Uro-radiologi

Ultralyd

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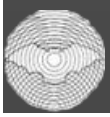
Oversigt

Normal (UL)-anatomi – teknik
- Nyrer
- Ureter
- Blære

Oversigt

Patologi
- Nyrer
- Hydronefrose (-ureter)
- Blære

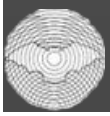


Oversigt

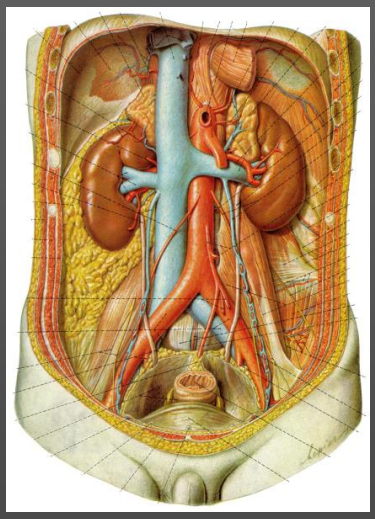
Nyretransplantation

(Prostata)

Scrotum



Anatomi – teknik



Curved array

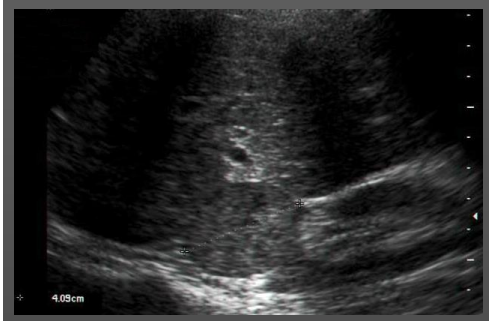
Frekvens?

Faste?

Fed – mager

Binyrer

Anatomi – teknik



phaeochromocytom

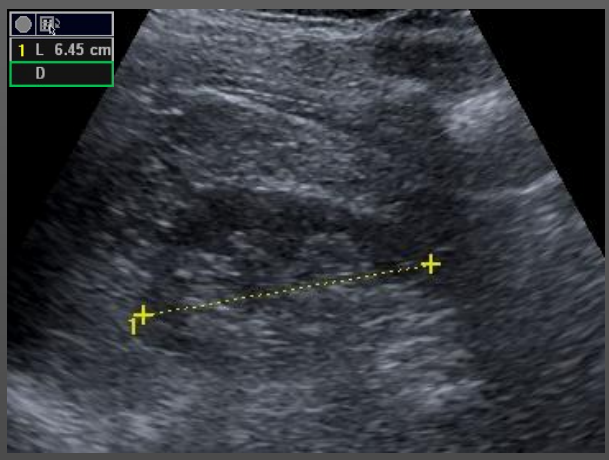
Binyrer

Tumorer

Biopsi?

http://www.ultrasound-images.com/adrenals.htm

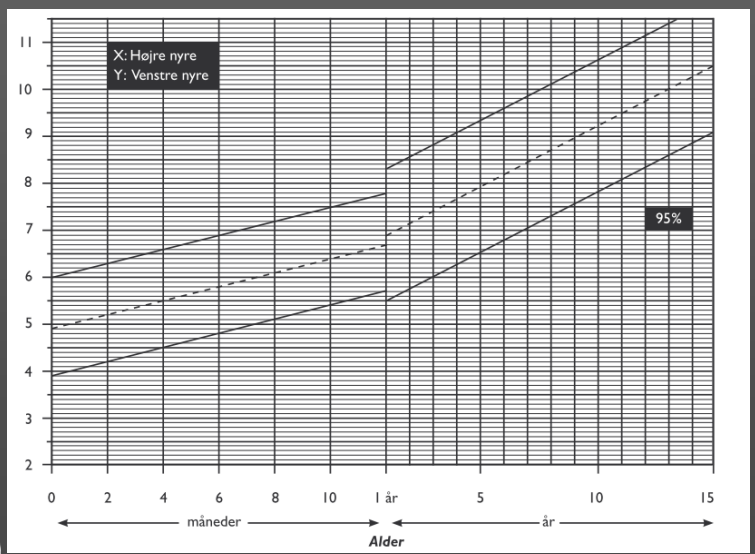
Nyrer – normale



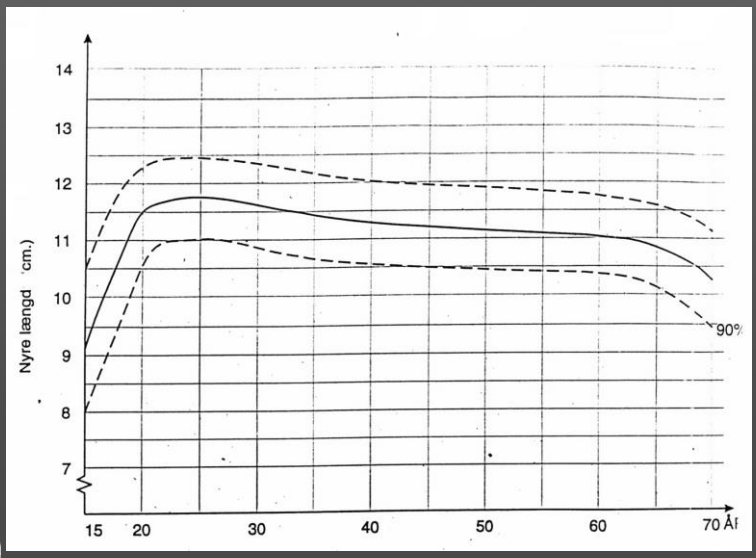
Mål?

længde
bredde
volumen
parenchym

Nyrer – normale



Nyrer – normale



Nyrer – normale

Mål?

Nyrepelvis

Ethvert mål på nyrepelvis i andet end rent tværsnit er meningsløst !!

Ureter – normal

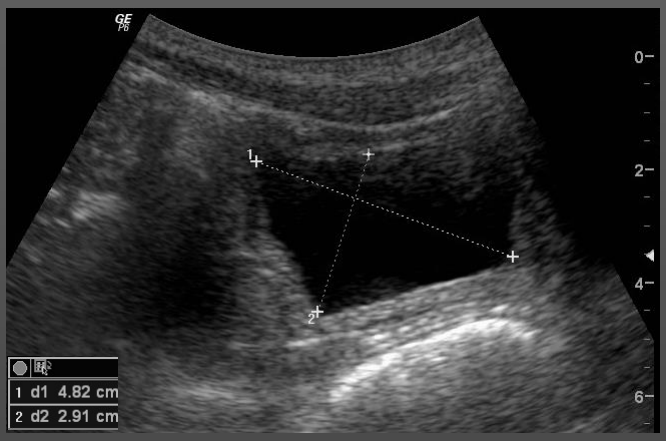
Mål?

Ikke (altid) synligt

Foran m. psoas

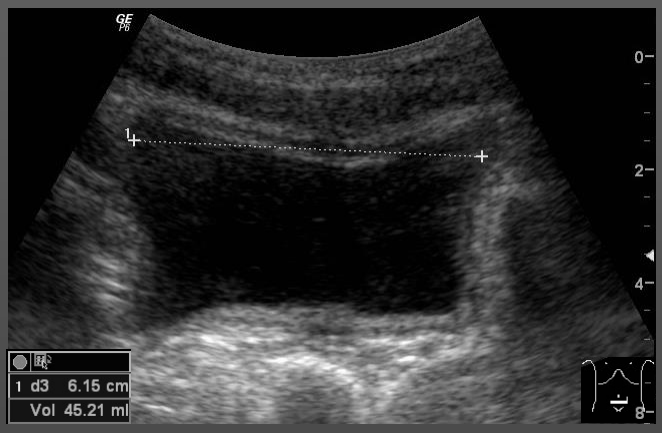
Bag blæren – ostier

Blære – normal



Sagitalt – mål

Blære – normal



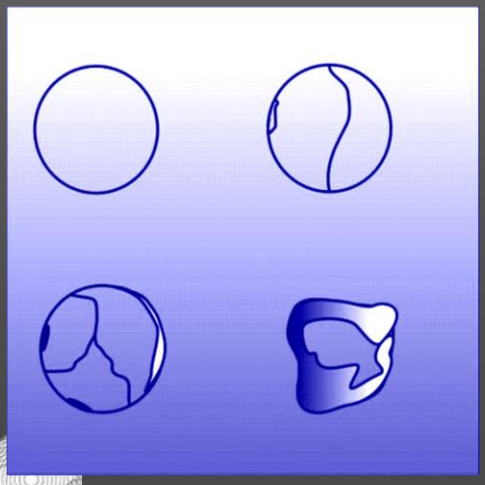
Transverselt – mål

Patologi – nyrer

Cyster – tumorer
Medicinske nyresygdomme
Nyrearteriestenose (RAS)
Infektioner
Traume
Hydronefrose
(Sten)

Cyster – tumorer

Cyster – Bosniak klassifikation



Bosniak I, II	→ Ignore
Bosniak II F	→ Follow
Bosniak III, IV	→ Excise

	Ignore	Follow	Excise
Calcification	small smooth, septal milk of calcium	thick nodular	enhancement nodular and wall thickening
Hyperdens	sharp margin < 3 cm not completely intrarenal, homogeneous US: cysic	totally intra-renal, > 3 cm + no enhancing	poorly defined heterogeneous enhancement US: solid
Septations	Thin and smooth	Slightly greater than a hairline	Thick, irregular, nodular enhancement
Enhancement	< 10 HE	10 -15 HE	> 15 HE *
Multiloculated	–	–	All* • unless infection
Nodularity	–	Very small nonenhancing nodules	All others
Wall thickening			All* unless infection

Cyster – tumorer

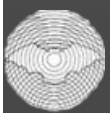
Cyste – ultralyd

tynd væg
ekkotom
for- og bagkantsforstærkning
enhancement

Benigne nyretumorer

Differentialdiagnoser:

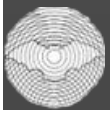
- Alle maligne tumorer (RCC)
- Metastase/spredning
- Cyste/cystisk sygdom
- Infektion/inflammation
- Abces
- Hæmatom
- Pseudotumor



Benigne nyretumorer

- Angiomyolipom
- Oncocytom
- Adenom

- Multicystic nephroma
- og andre sjældne

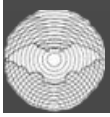


Benigne nyretumorer

- Angiomyolipom

Ekkorig

Ultralyd ikke sikkert diagnostisk

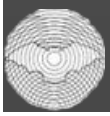


Benigne nyretumorer

- Angiomyolipom

Isolerede angiomyolipomer

Angiomyolipomer associeret med tuberøs sklerose



Benigne nyretumorer

Angiomyolipom

Follow-up

< 4 cm

(årlig) kontrol UL (CT)

> 4 cm - symptomer - uafklaret patologi

Nyrebesparende resektion

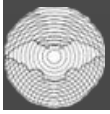
Embolisering

Benigne nyretumorer

Oncocytom

Centralt ar (80%?) – ”spoke wheel sign”

Ultralyd slet ikke diagnostisk

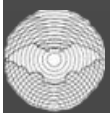


Medicinske nyresygdomme

Klinisk og ultralydmæssigt inhomogen gruppe

- Stor – lille – normal
- Cortex ekkorig – normal – medulla ekkorig
- Cyster – ar
- Doppler: Normal – høj perifer modstand (RI)

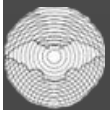
Systematik findes men ikke specifik (nok)



Medicinske nyresygdomme

Hvorfor ultralyd?

- Bestemme nyrestørrelse
- Udelukke afløbshindring
- Udelukke tumorer og større morfologiske forandringer
- Identificere aflejringssygdomme m.m.



Guide til sikker histologisk nyrebiopsi

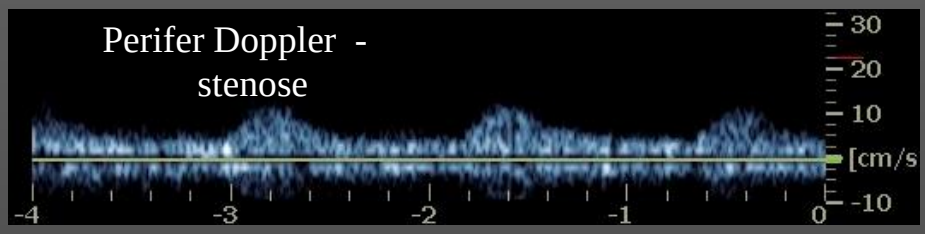
Medicinske nyresygdomme

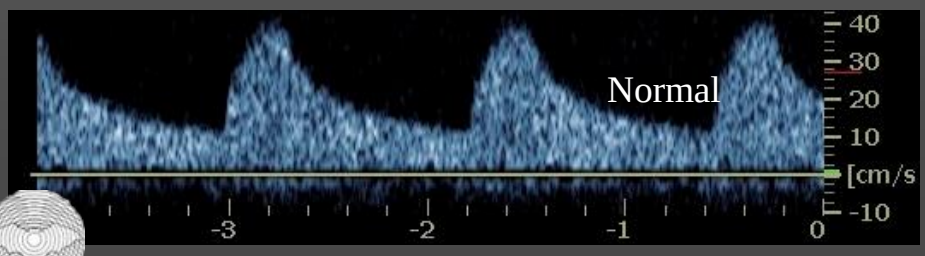
Nyrearteriestenose (RAS)

Central Doppler
- høj hastighed (teknisk vanskeligt)

Perifer Doppler
- langsom systolisk acceleration
- dæmpet kurve (lavt modstandsindex)

Doppler – nyrearteriestenose





Doppler – nyrearteriestenose

Kriterier:

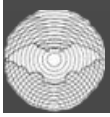
Forskel i nyrelængde > 1,5 cm

Forskel i PI > 0,1

Medfører

- høj sensitivitet (≈ 100%)
- moderat specificitet

Sortere før evt. andre metoder

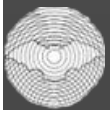


Doppler – nyrearteriestenose

Begrænsninger

- ennyret
- bilateral stenose
  - systolisk accelleration
- perifer nyresygdom m. PI > ca. 1,2

Findes mange andre algoritmer og metoder

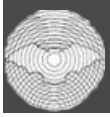


Infektioner

Indikation for ultralyd:

Be- eller afkræfte afløbshindring (empyem)
Diagnosticere abscesser
- hæmatogen spredning af infektion
- infektion i cyste

Ultralydvejledt drænage

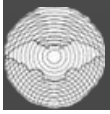


Traumer

Få indikationer for ultralyd:

Evt. nogle børn
Evt. nogle kontroller

Evt. ultralydvejledt intervention

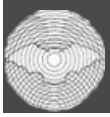


Hydronefrose

Ætiologi:

- UPS
- Sten
- Ureterstenose – benign
- Ureterstenose – malign
  - indefra – udefra
- Blæretumor
- Infravesikal afløbshindring

Find ætiologien !



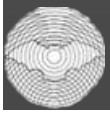
Hydronefrose

Ingen direkte sammenhæng mellem dilatationsgrad og stenosegrad !

Let stenose i lang tid giver svær dilatation

Svær stenose giver let dilation

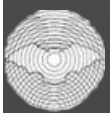
Stenose giver tiltagende dilation (en vis tid)



Blære

Tumor
Sten
Koagel
Divertikel

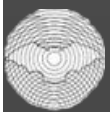
Suprapubisk kateter



Nyretransplantation

Ansamling (beliggenhed/betydning)
Afløbshindring (dilation/ændring)
Venetrombose (sjældent venestenose)
Arteriestenose
Perifer modstand (parenchym-problemer)

Guide til biopsi og graftnefrostomi



Nyretransplantation

(Venetrombose/stenose)

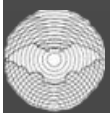
ATIN

Rejektion

akut/kronisk

Intoksikation (cyclosporin m.m.)

Andre generelle medicinske nyresygdomme (afløbshindring)



Parenchymproblem

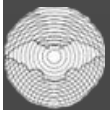
Høj perifer modstand

Prostata

Trend:

Urologer (ultralyd – biopsier)

MR (måske incl. biopsi)



Prostata

Kom til DURS årsmøde
fredag 8. maj 2015

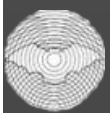
– her i lokalet!

Scrotum

Ultralyd er fantastisk !!

Scrotum

Tumor
Epididymitis
Orchitis
Absces
Hydrocele
Spermatocele
Varicocele
(Torsio testis)



Scrotum – tumor

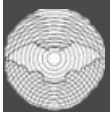
Næsten alle tumorer er maligne

Alle maligne tumorer medfører døden i en ung alder – uden behandling

Næsten alle (> 90%) helbredes

flest og lettest ved tidlig diagnose

Næsten alt udenfor testis er benignt



Scrotum – tumor

Yngre end 50 år:	Germinalcellecancer
Ældre den 50 år:	Sjældent tumor
	Lymfom
	Metastaser

Scrotum