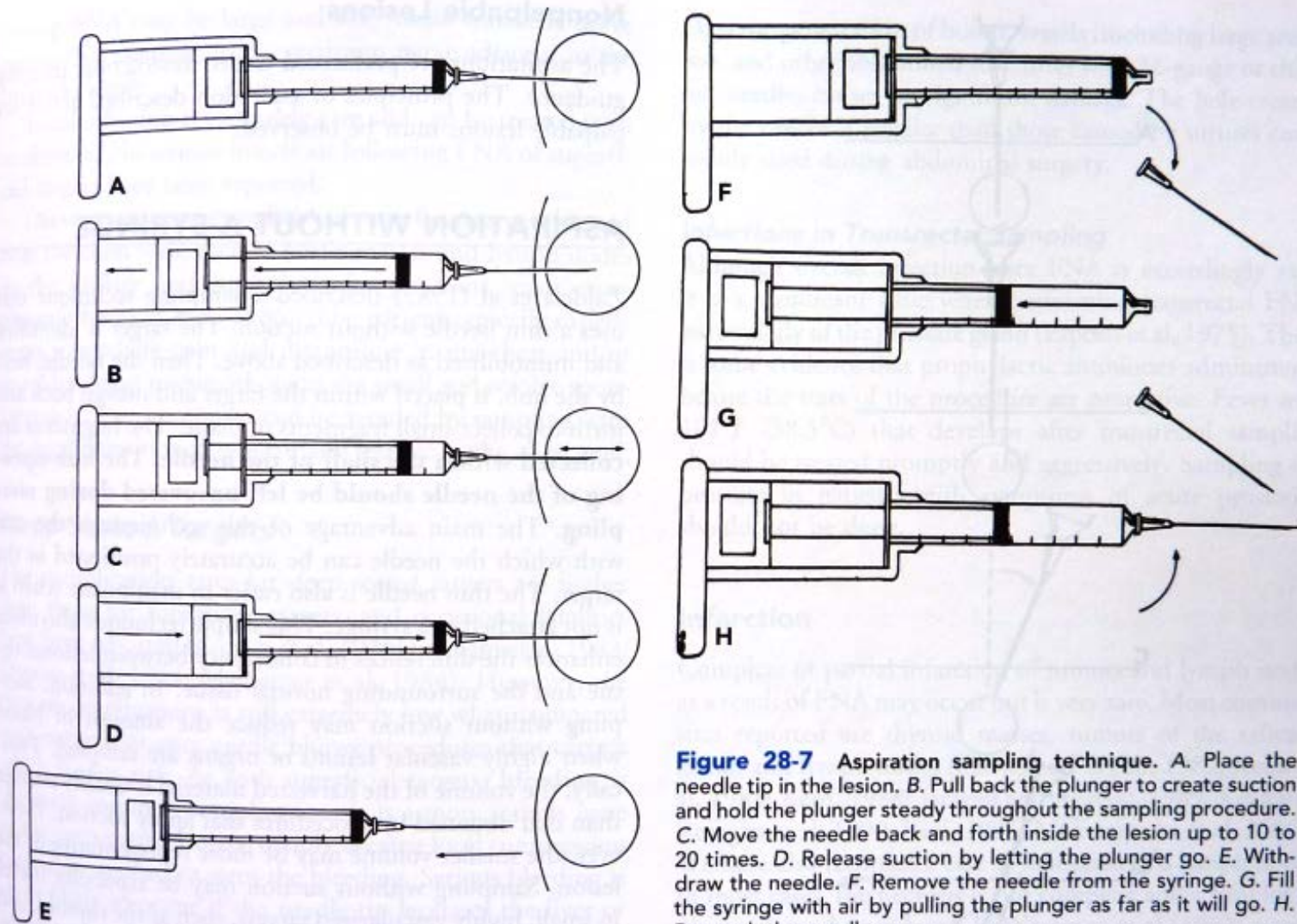
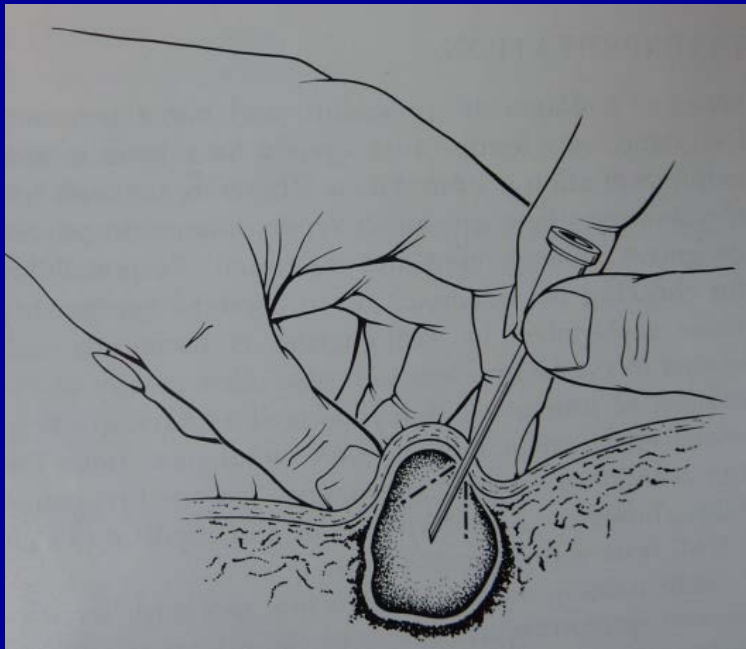
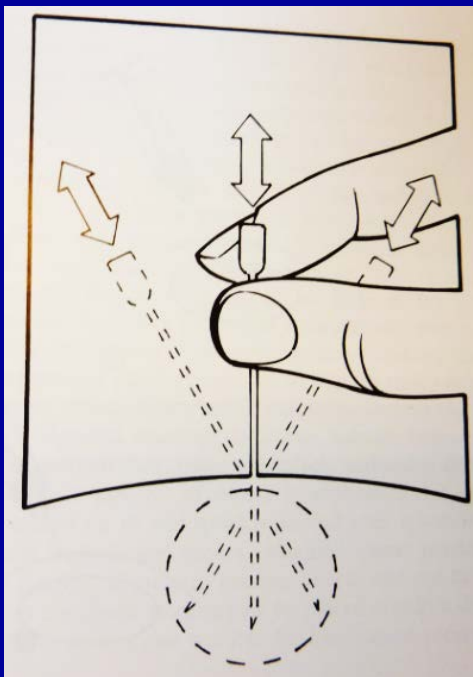
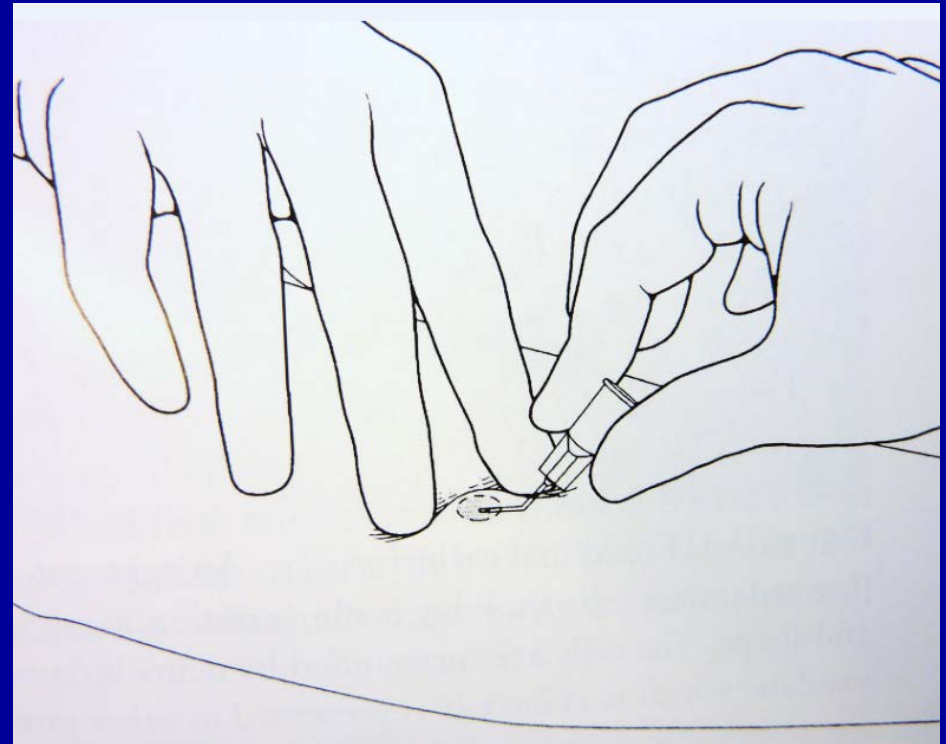


Figure 28-7 Aspiration sampling technique. A. Place the needle tip in the lesion. B. Pull back the plunger to create suction and hold the plunger steady throughout the sampling procedure. C. Move the needle back and forth inside the lesion up to 10 to 20 times. D. Release suction by letting the plunger go. E. Withdraw the needle. F. Remove the needle from the syringe. G. Fill the syringe with air by pulling the plunger as far as it will go. H. Reattach the needle.

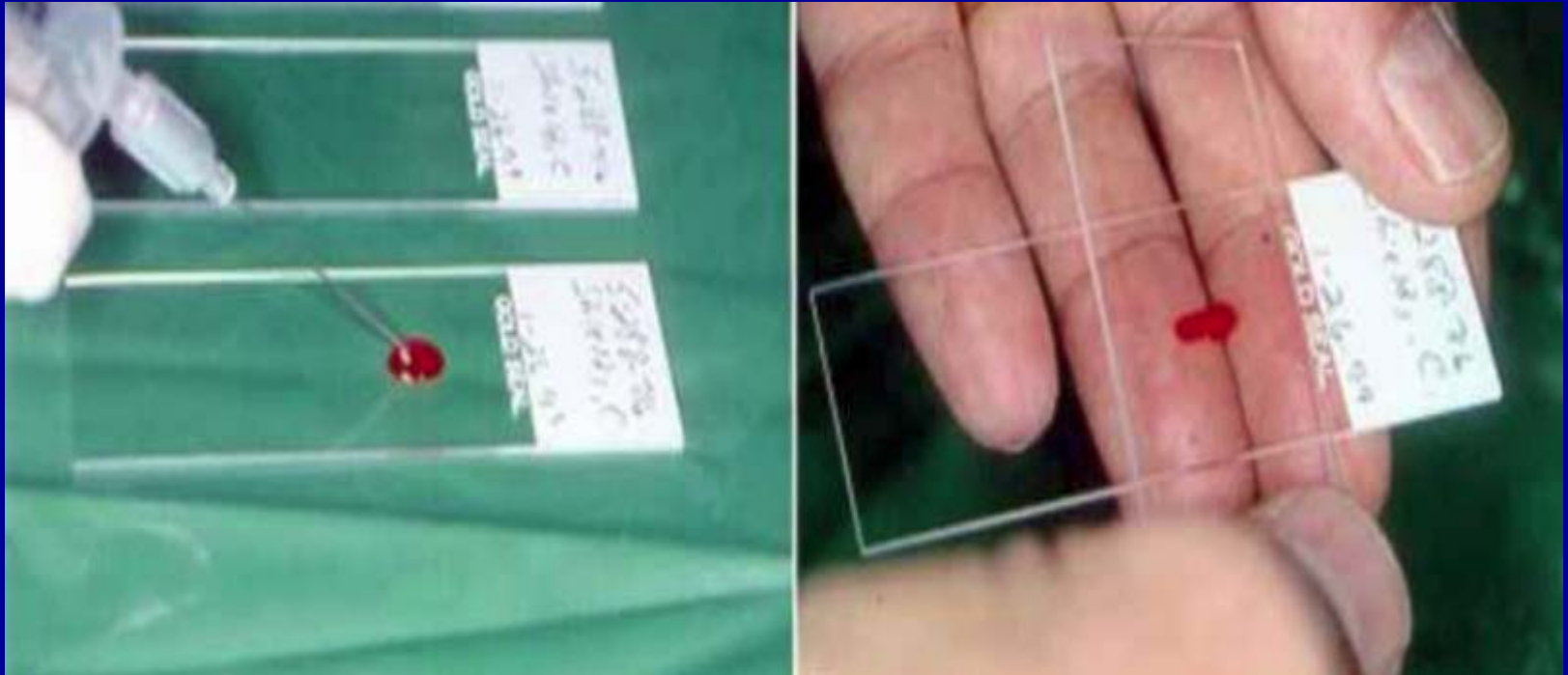
”Bare nå”



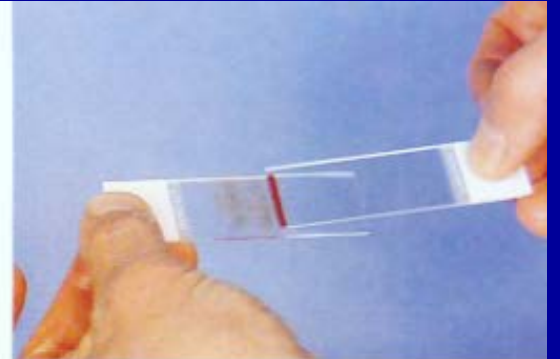
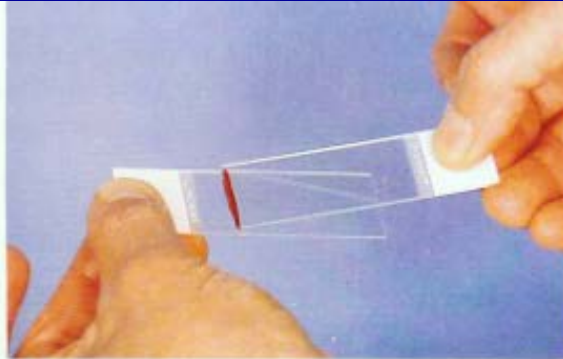
Hudknote, ”Bent tip”,
horisontal innstikk



Utstryk



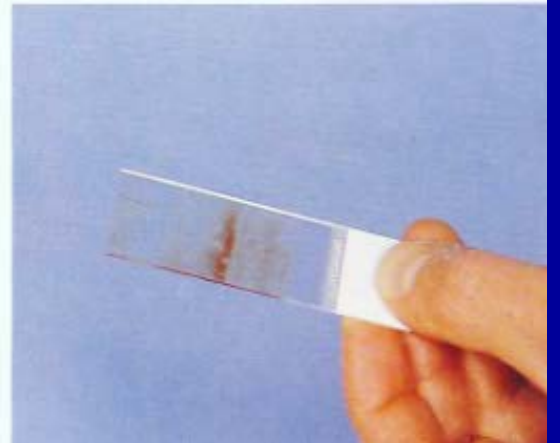
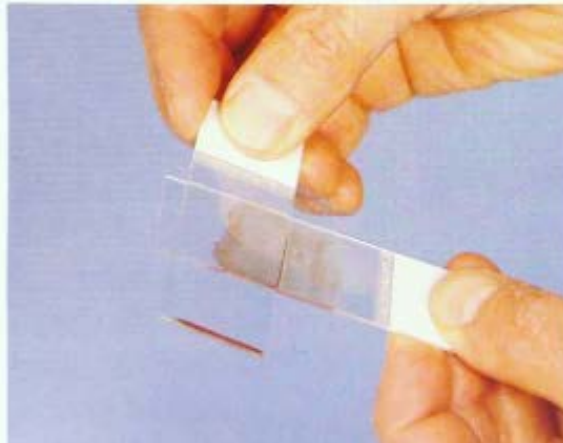
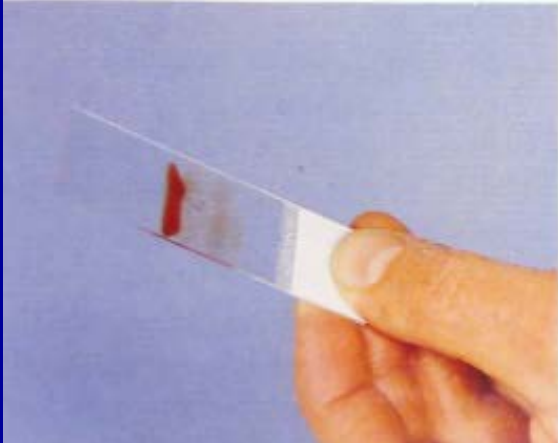
Utstryk



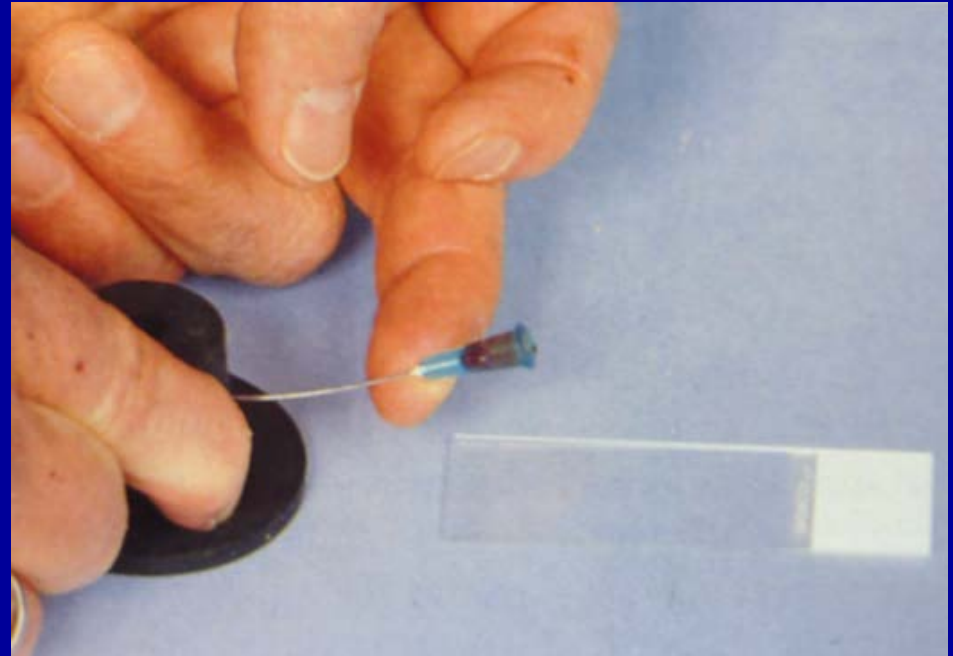
A

B

C



Restmaterialet

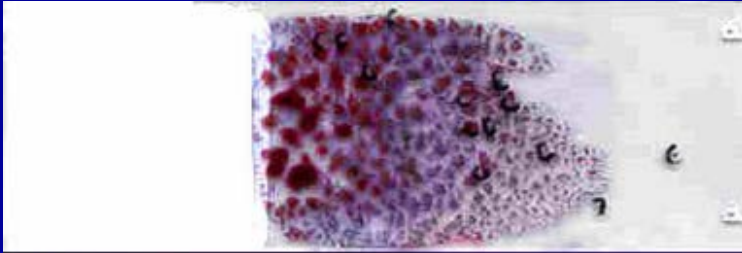


Helst til Celleblokk

Utstryk

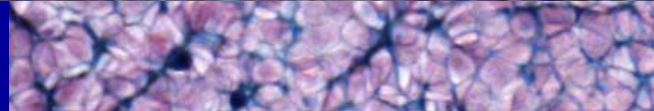
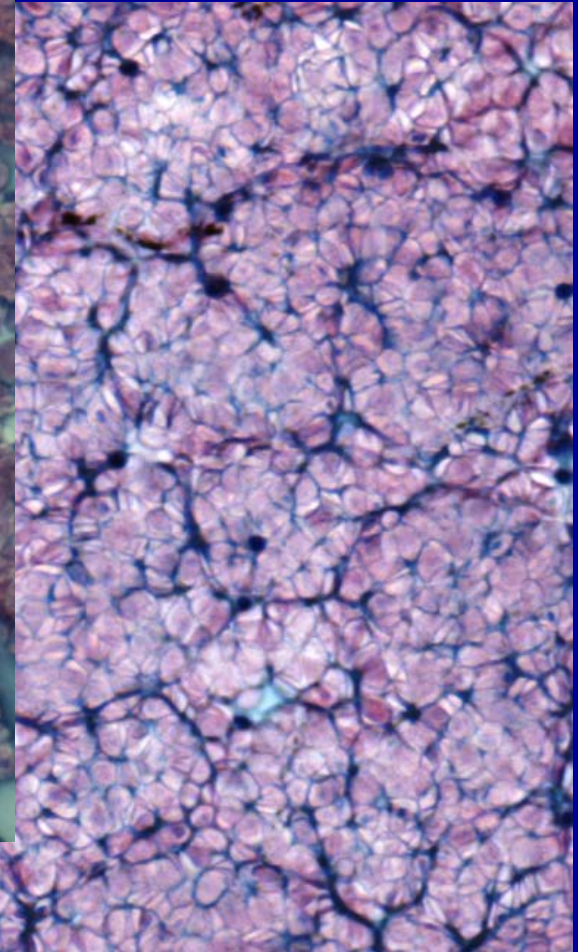
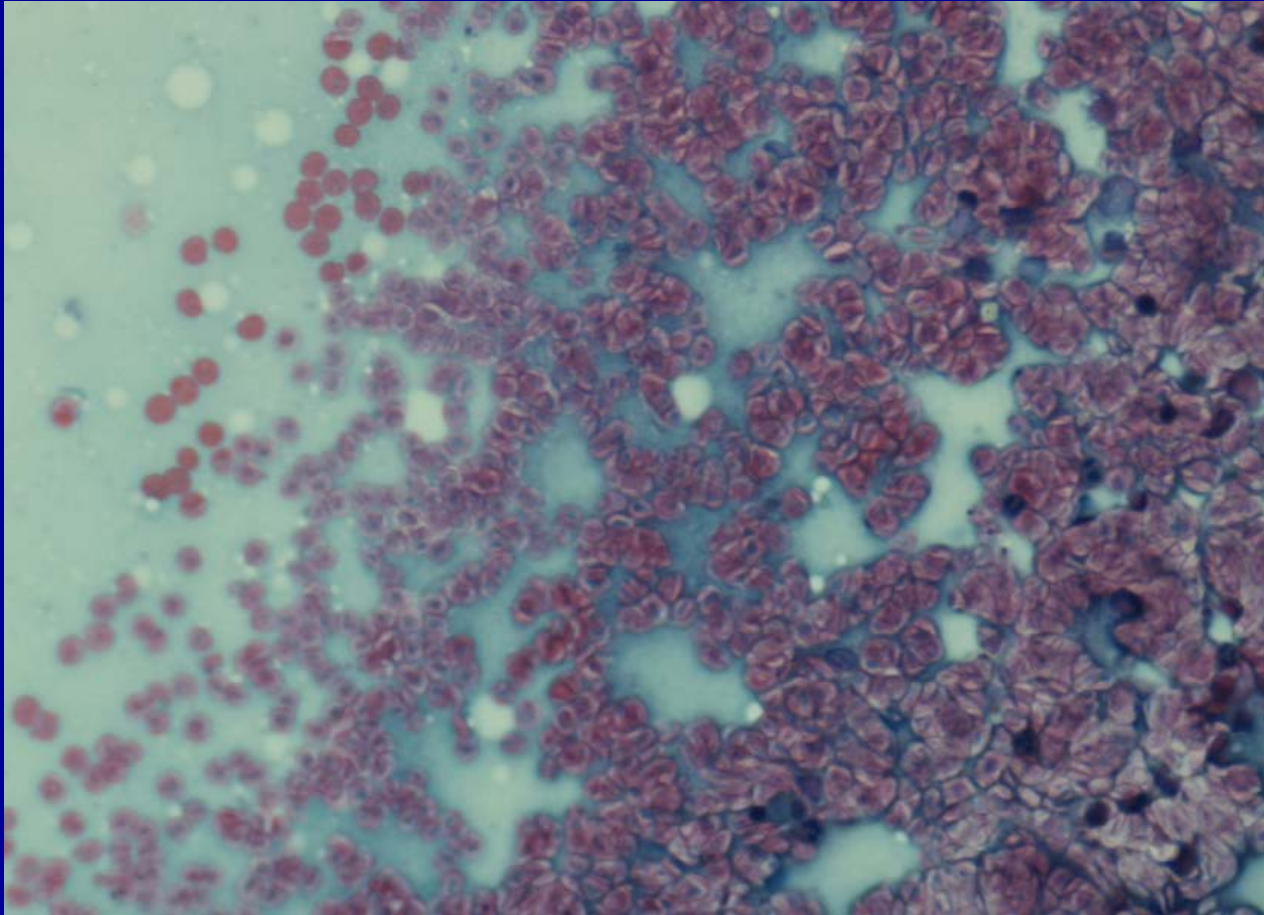


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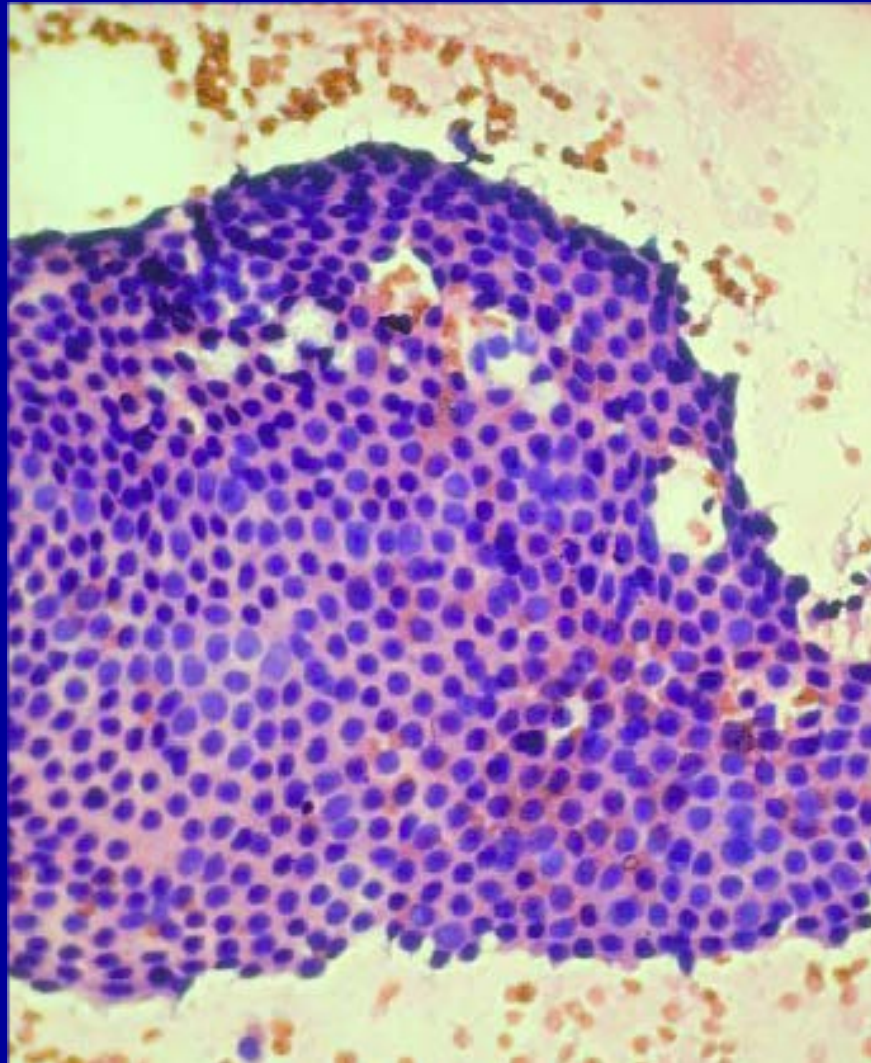


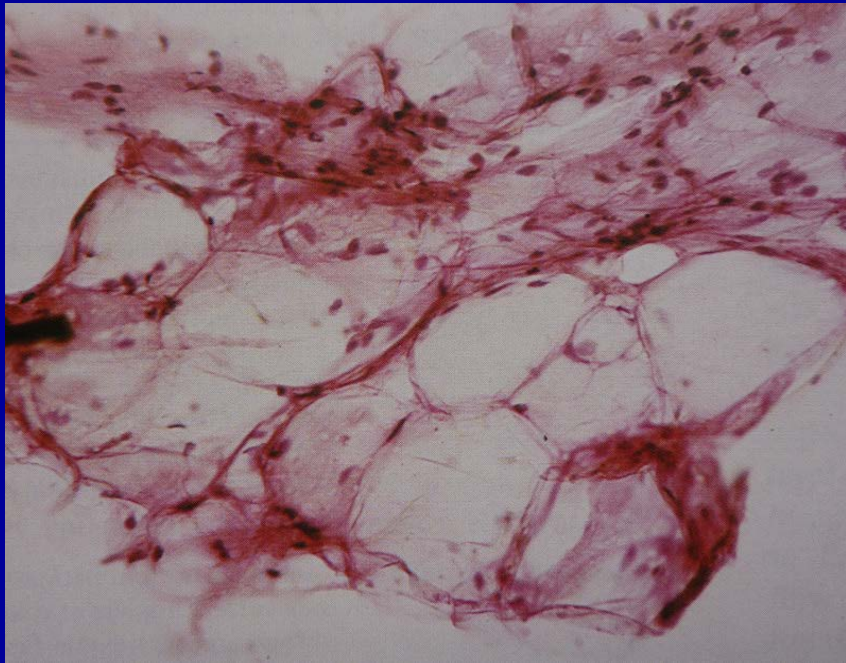


Artefakter

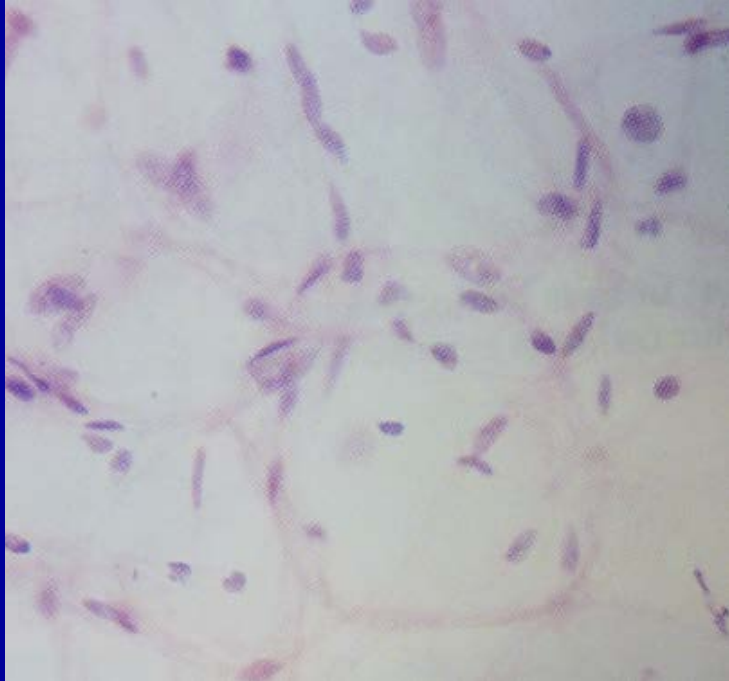
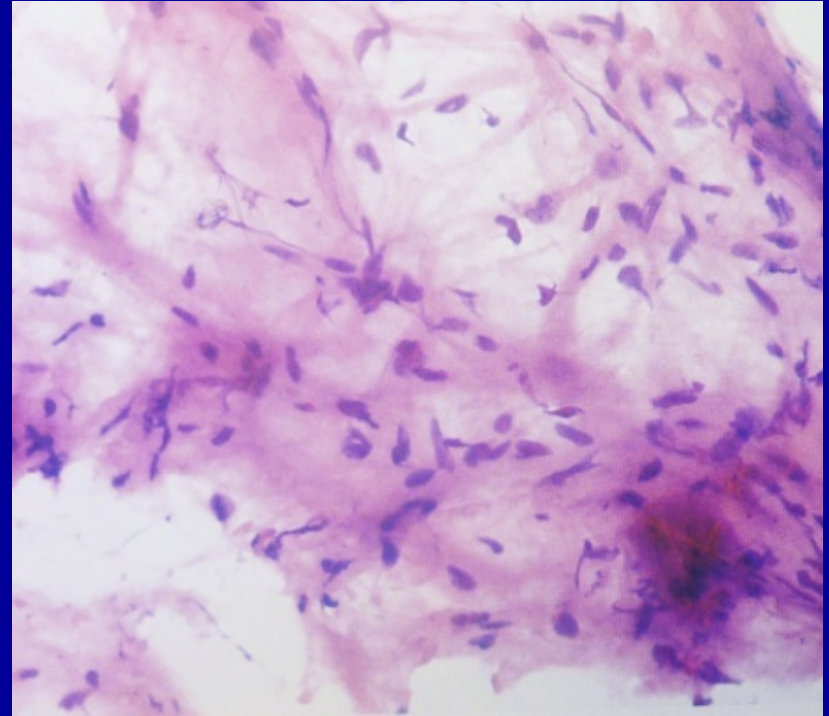


Benign



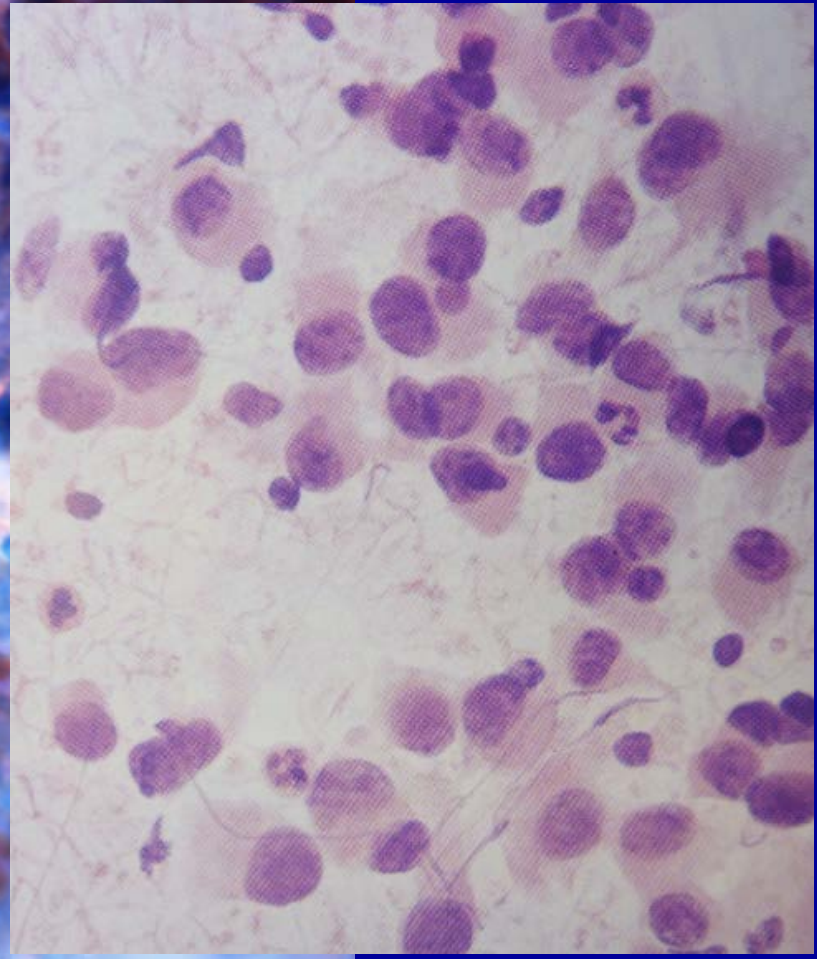
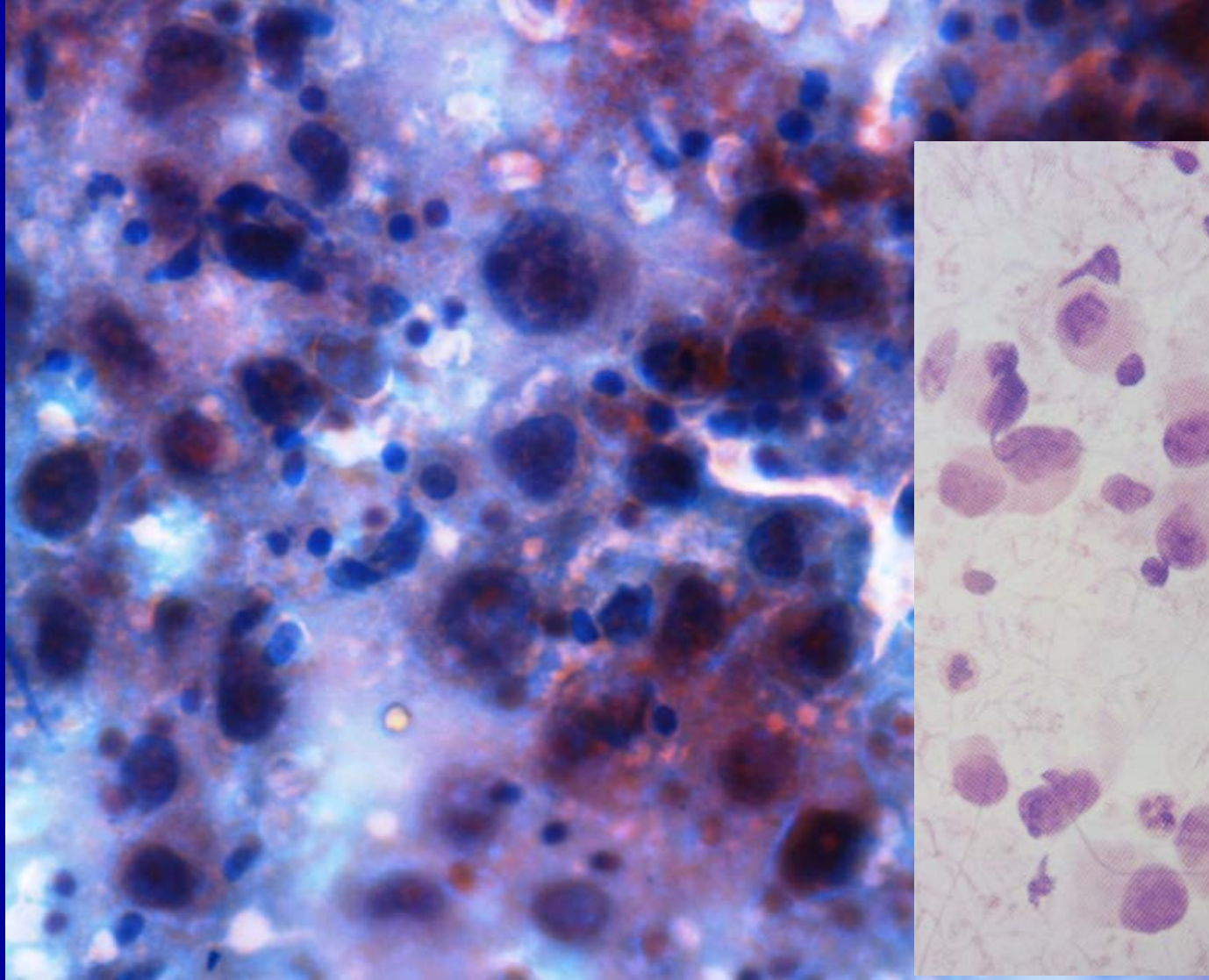


Spindle cell lipom

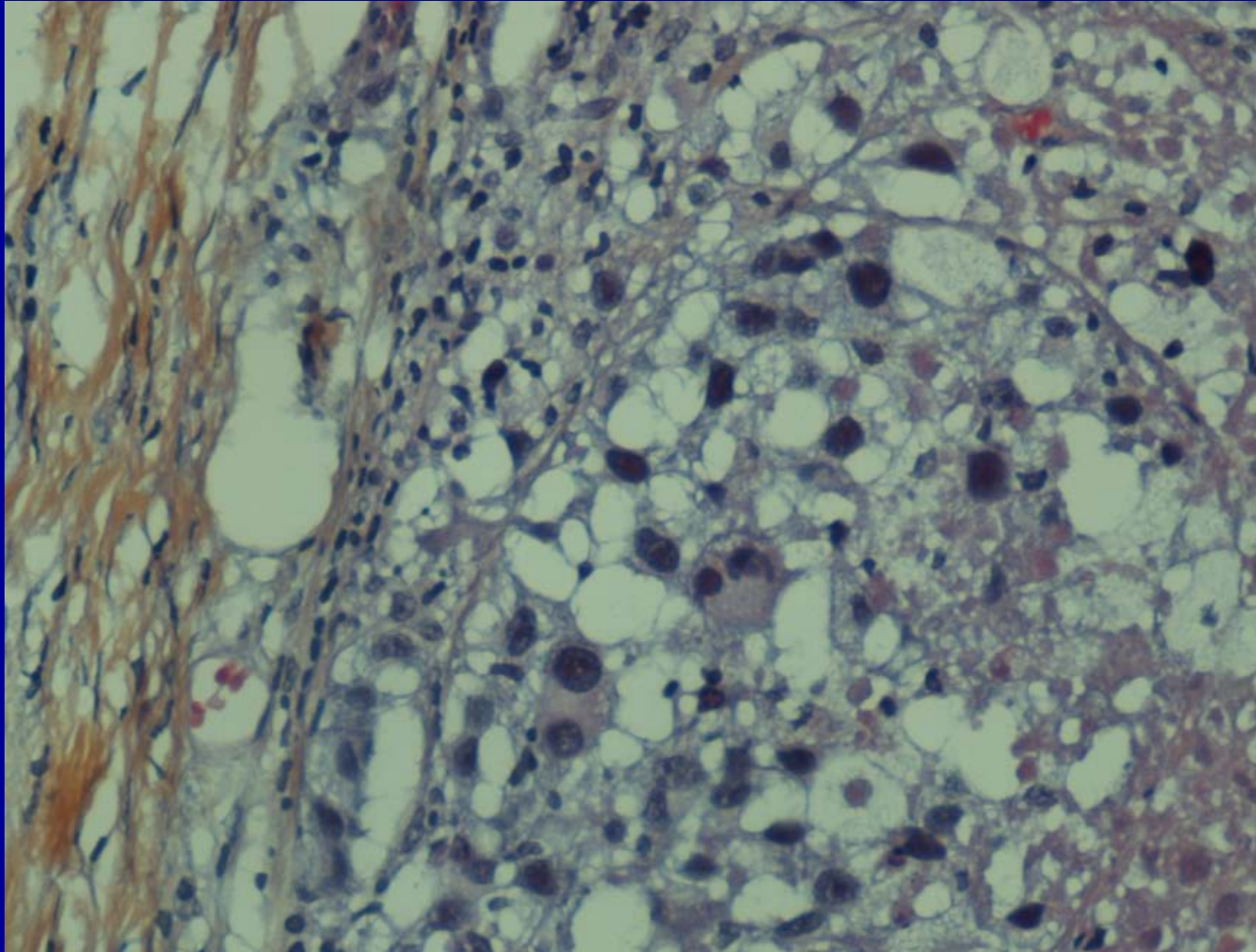


Lipom

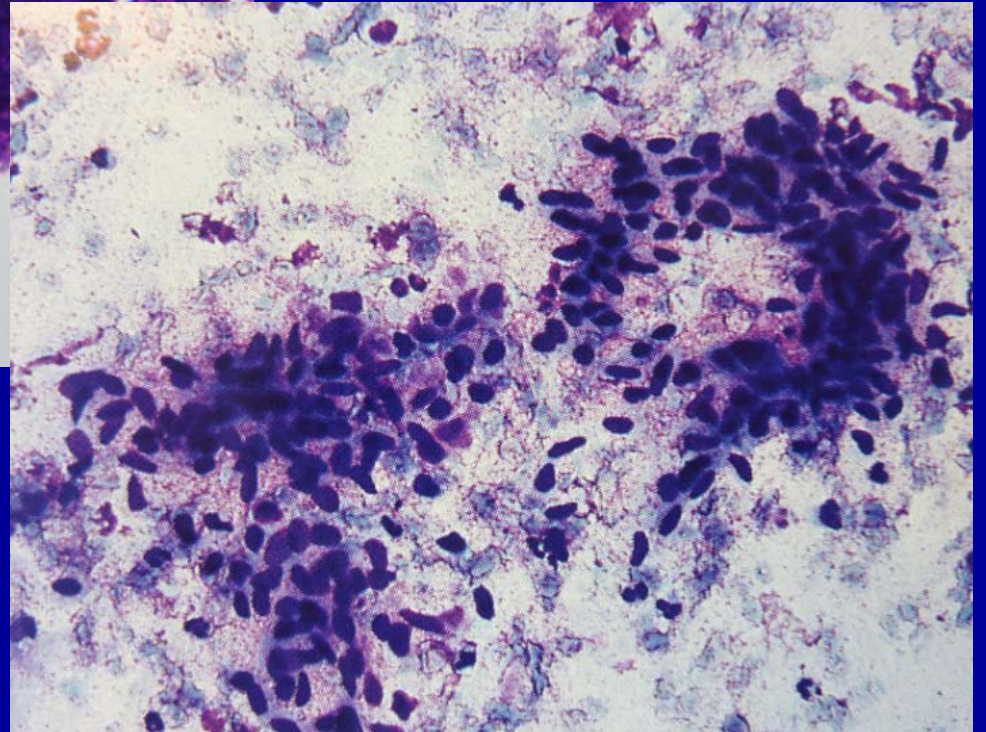
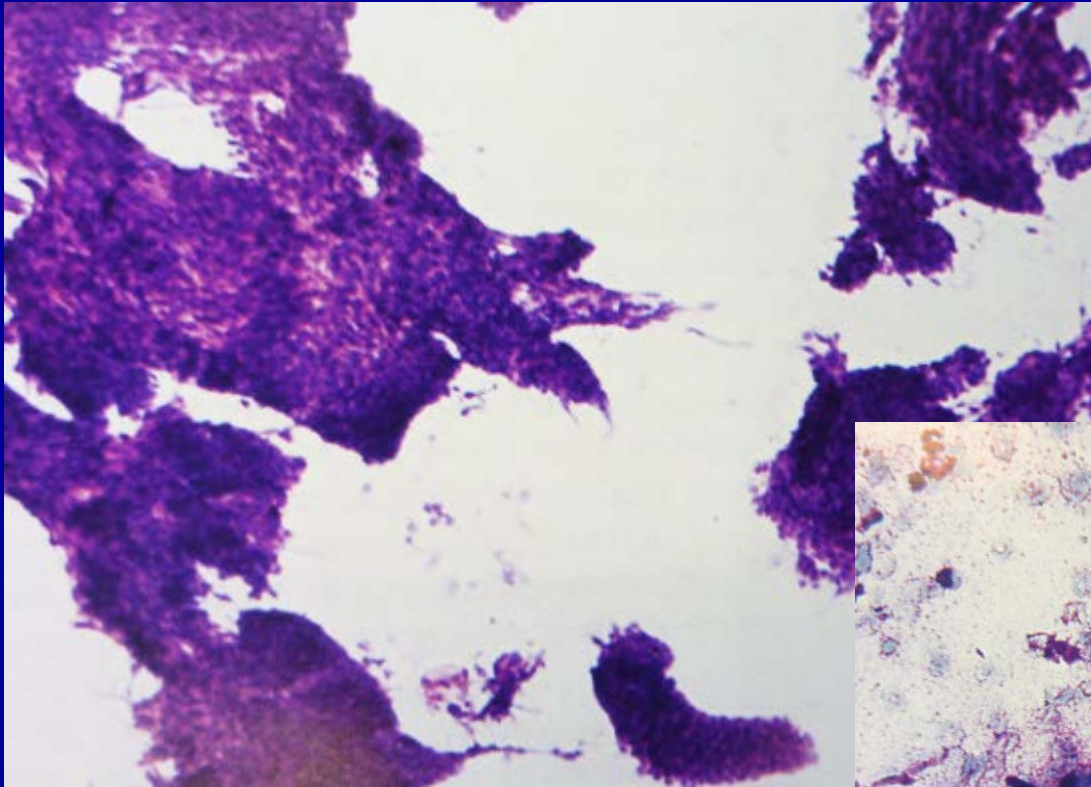
Malignant melanom



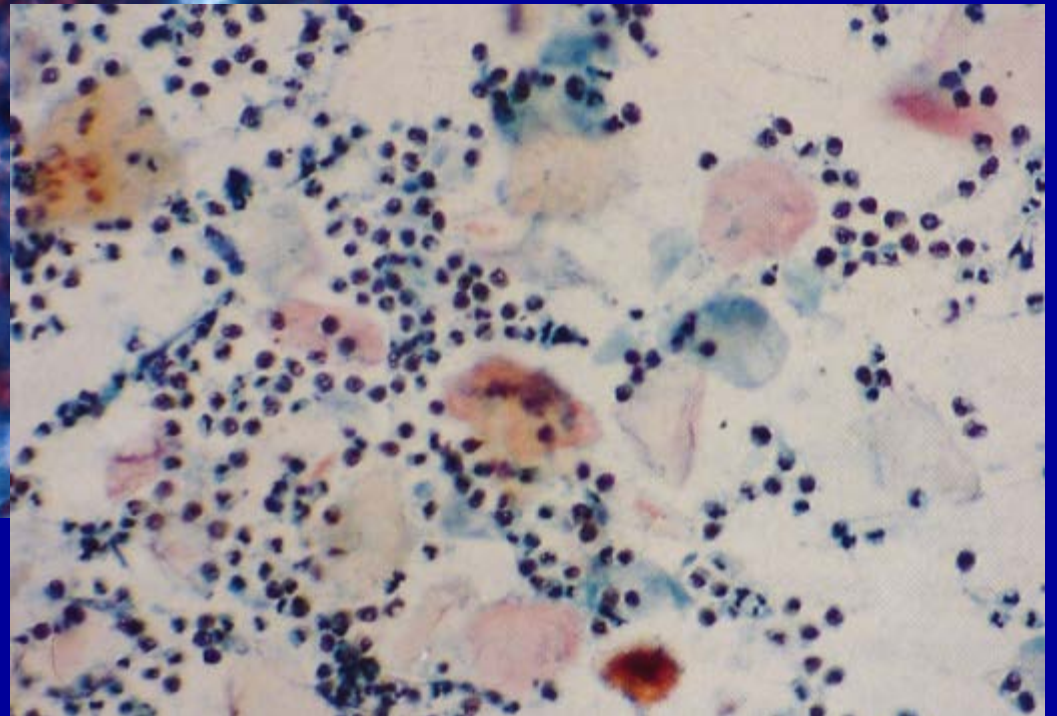
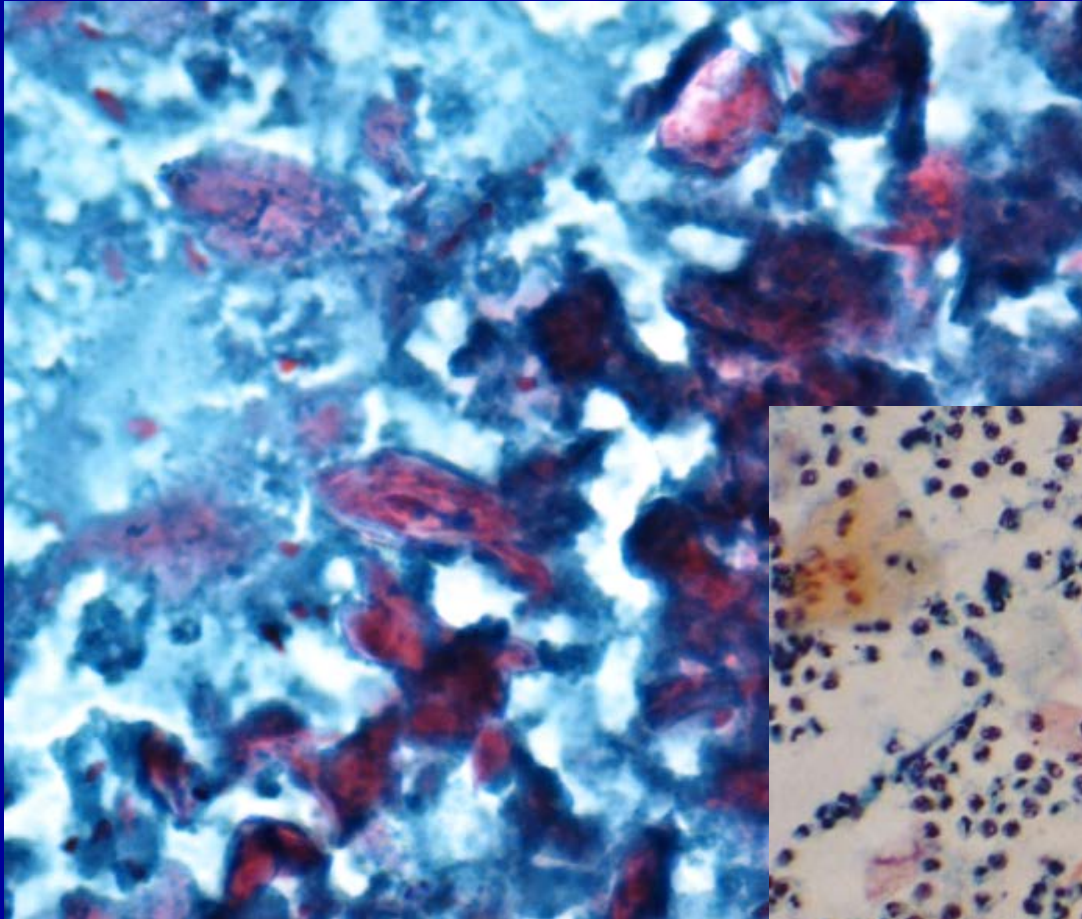
Malignant melanom, histologi



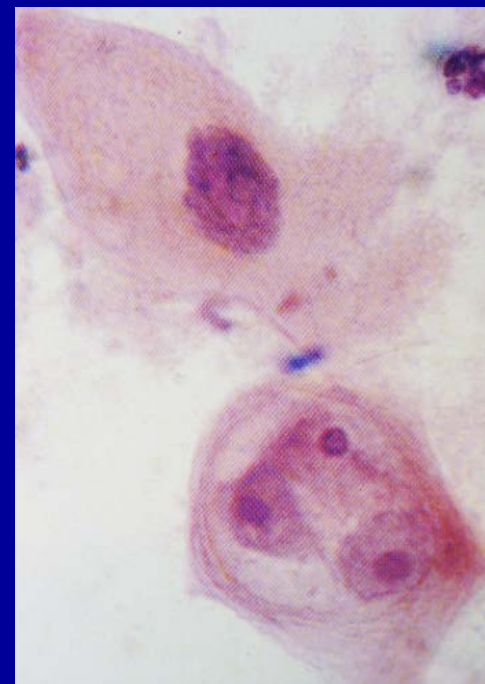
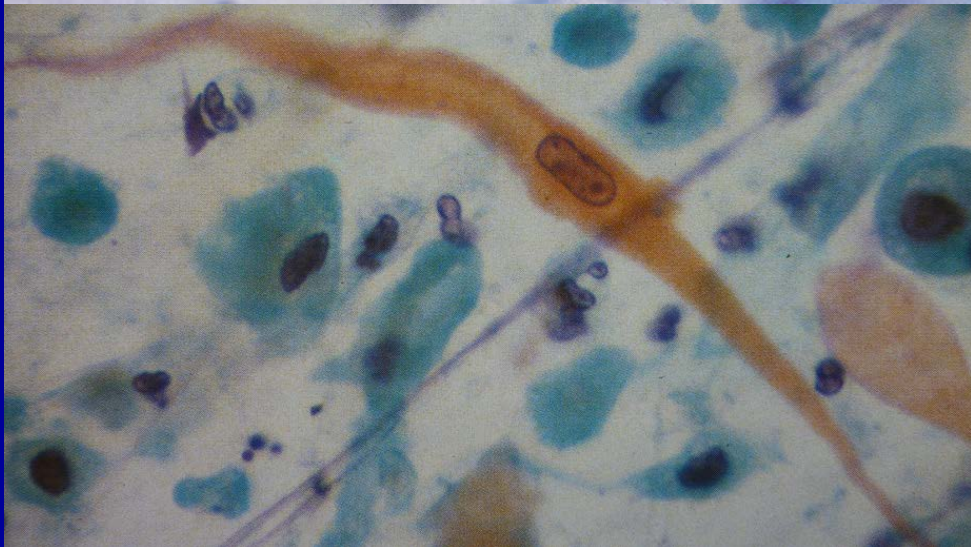
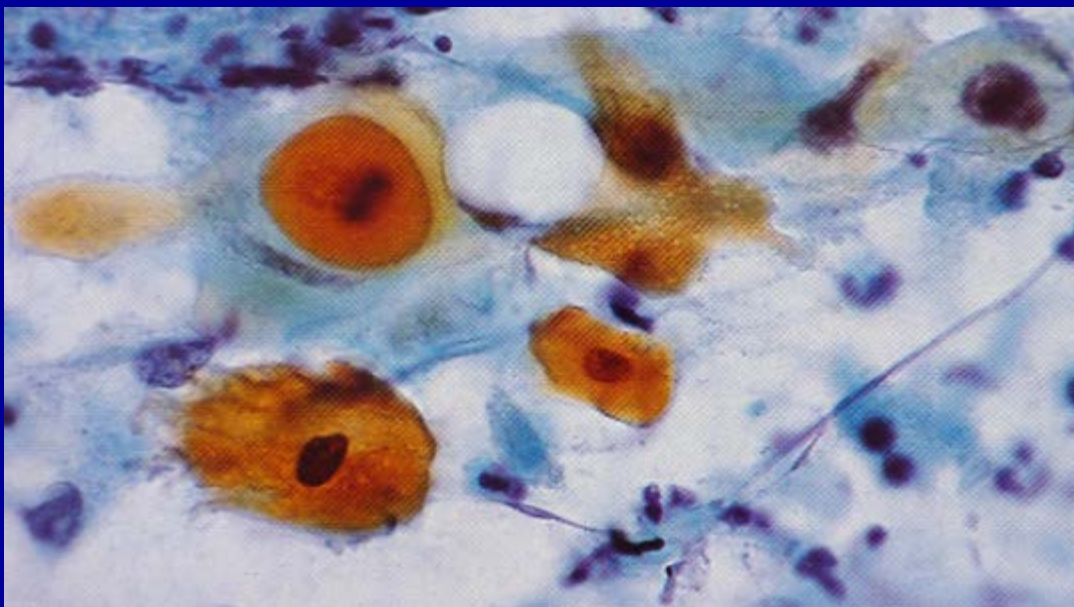
Basalcellekarsinom



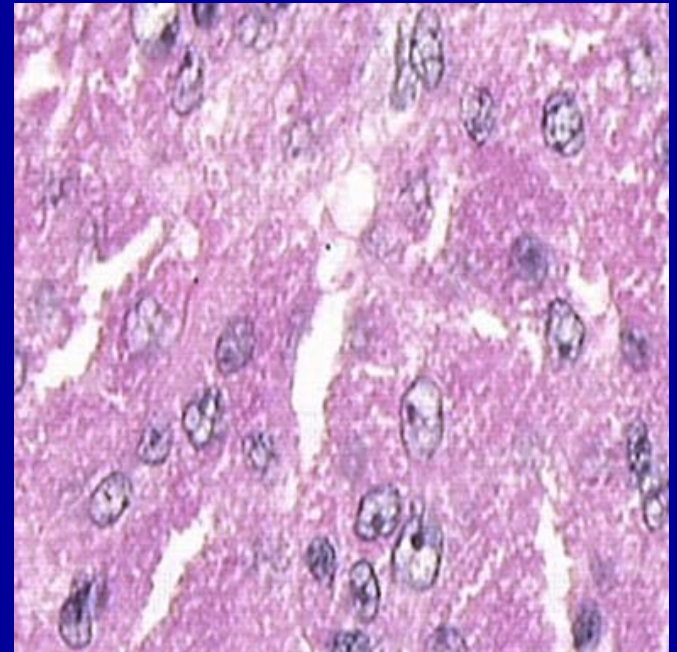
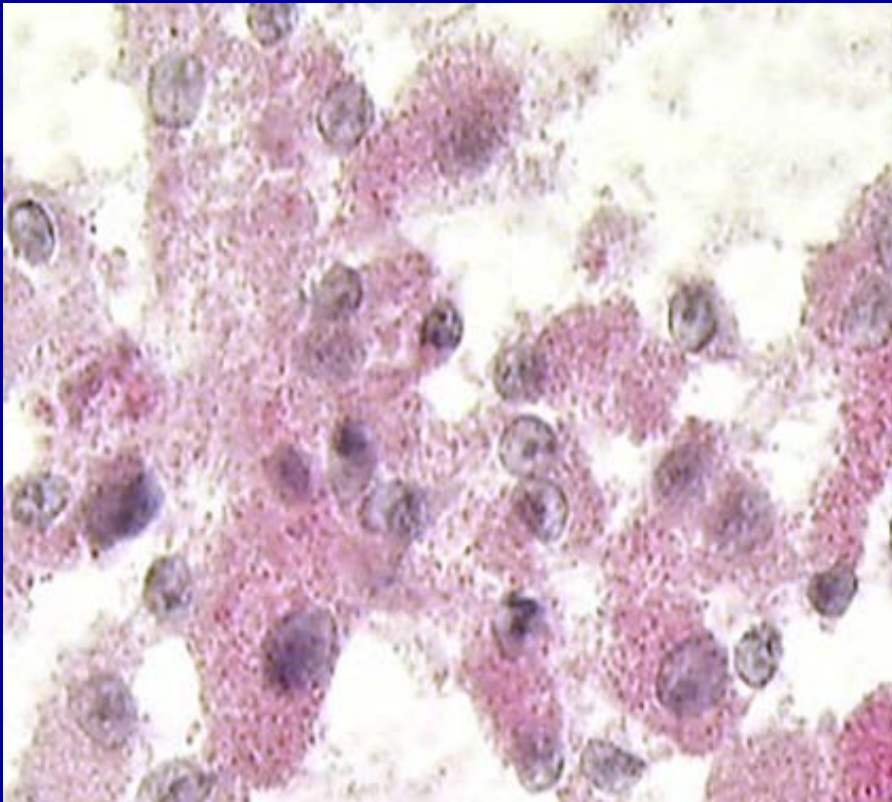
Epidermoidcyste (Aterom)



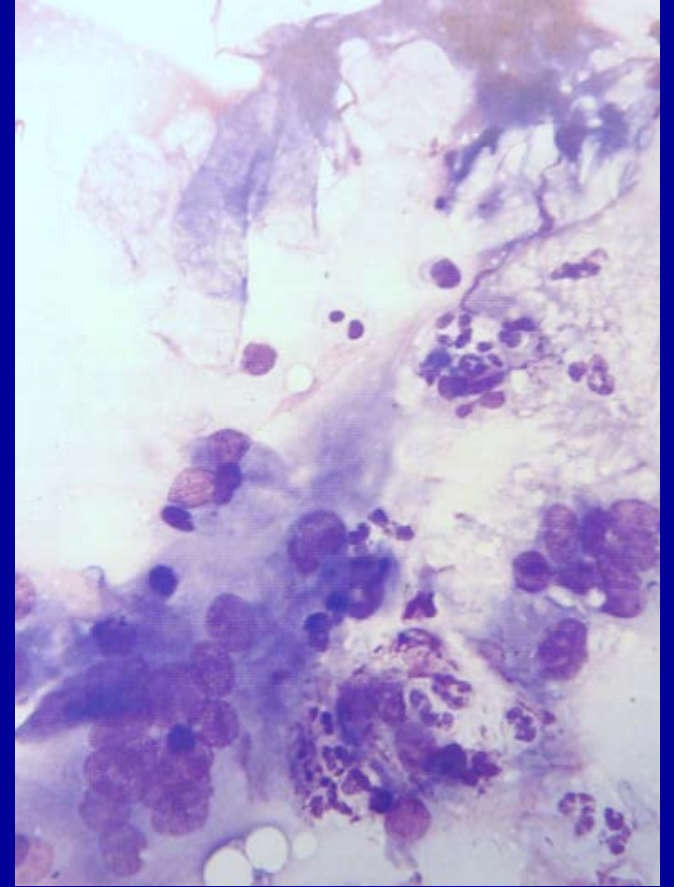
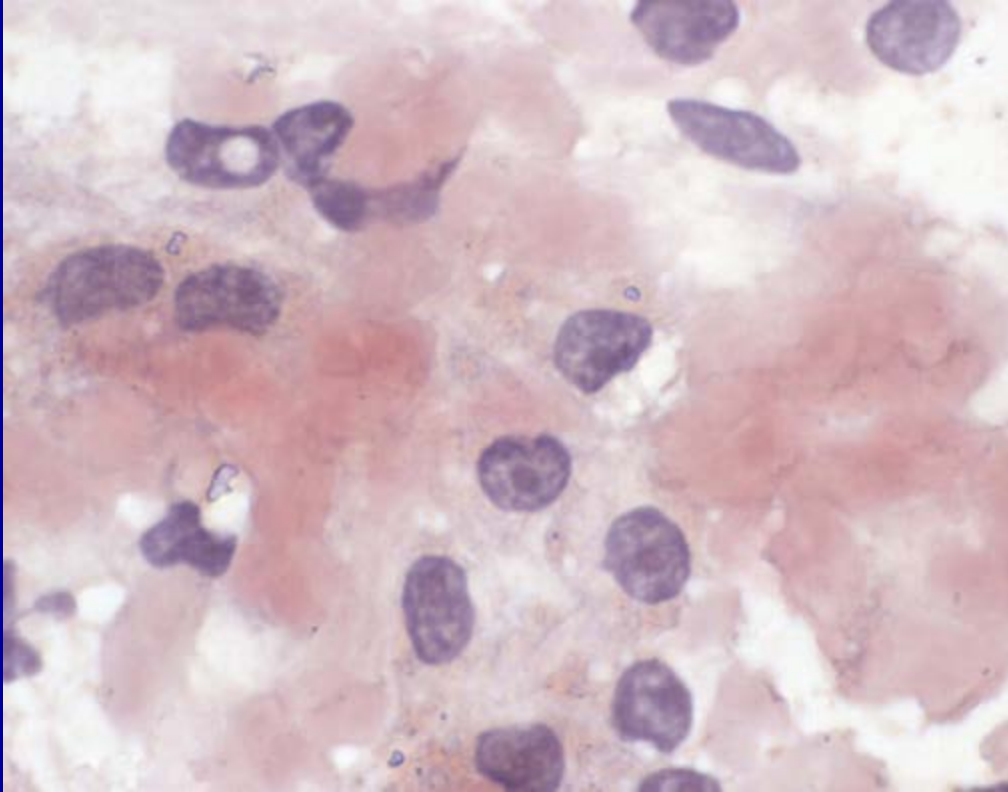
Plateepitelkarsinom



Granulærcelle myoblastom

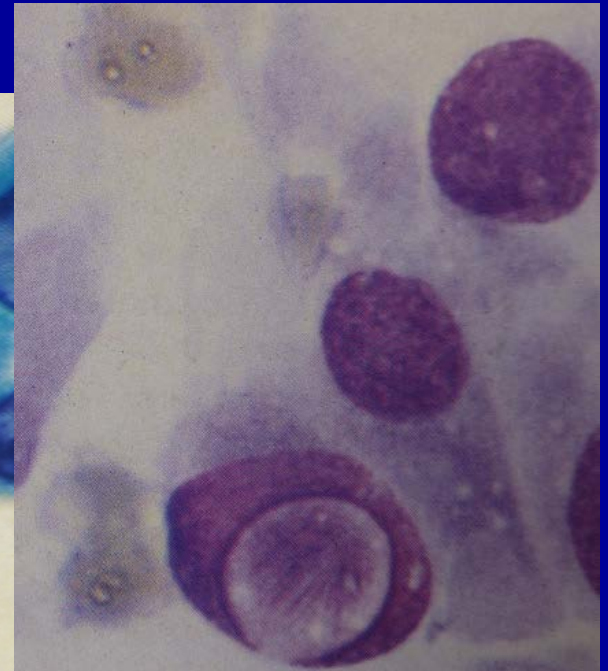
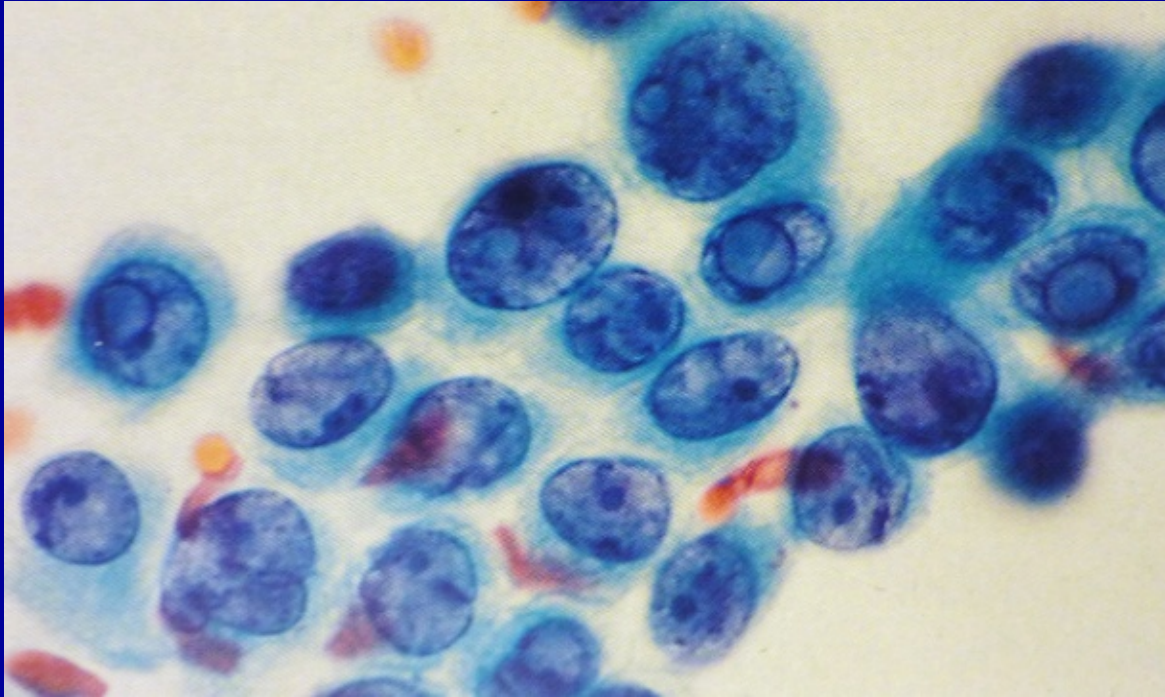


Amyloid i lever

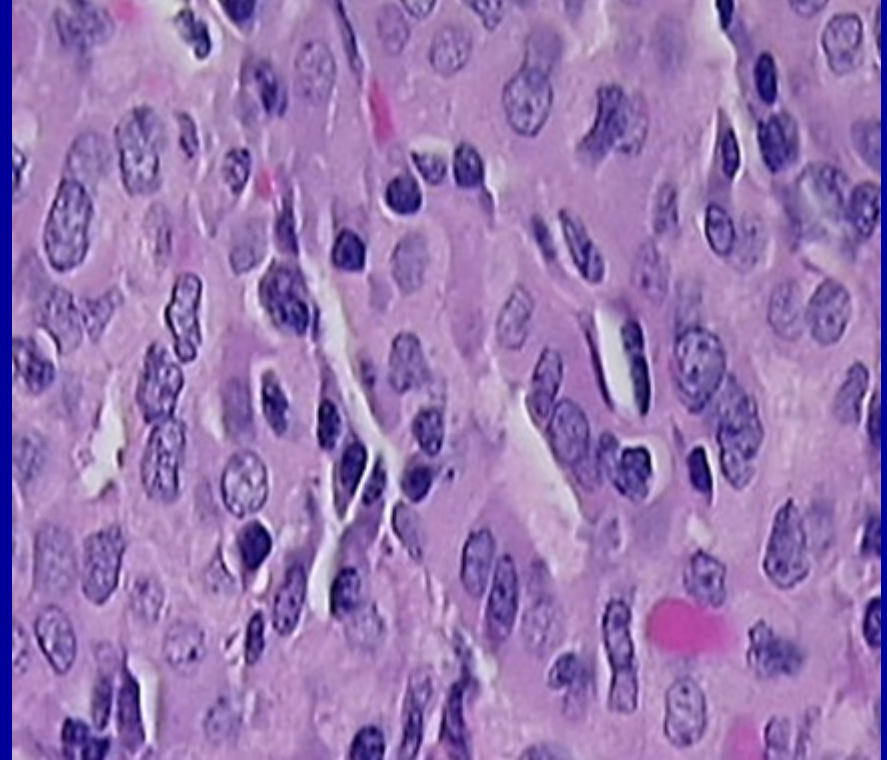
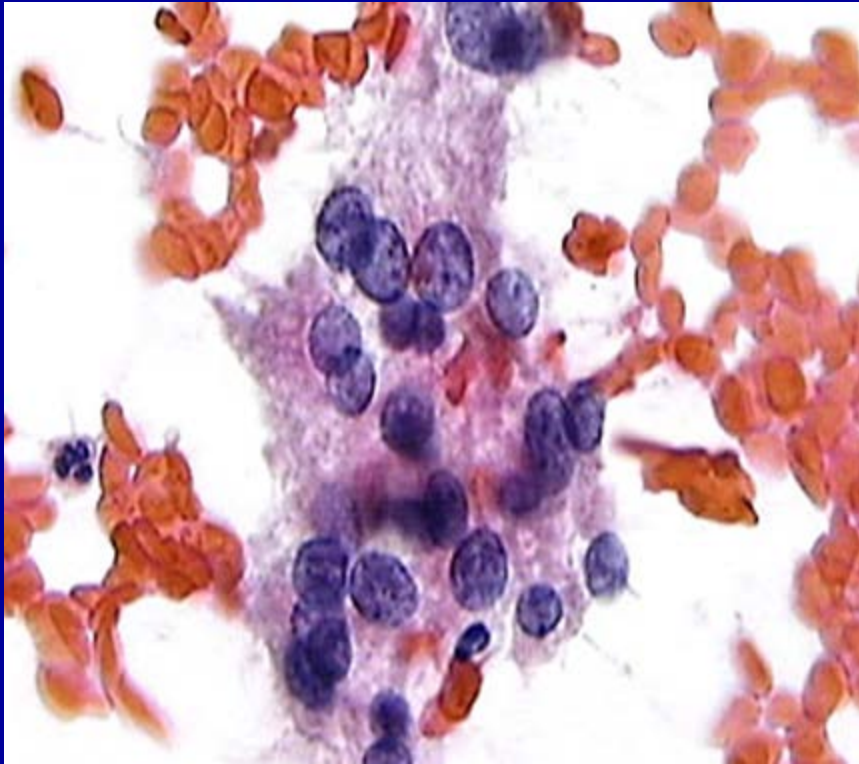


Amyloidose

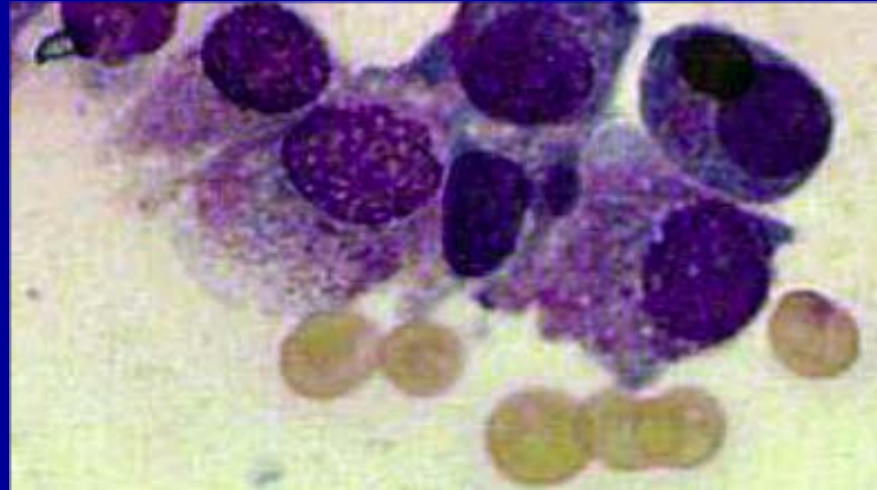
Papillært thyreoidea karsinom



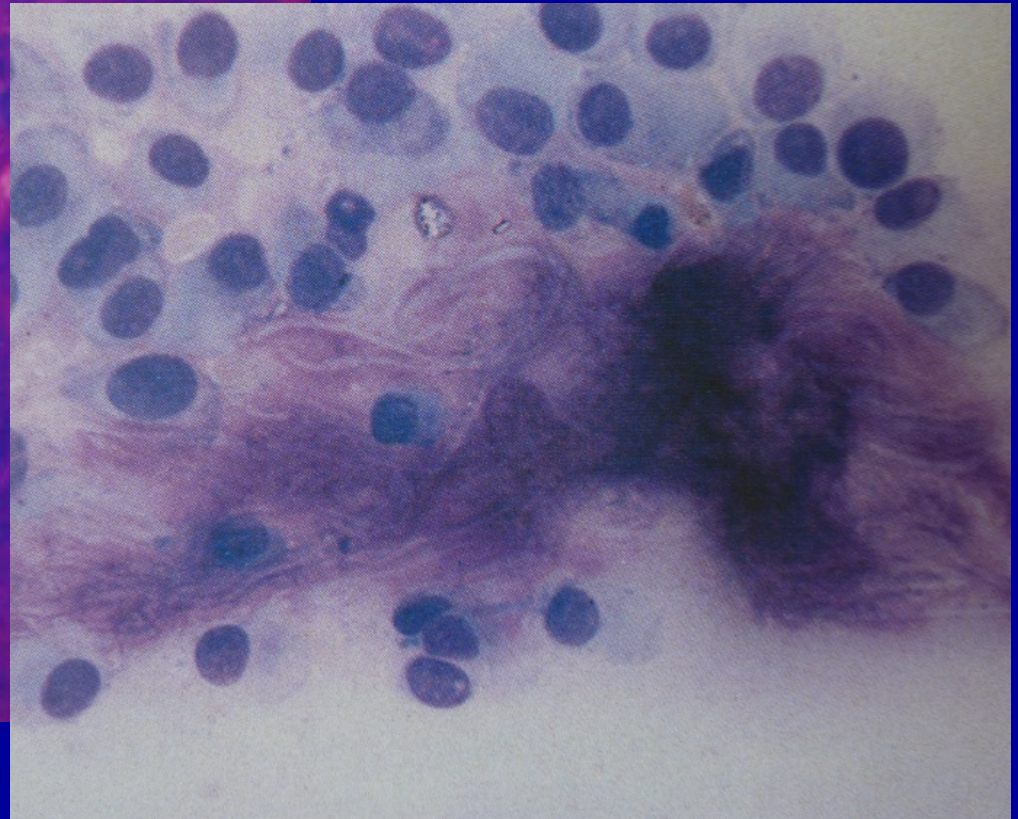
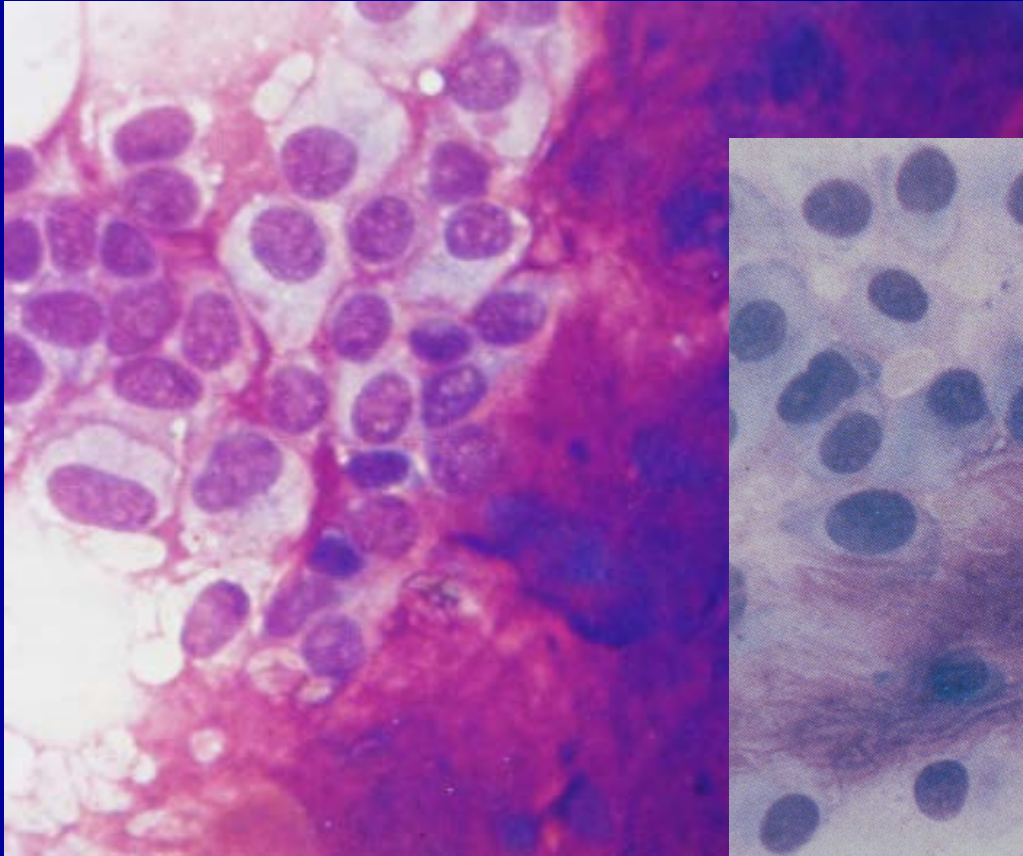
Papillært karsinom, follikulær variant, gl thyr.



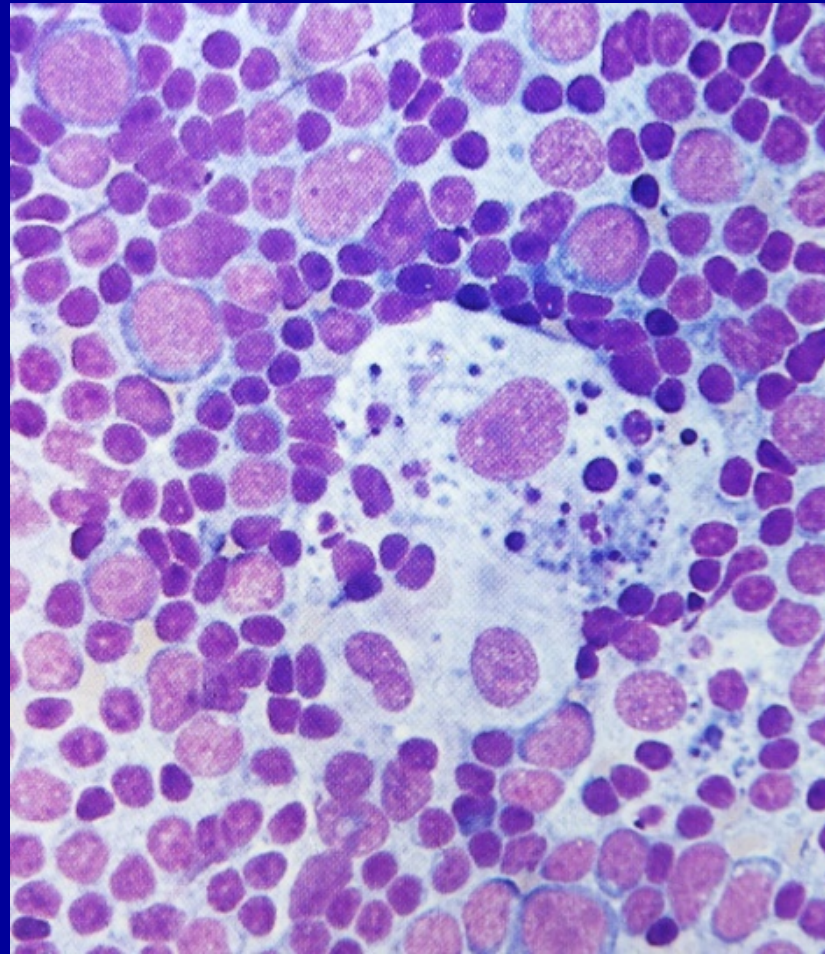
Gl. thyreoidea: Medulært carsinom



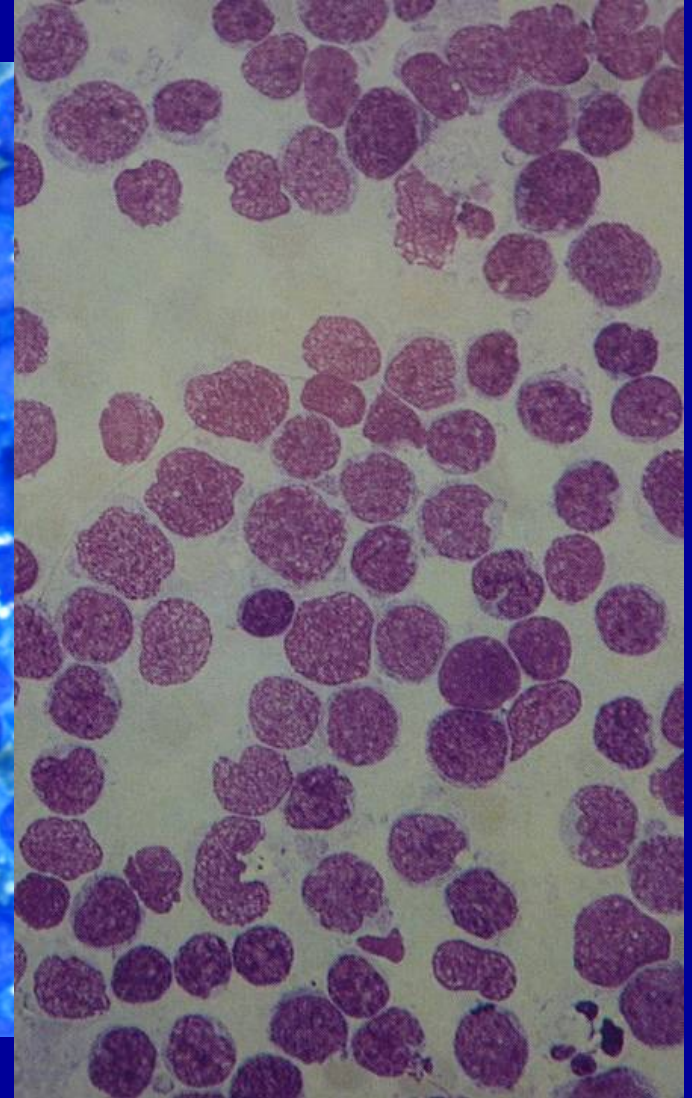
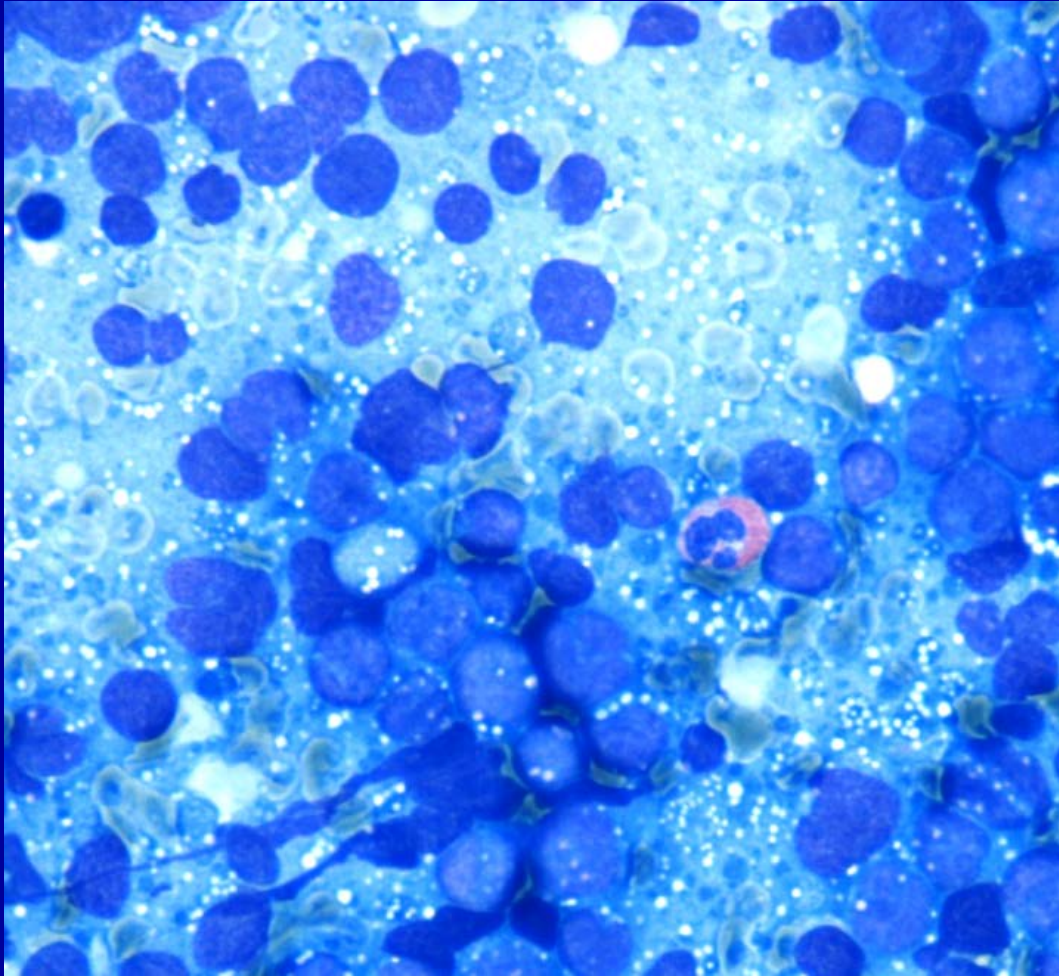
Pleomorft adenom, spyttkjertel



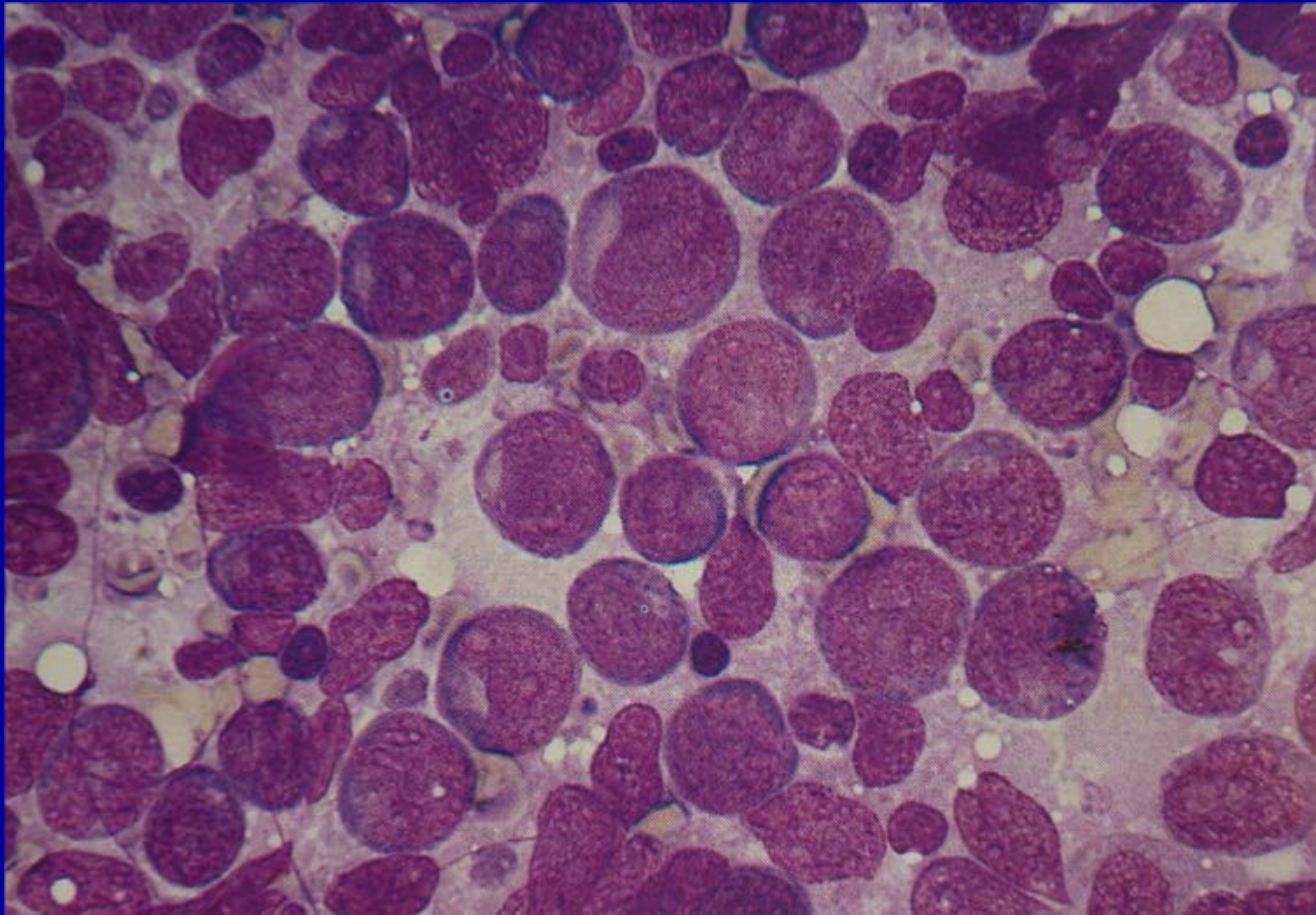
Lymfeknute, reaktiv, makrofag



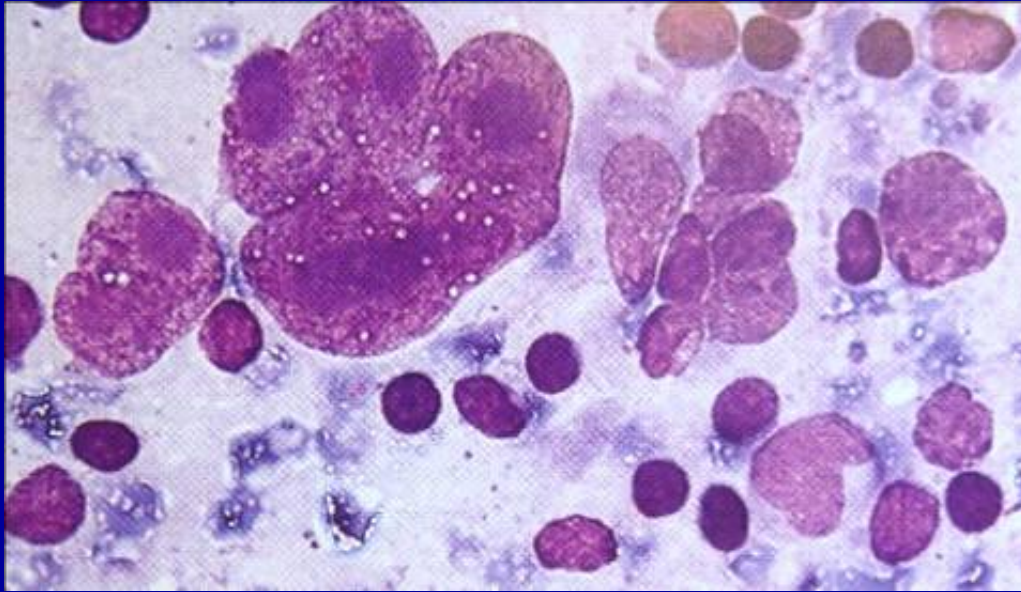
Lymfom



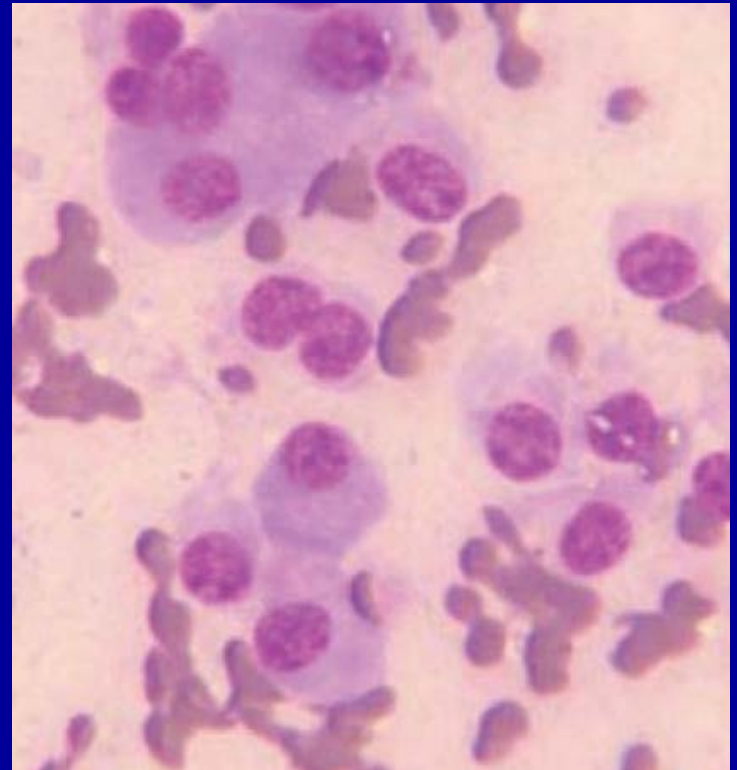
Malignt lymfom, centroblastisk type



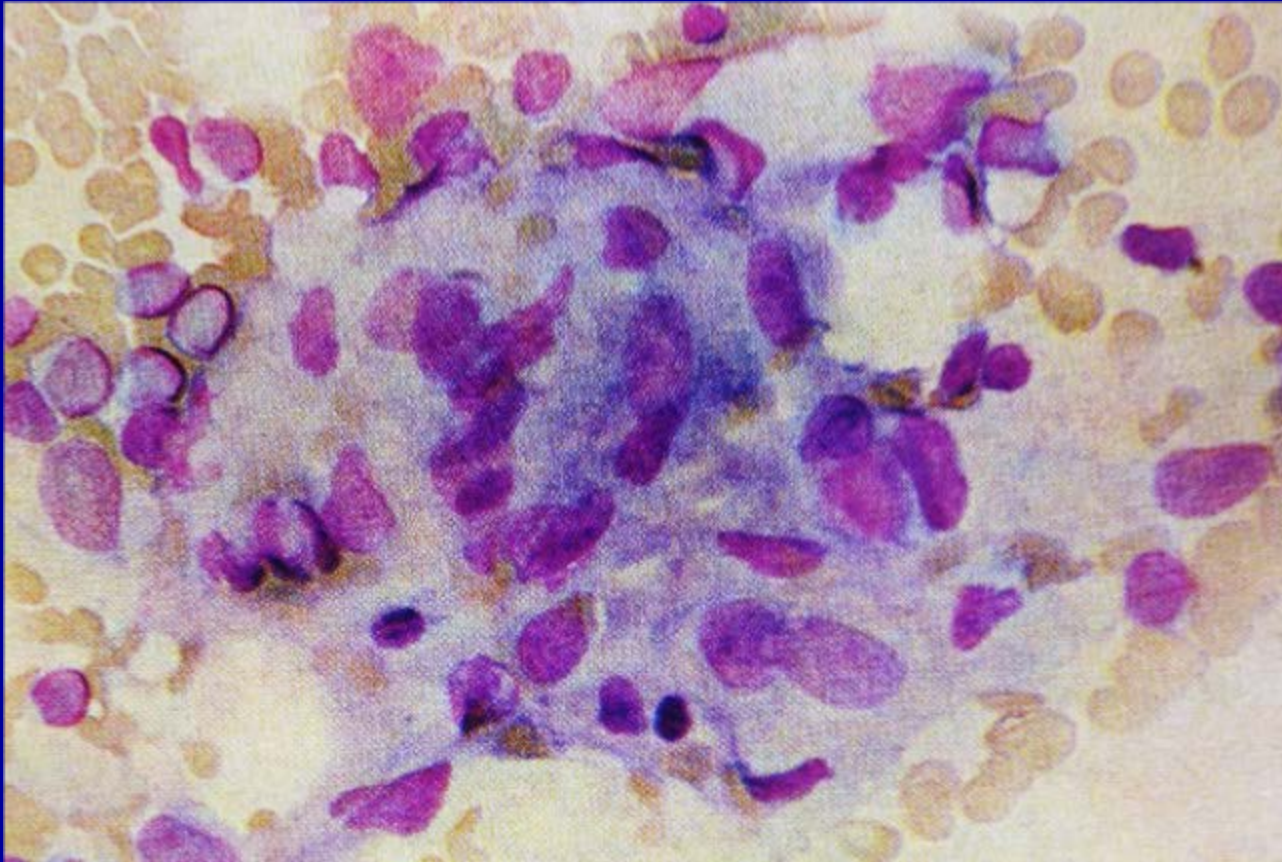
Hodgkins lymfom



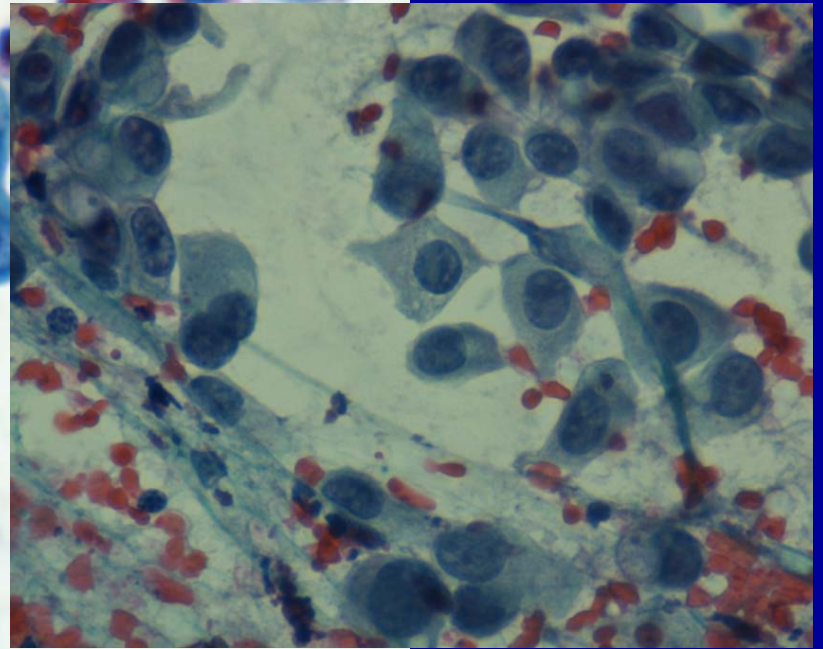
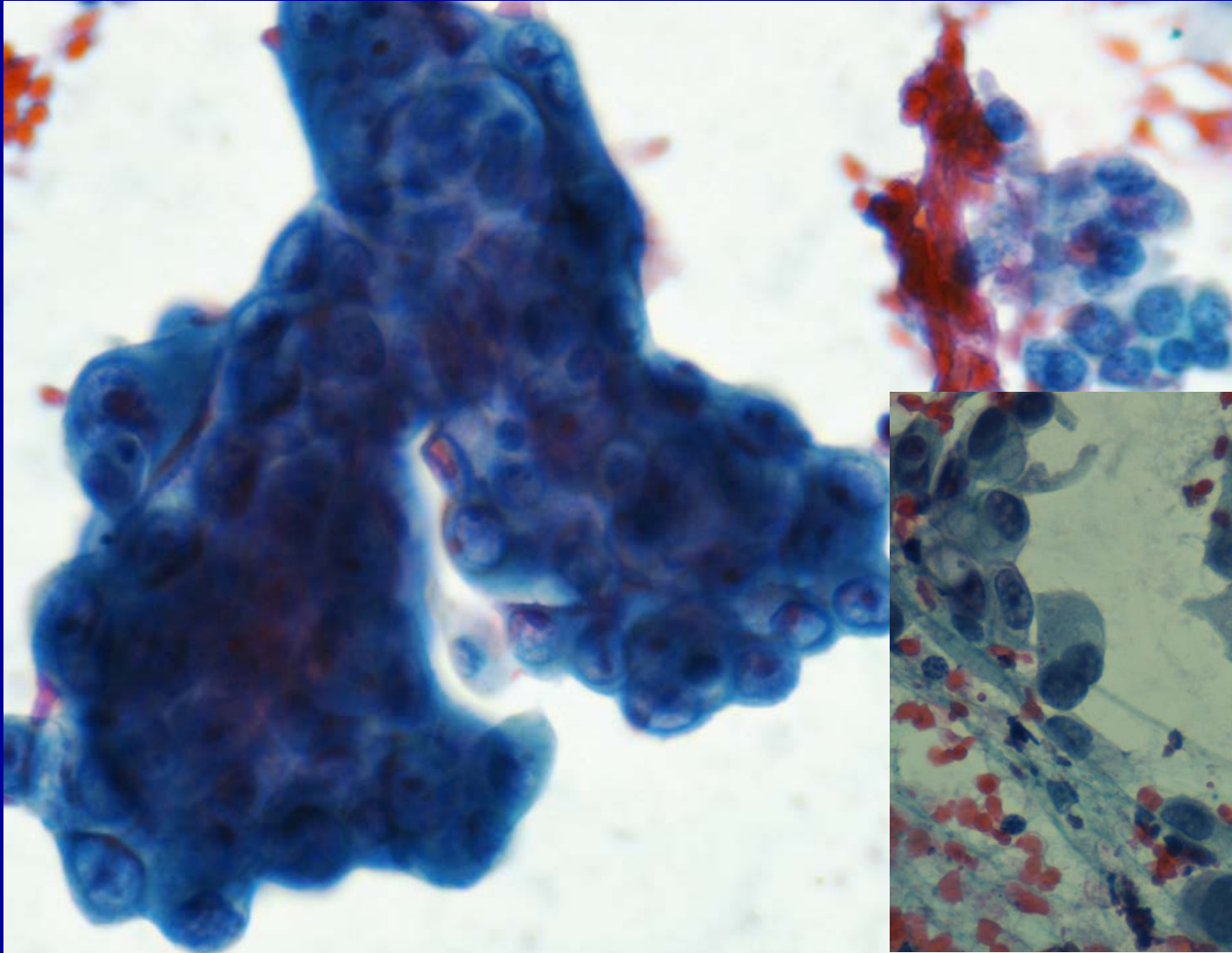
Plasmocytom Tonsille



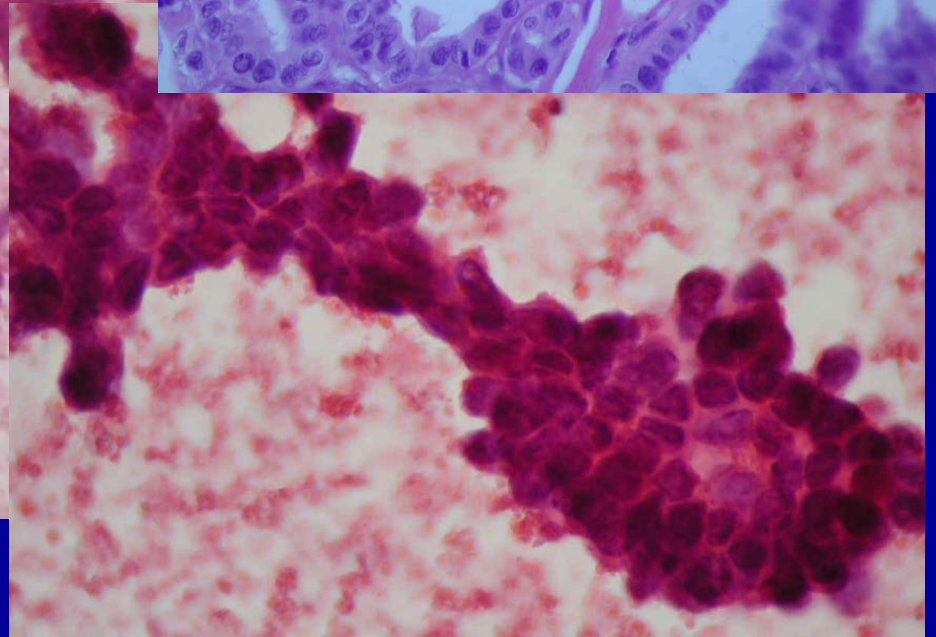
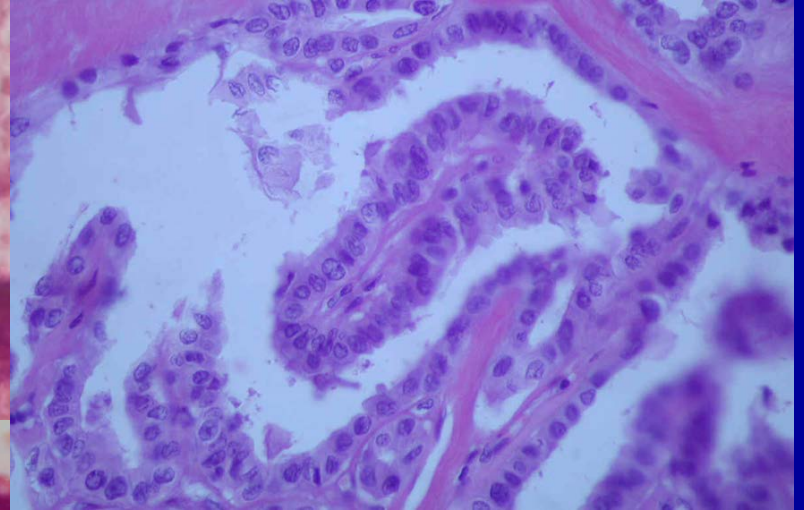
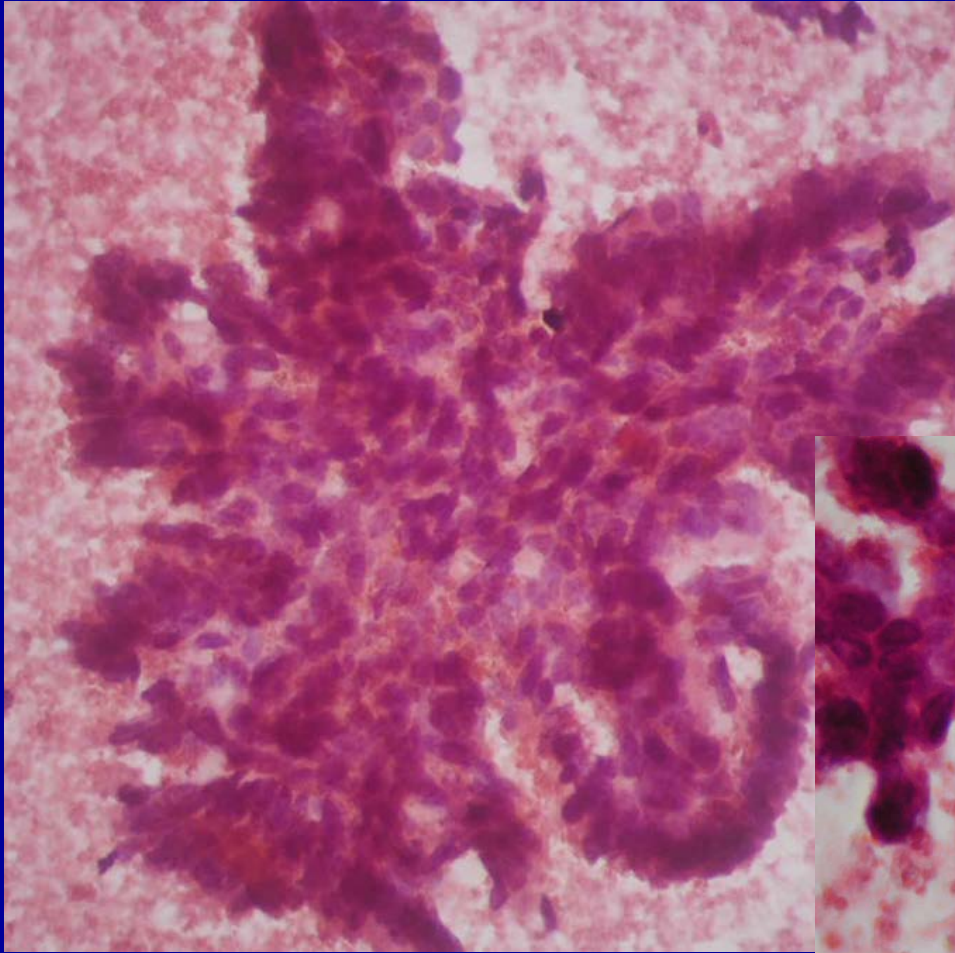
Granulom



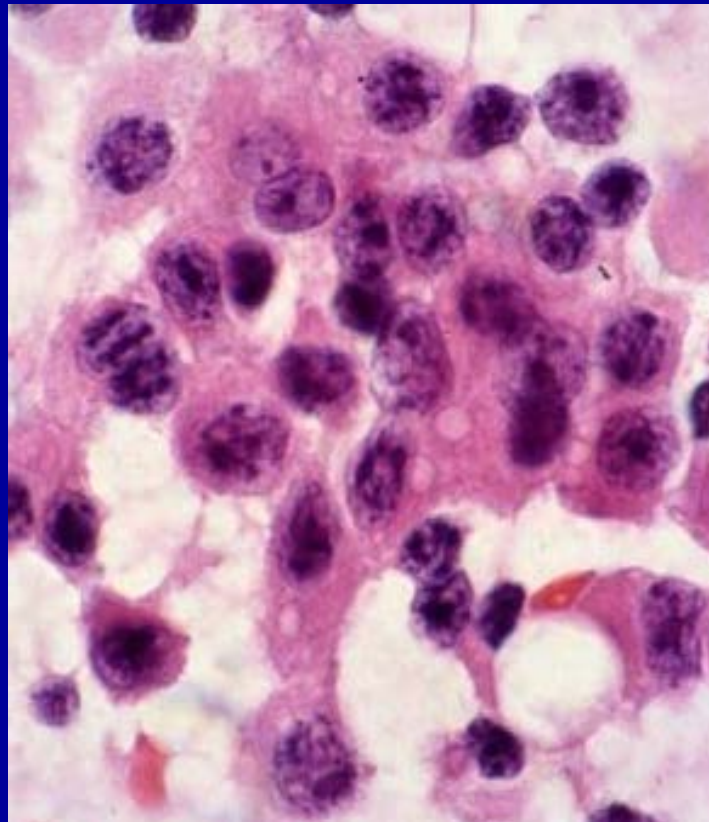
Mammakarsinom

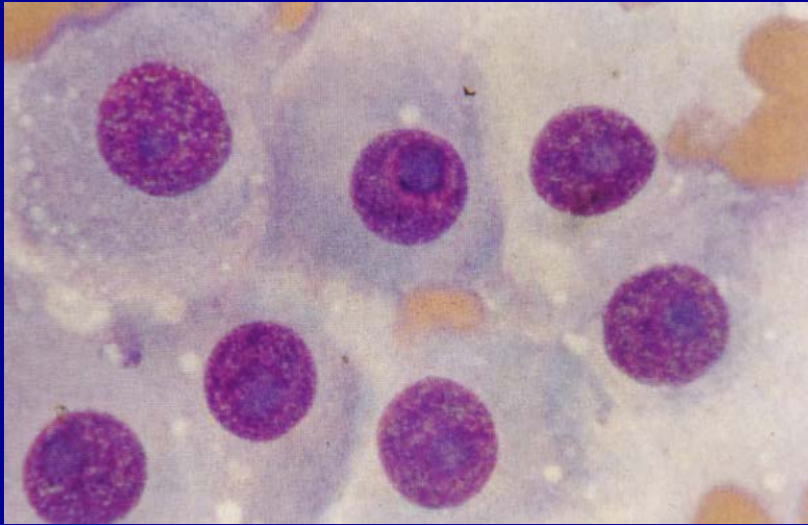


Papillært karsinom, bryst



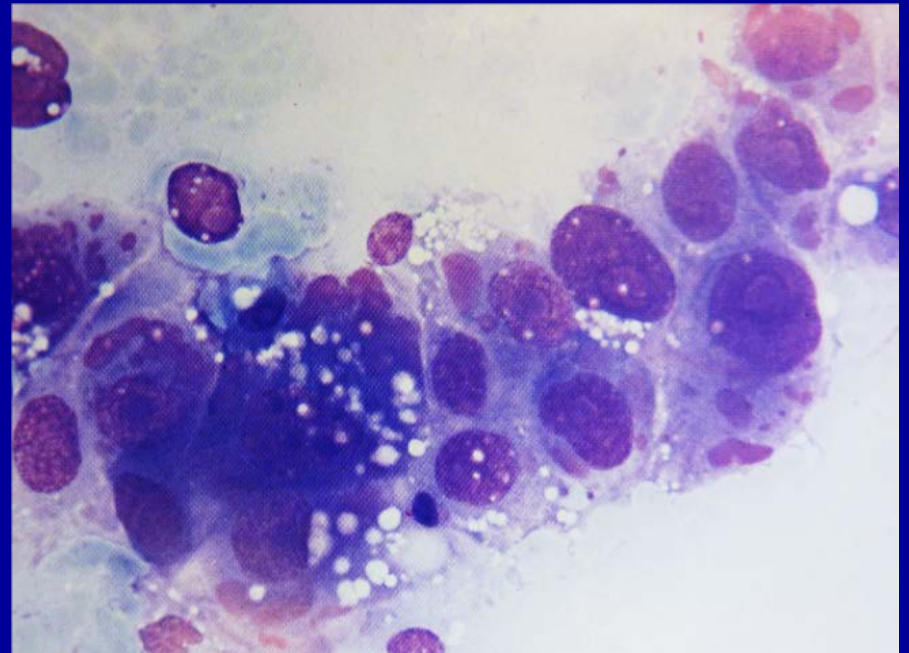
Endokrin tumor



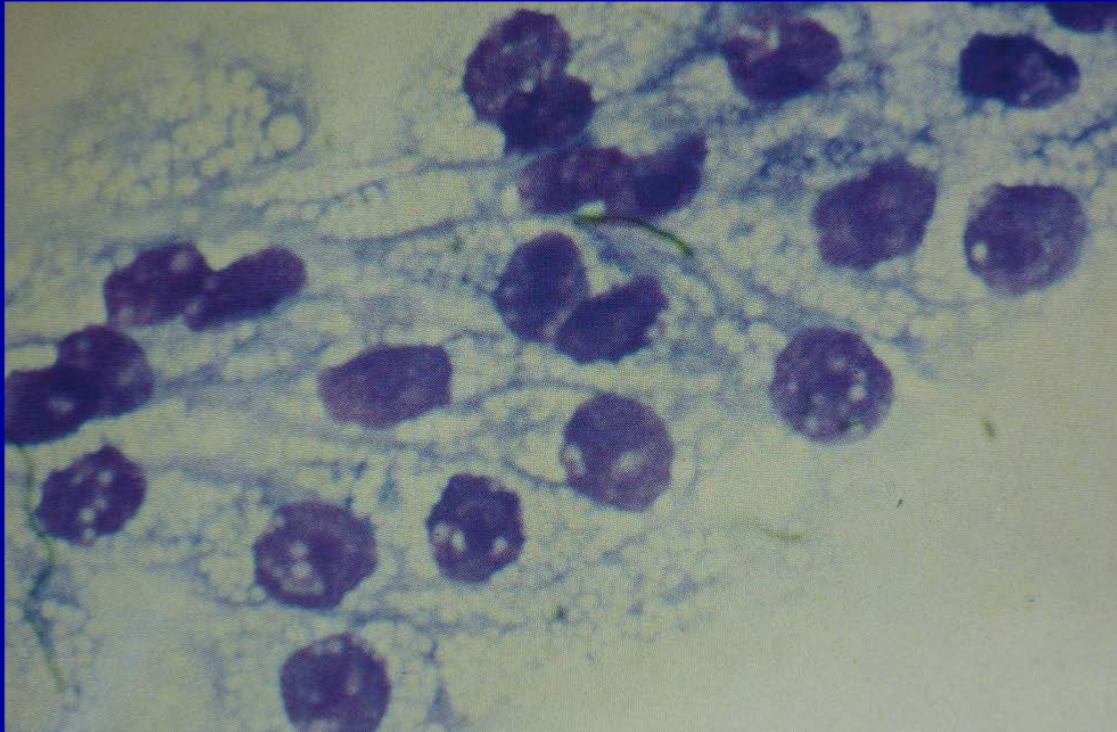


Leverceller

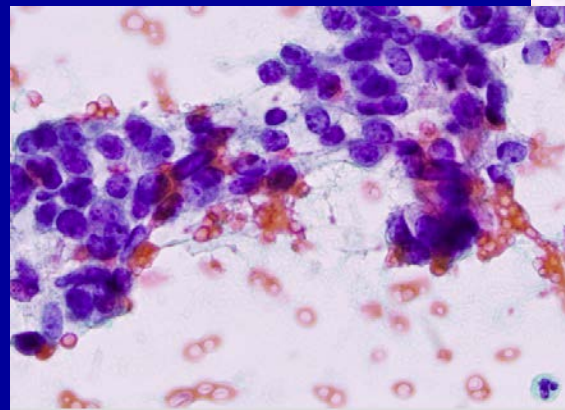
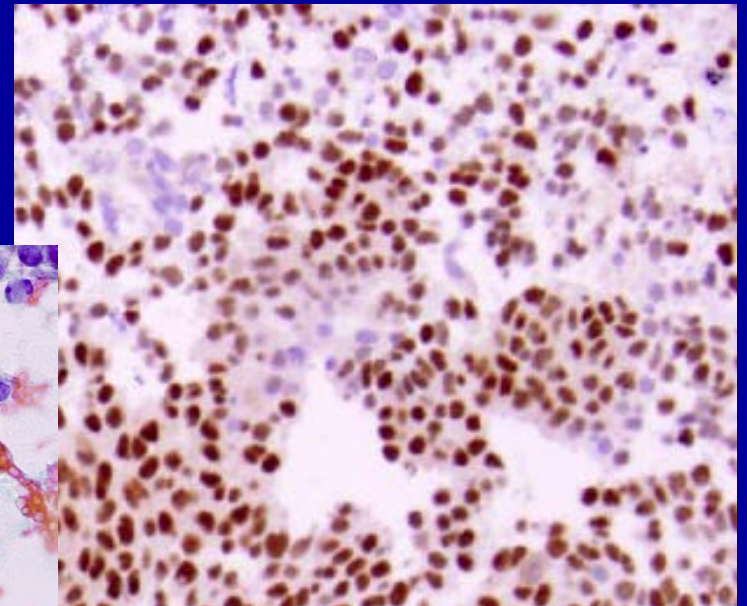
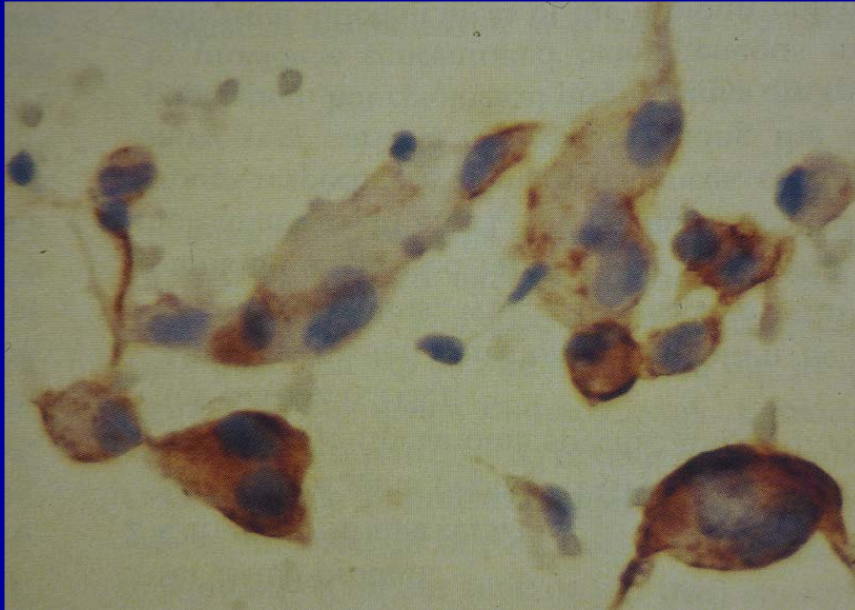
Hepatocellulært
karsinom



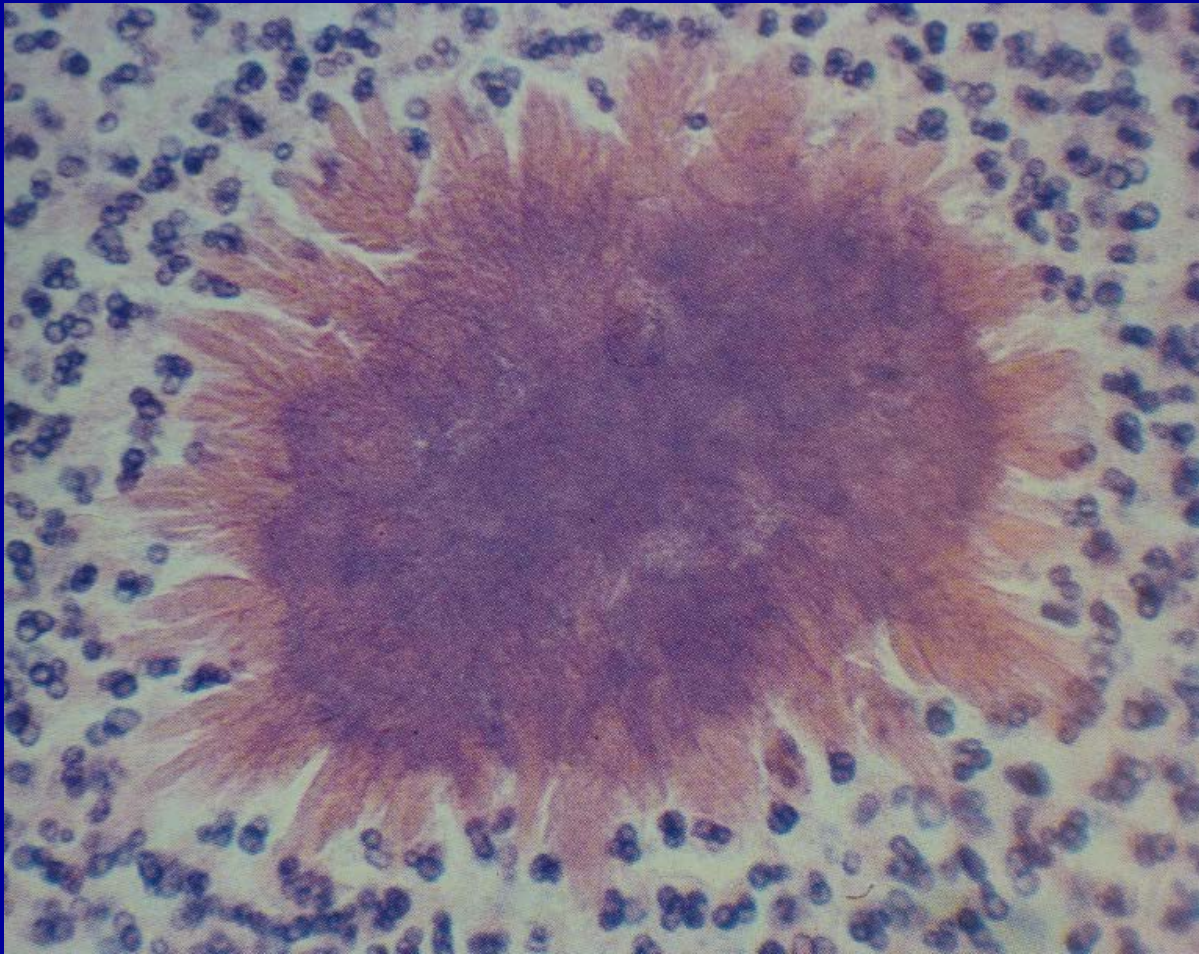
Nyrecellekarsinom



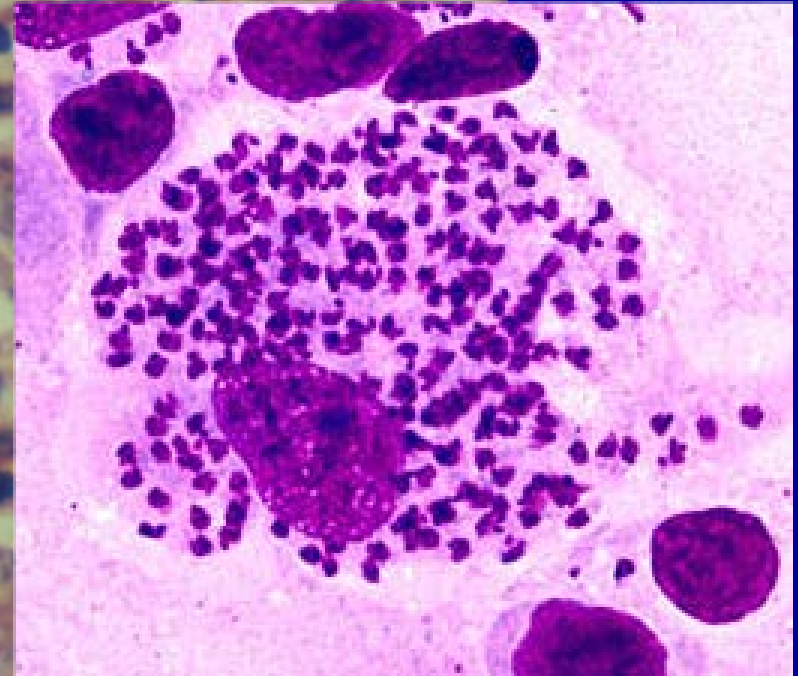
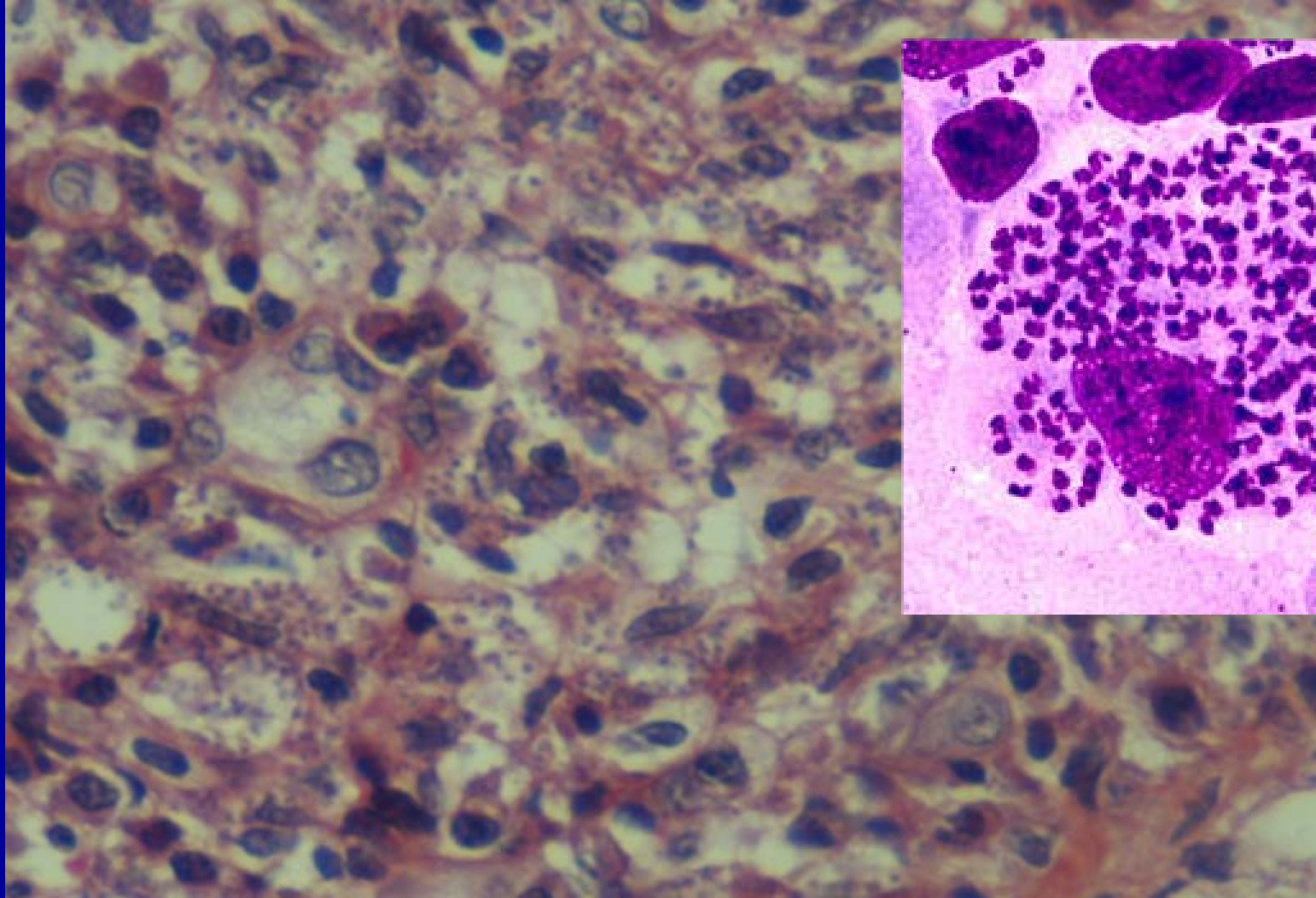
Immunohistokjemi, celleblokk



Actinomyces



Cutan leishmaniasis



Teknisk, hos oss

- Lufttørket, Farves Giemsa,
Diff- Quick (hurtig farve)
- Fix.: Farves "vanlig"
- Cellesuspensjon/ koagler i formalin:
Celleblokk
for Hist./ Immunhistokjemi

Væske: utstryk, Cytospin

Liquid Base Techniques (ThinPrep)

Væske: Flow cytometry (til Oslo)



Samarbeid kliniker - patolog

Flere sykehus:

Scenario 1

- kliniker undersøker pasienten, ultralydveiledning
- FNAC v/ kliniker/ patolog
- hurtigfarging (Diff-Quick)
- preliminær diagnose til kliniker!

Scenario 2

FNAC v/patolog, basert på henvisning

Senario 1

- Sikre representativt materiale
- Beregne materiale til spesialundersøkelser
- Evt. ny aspirasjon- få tilstrekkelig materiale
- Preliminær diagnose til kliniker
(og pasient)
- Planlegge videre utredning/ biopsi/ opr.

Muligheter FNA

Preoperativ diagnostikk av maligne tumorer/
bekreftelse av metastaser/ behandling

Sikre benigne diagnoser

Ingen behandling

- venteliste til operasjon (pleomorft adenom, laterale halscyster osv)

Preliminære diagnoser (veiledning videre utredning)

- haster å utrede/ operere
- kan vente en tid med operasjon
- (operativ) behandling ikke nødvendig

Ønske

