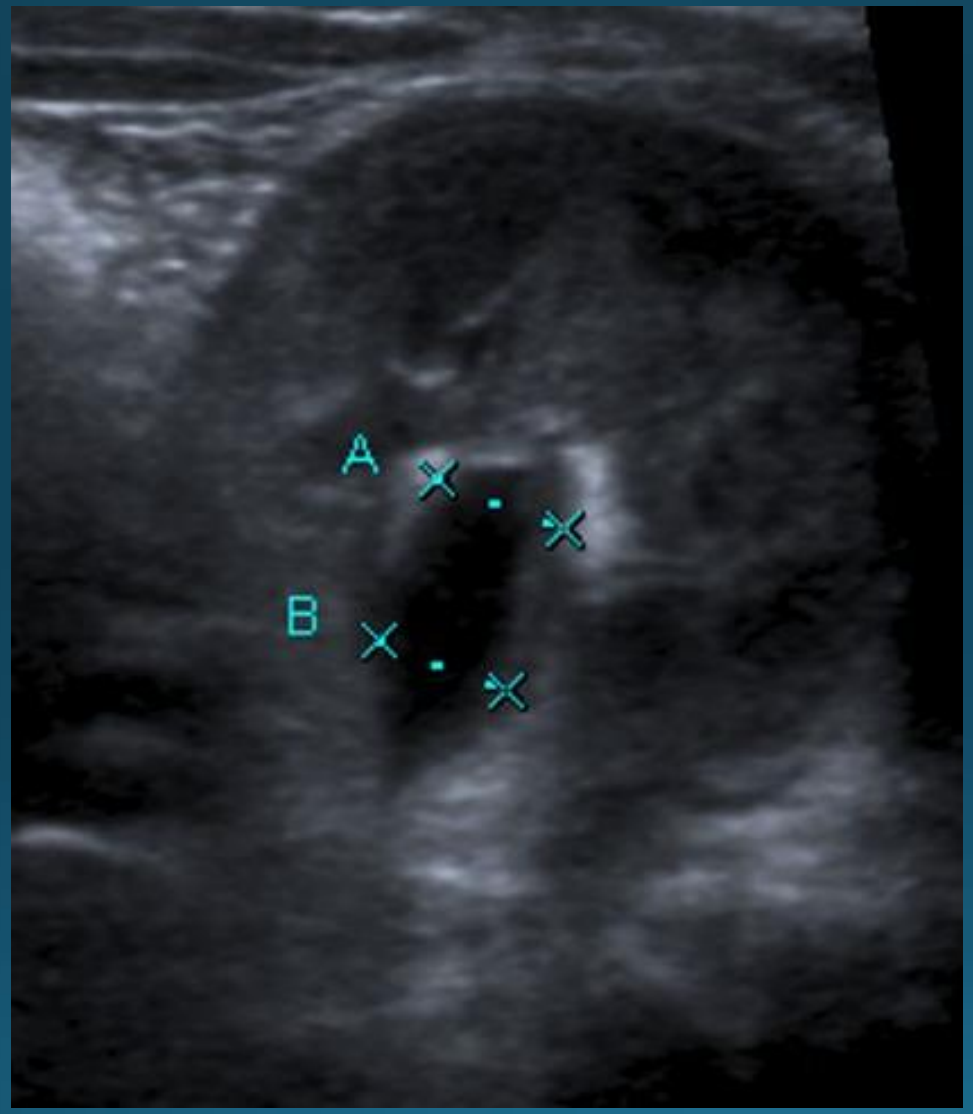
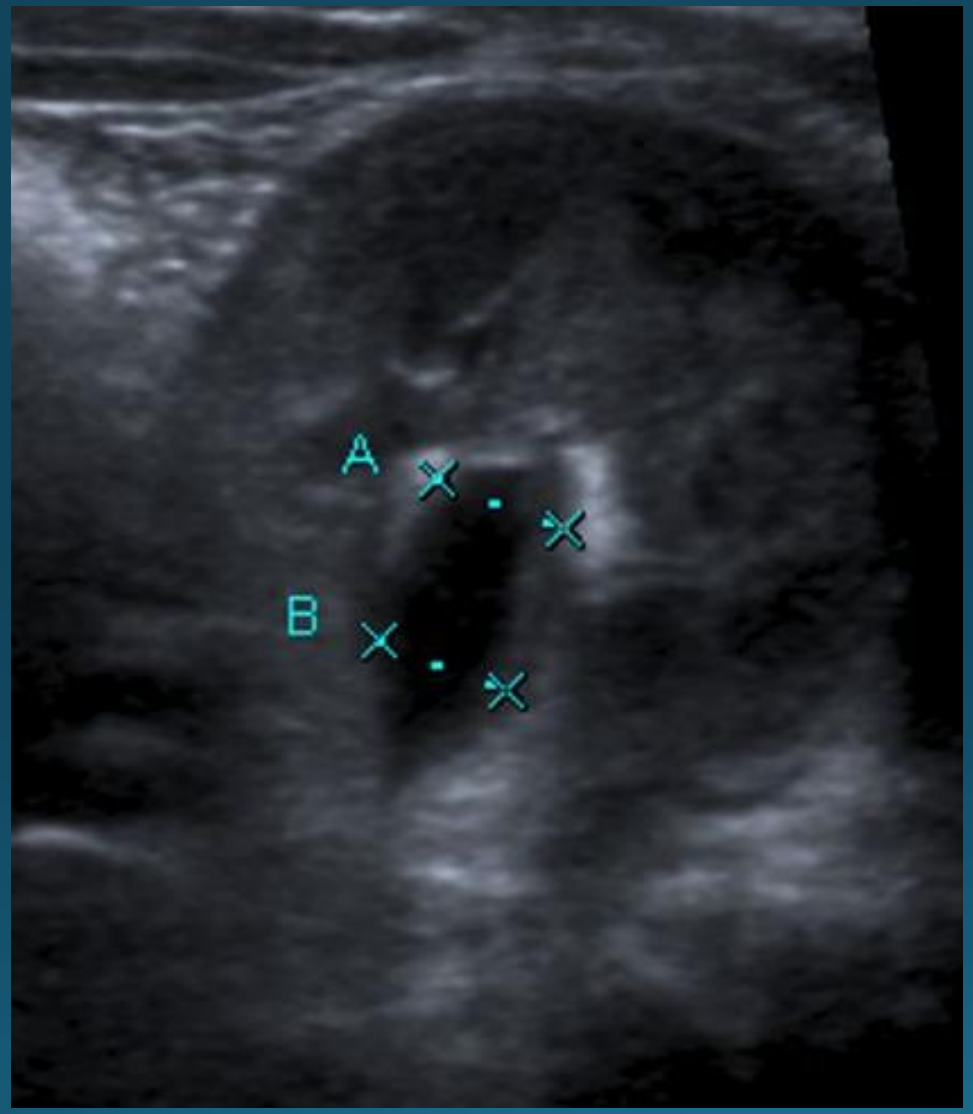
Eliška Popelová

Dilatace horních močových cest

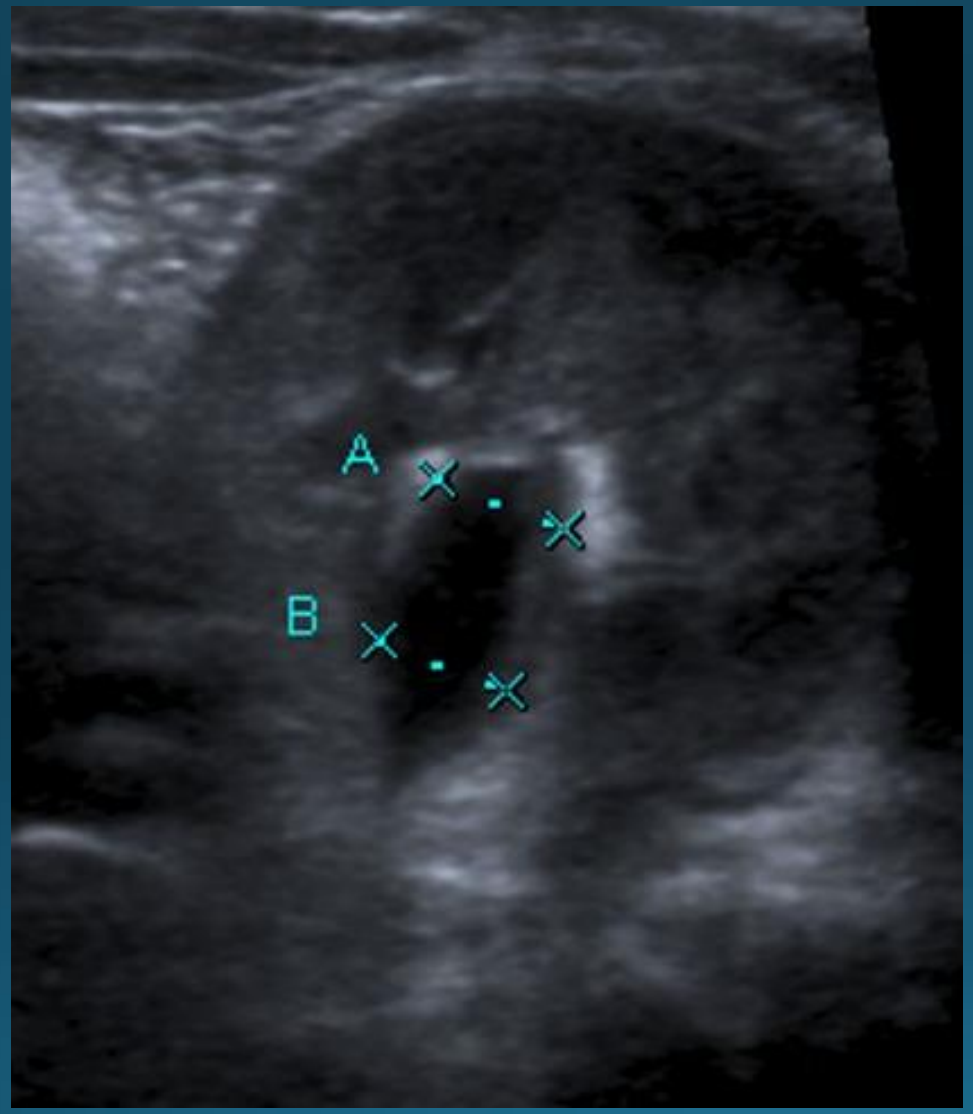

A
B

normální nález



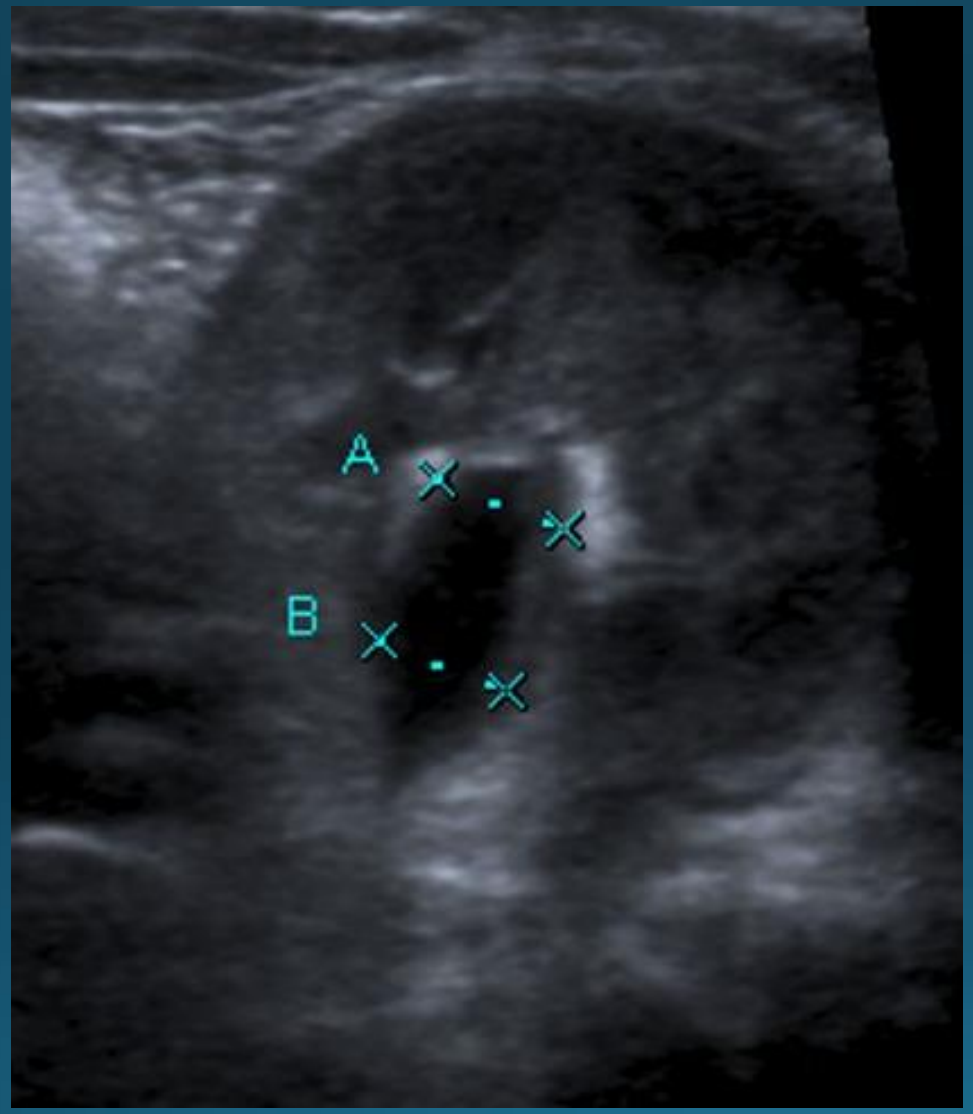
normální nález

plnější pánvička



normální nález

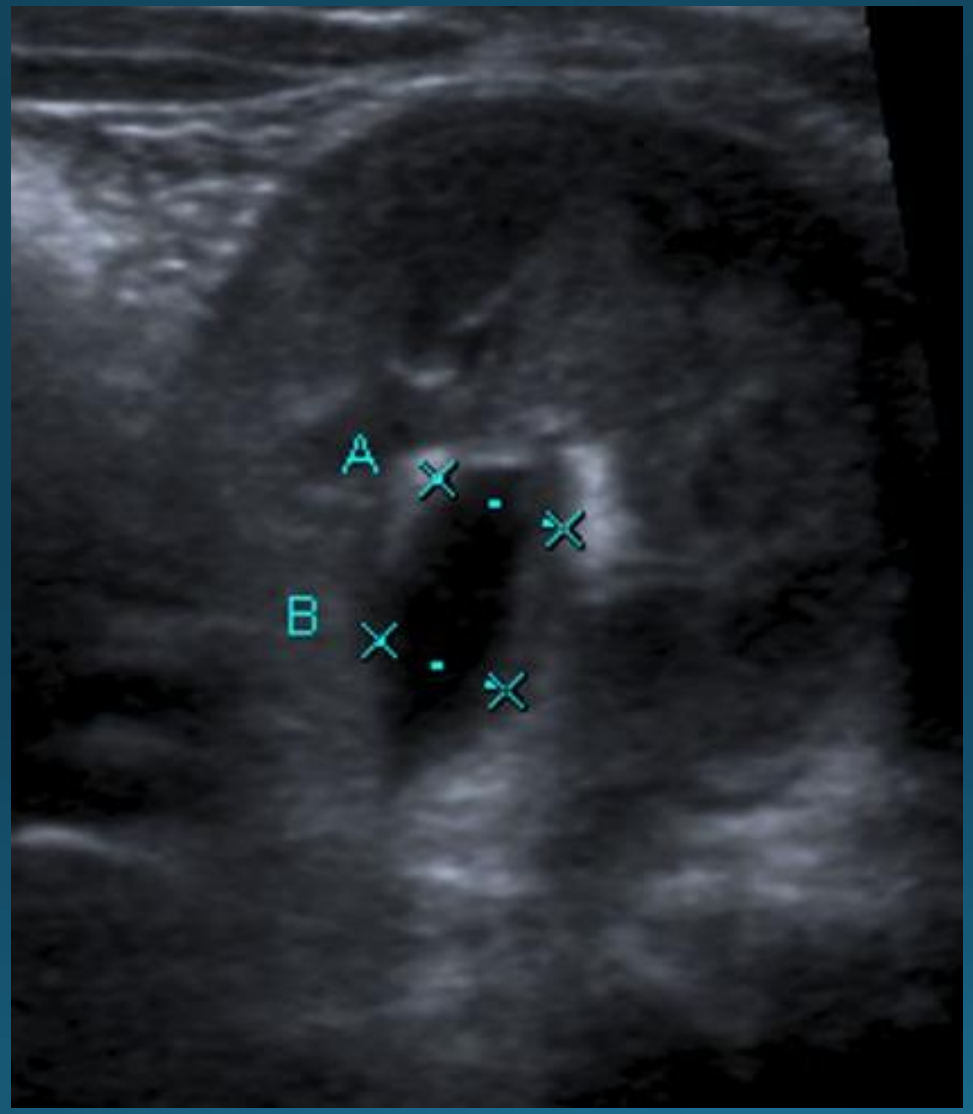
plnější pánvička



mírná hypotonie

normální nález

plnější pánvička

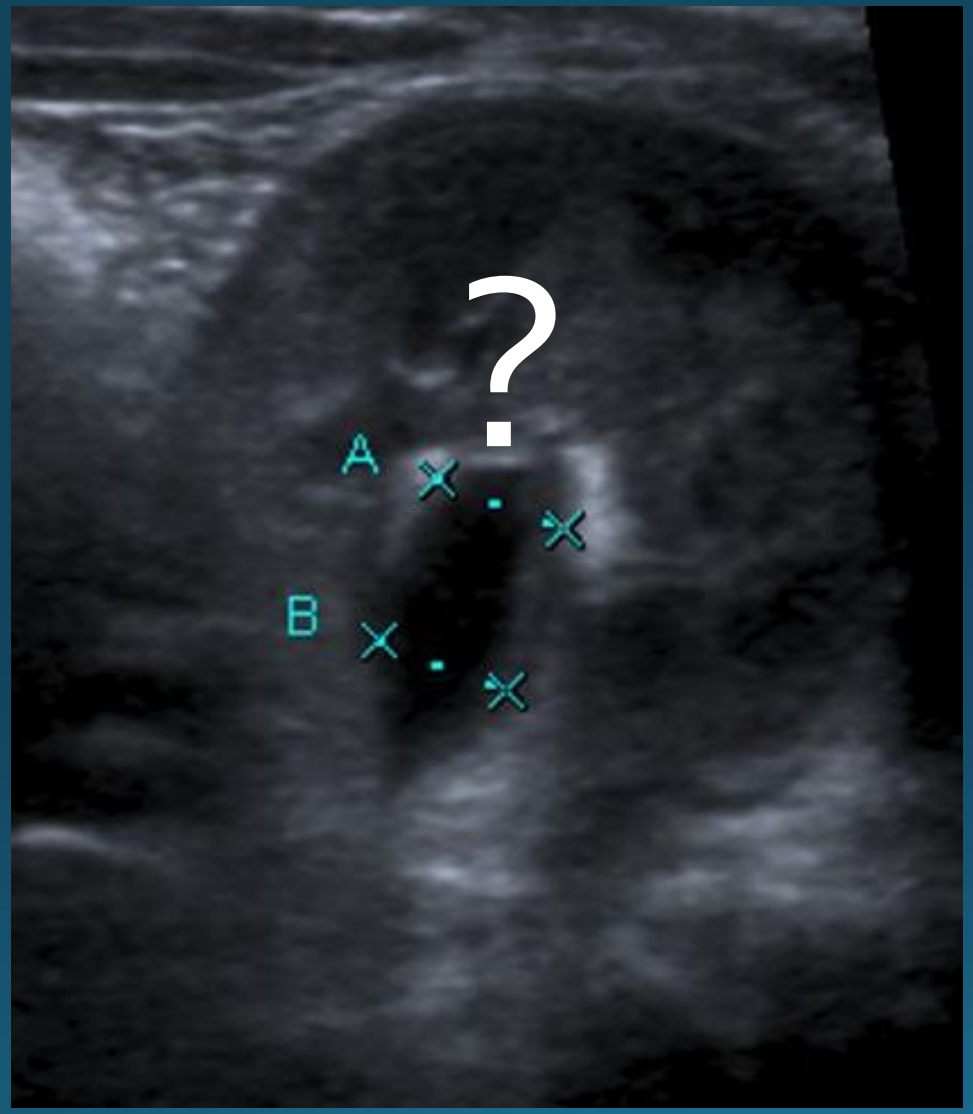


mírná hypotonie

mírná hydronefróza

normální nález

plnější pánvička

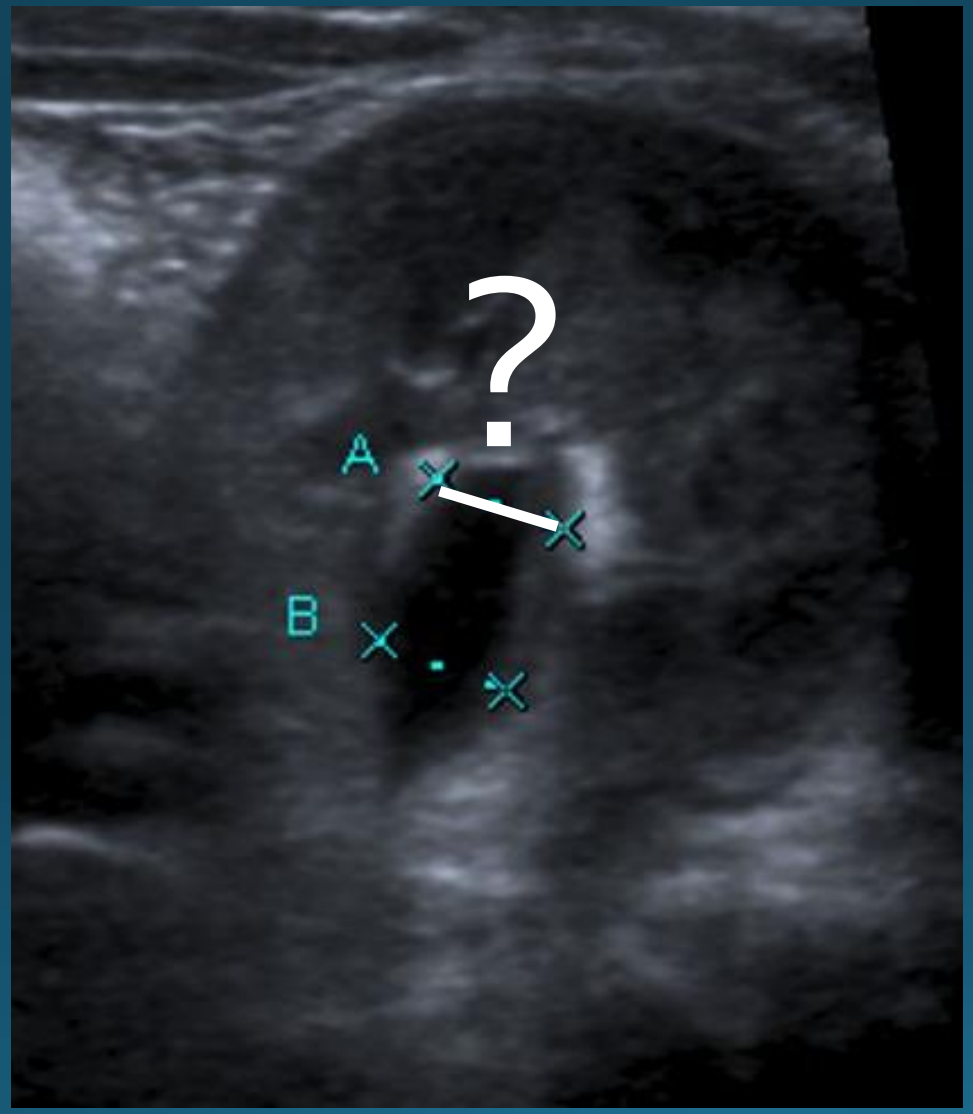


mírná hypotonie

mírná hydronefróza

normální nález

plnější pánvička

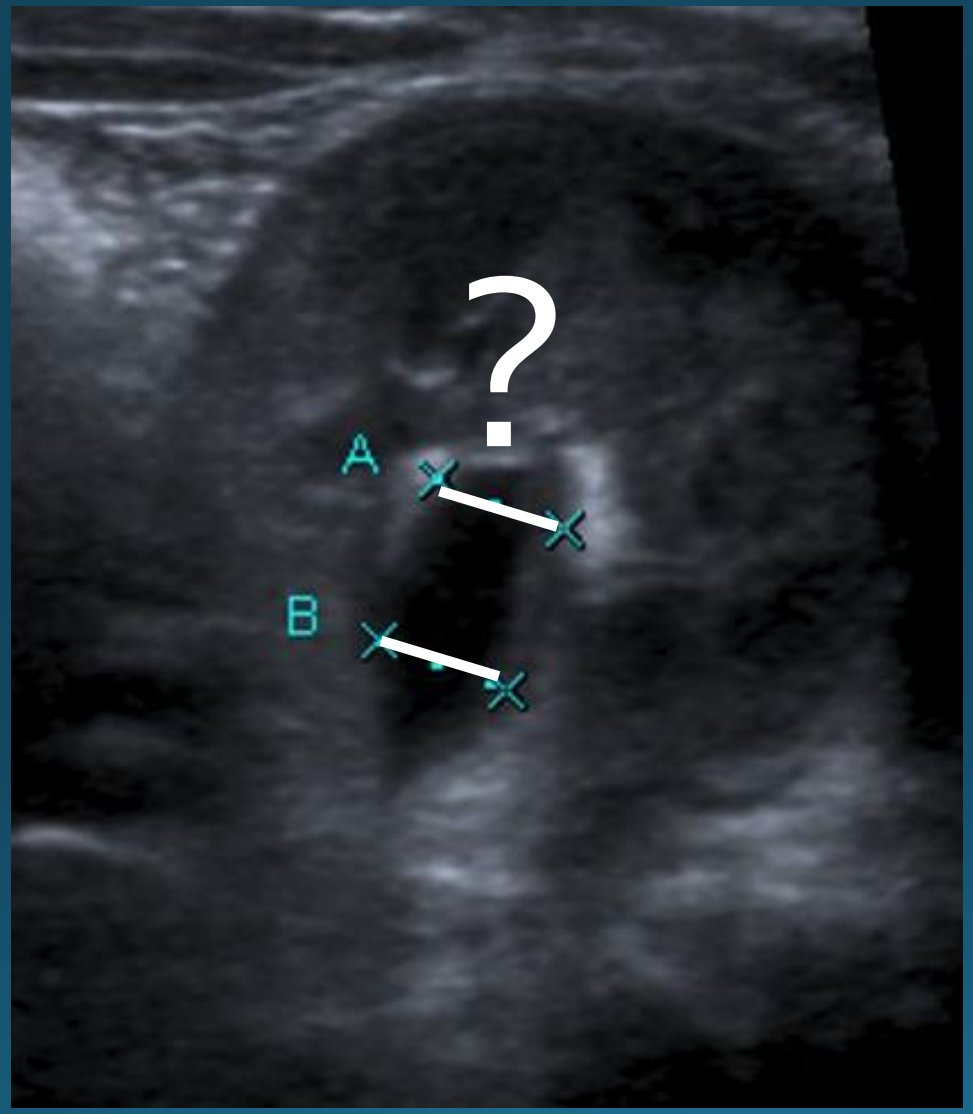


mírná hypotonie

mírná hydronefróza

normální nález

plnější pánvička



mírná hypotonie

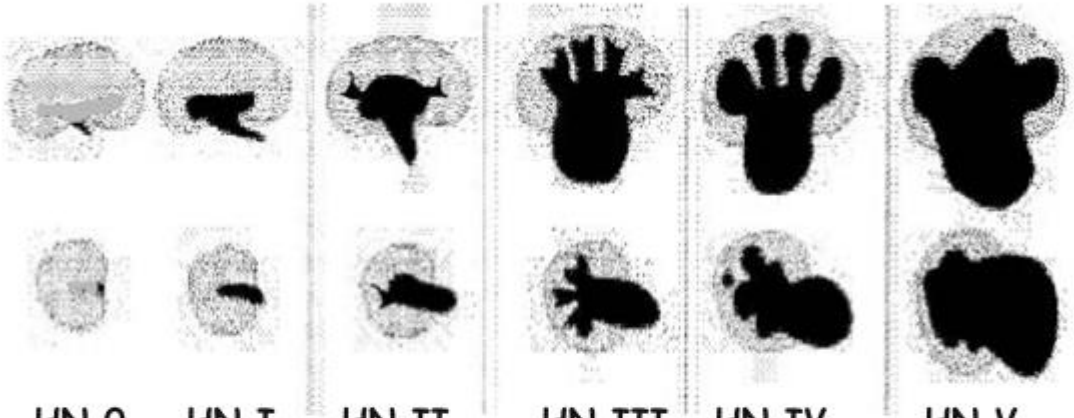
mírná hydronefróza

Pediatr Radiol (2008) 38:138–145
DOI 10.1007/s00247-007-0695-7

REVIEW

Imaging recommendations in paediatric uroradiology: minutes of the ESPR workgroup session on urinary tract infection, fetal hydronephrosis, urinary tract ultrasonography and voiding cystourethrography, Barcelona, Spain, June 2007

Neonatal / infantile hydronephrosis (HN) – US grading



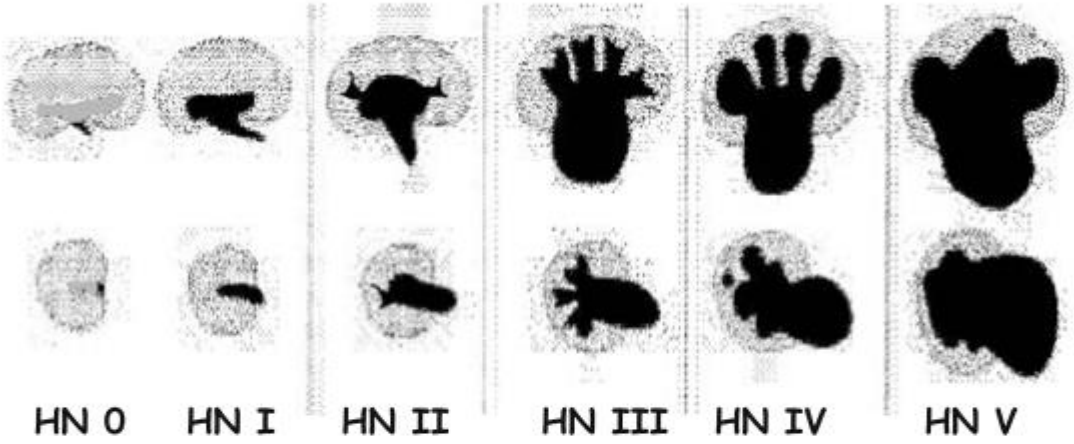
HN 0	=	No or minimal collecting system visible; considered normal
HN I	=	Just the renal pelvis visible with an axial diameter <5-7 mm; usually considered normal
HN II	=	Axial renal pelvis diameter 5/7-10 mm; some calices with normal forniceal shape visible
HN III	=	Marked dilatation of the renal calices and pelvis >10 mm with reduced forniceal and papillary differentiation without parenchymal narrowing
HN IV	=	Gross dilatation of the collecting system with narrowing of the parenchyma
(HN V	=	Used in some places additionally, to communicate an extreme HN with only a thin, membrane-like residual renal parenchymal rim)

Pediatr Radiol (2008) 38:138–145
DOI 10.1007/s00247-007-0695-7

REVIEW

Imaging recommendations in paediatric uroradiology: minutes of the ESPR workgroup session on urinary tract infection, fetal hydronephrosis, urinary tract ultrasonography and voiding cystourethrography, Barcelona, Spain, June 2007

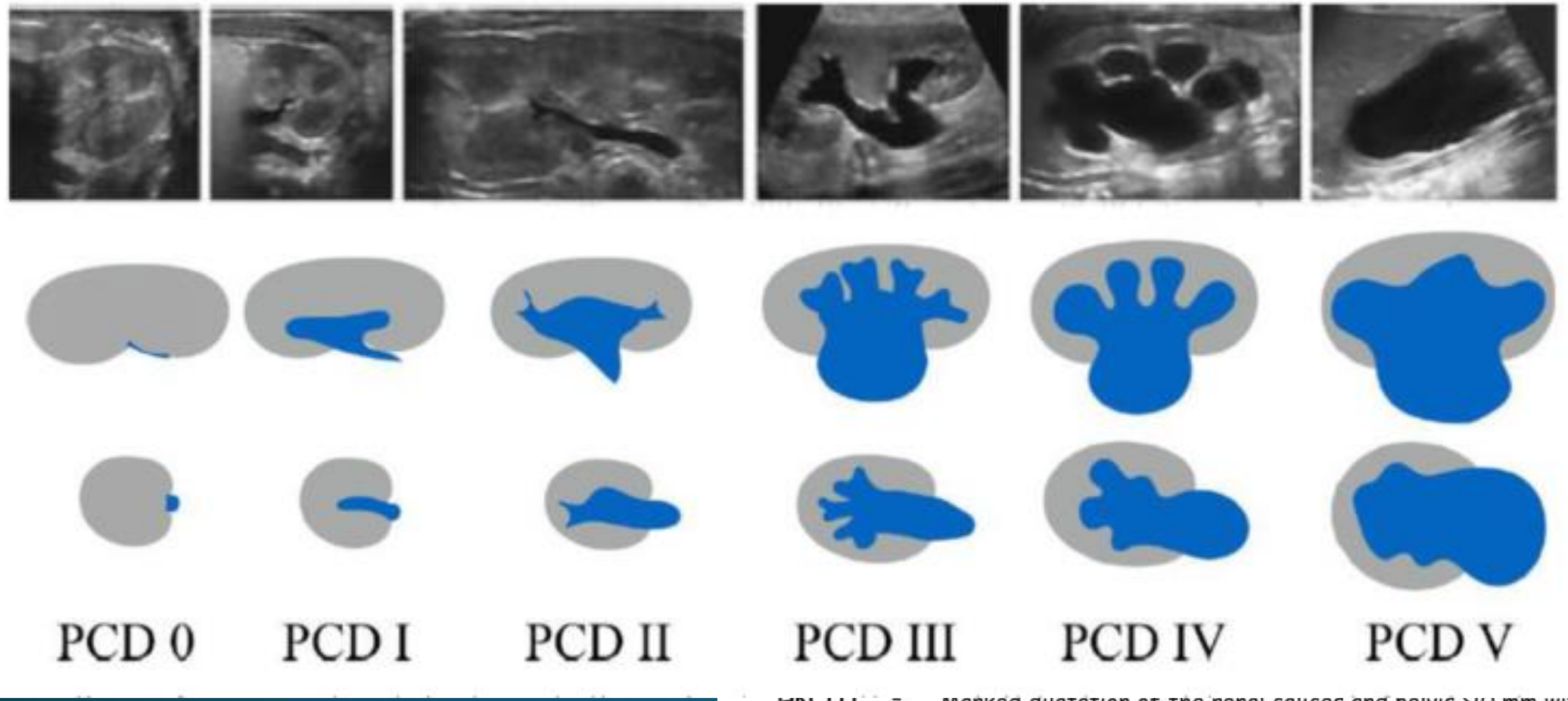
Neonatal / infantile hydronephrosis (HN) – US grading



HN 0	=	No or minimal collecting system visible; considered normal
HN I	=	Just the renal pelvis visible with an axial diameter <5-7 mm; usually considered normal
HN II	=	Axial renal pelvis diameter 5/7-10 mm; some calices with normal forniceal shape visible
HN III	=	Marked dilatation of the renal calices and pelvis >10 mm with reduced forniceal and papillary differentiation without parenchymal narrowing
HN IV	=	Gross dilatation of the collecting system with narrowing of the parenchyma
(HN V	=	Used in some places additionally, to communicate an extreme HN with only a thin, membrane-like residual renal parenchymal rim)

Pediatr Radiol (2008) 38:138–145
DOI 10.1007/s00247-007-0695-7

REVIEW



HN III = Marked dilatation of the renal calices and pelvis >10 mm with reduced forniceal and papillary differentiation without parenchymal narrowing

HN IV = Gross dilatation of the collecting system with narrowing of the parenchyma

(HN V = Used in some places additionally, to communicate an extreme HN with only a thin, membrane-like residual renal parenchymal rim)

2017

Journal of Pediatric Urology (2014) 10, 982—999

ELSEVIER

Journal of Pediatric urology

Multidisciplinary consensus on the classification of prenatal and postnatal urinary tract dilation (UTD classification system)

Hiep T. Nguyen [d,f,*], Carol B. Benson [h,a], Bryann Bromley [b], Jeffrey B. Campbell [d,f], Jeanne Chow [g], Beverly Coleman [a,h], Christopher Cooper [d,f], Jude Crino [e], Kassa Darge [g], C.D. Anthony Herndon [d,f], Anthony O. Odibo [e], Michael J.G. Somers [c], Deborah R. Stein [c]

[a] *American College of Radiology (ACR), Reston, VA, USA*
[b] *American Institute of Ultrasound in Medicine (AIUM), Laurel, MD, USA*
[c] *American Society of Pediatric Nephrology (ASPN), The Woodlands, TX, USA*
[d] *Society for Fetal Urology (SFU), Linthicum, MD, USA*
[e] *Society for Maternal-Fetal Medicine (SMFM), Washington, D.C., USA*
[f] *Society for Pediatric Urology (SPU), Beverly, MA, USA*
[g] *Society for Pediatric Radiology (SPR), Reston, VA, USA*
[h] *Society of Radiologists in Ultrasounds (SRU), Reston, VA, USA*

Journal of Pediatric Urology (2014) 10, 982—999

ELSEVIER

Journal of Pediatric urology

Multidisciplinary consensus on the classification of prenatal and postnatal urinary tract dilation (UTD classification system)

Hiep T. Nguyen [d,f,*], Carol B. Benson [h,a], Bryann Bromley [b], Jeffrey B. Campbell [d,f], Jeanne Chow [g], Beverly Coleman [a,h], Christopher Cooper [d,f], Jude Crino [e], Kassa Darge [g], C.D. Anthony Herndon [d,f], Anthony O. Odibo [e], Michael J.G. Somers [c], Deborah R. Stein [c]

[a] *American College of Radiology (ACR), Reston, VA, USA*
[b] *American Institute of Ultrasound in Medicine (AIUM), Laurel, MD, USA*
[c] *American Society of Pediatric Nephrology (ASPN), The Woodlands, TX, USA*
[d] *Society for Fetal Urology (SFU), Linthicum, MD, USA*
[e] *Society for Maternal-Fetal Medicine (SMFM), Washington, D.C., USA*
[f] *Society for Pediatric Urology (SPU), Beverly, MA, USA*
[g] *Society for Pediatric Radiology (SPR), Reston, VA, USA*
[h] *Society of Radiologists in Ultrasounds (SRU), Reston, VA, USA*

Journal of Pediatric Urology (2014) 10, 982—999

ELSEVIER

Journal of Pediatric urology

Multidisciplinary consensus on the classification of prenatal and postnatal urinary tract dilation (UTD classification system)

Hiep T. Nguyen [d,f,*], Carol B. Benson [h,a], Bryann Bromley [b], Jeffrey B. Campbell [d,f], Jeanne Chow [g], Beverly Coleman [a,h], Christopher Cooper [d,f], Jude Crino [e], Kassa Darge [g], C.D. Anthony Herndon [d,f], Anthony O. Odibo [e], Michael J.G. Somers [c], Deborah R. Stein [c]

[a] *American College of Radiology (ACR), Reston, VA, USA*
[b] *American Institute of Ultrasound in Medicine (AIUM), Laurel, MD, USA*
[c] *American Society of Pediatric Nephrology (ASPN), The Woodlands, TX, USA*
[d] *Society for Fetal Urology (SFU), Linthicum, MD, USA*
[e] *Society for Maternal-Fetal Medicine (SMFM), Washington, D.C., USA*
[f] *Society for Pediatric Urology (SPU), Beverly, MA, USA*
[g] *Society for Pediatric Radiology (SPR), Reston, VA, USA*
[h] *Society of Radiologists in Ultrasounds (SRU), Reston, VA, USA*

Journal of Pediatric Urology (2014) 10, 982—999

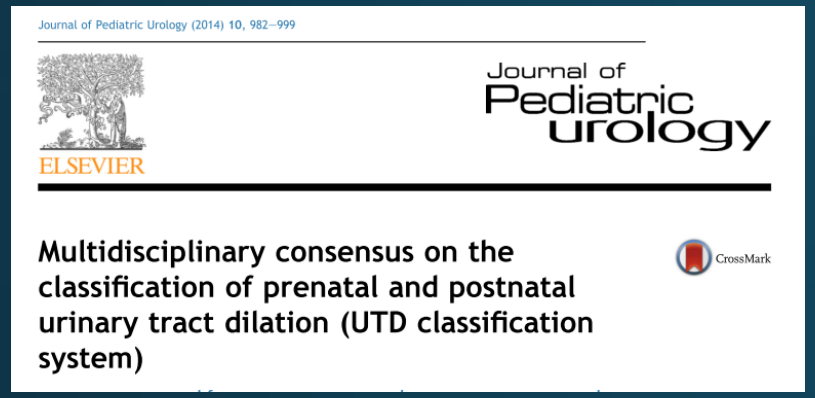
ELSEVIER

Journal of Pediatric urology

Multidisciplinary consensus on the classification of prenatal and postnatal urinary tract dilation (UTD classification system)

Hiep T. Nguyen [d,f,*], Carol B. Benson [h,a], Bryann Bromley [b], Jeffrey B. Campbell [d,f], Jeanne Chow [g], Beverly Coleman [a,h], Christopher Cooper [d,f], Jude Crino [e], Kassa Darge [g], C.D. Anthony Herndon [d,f], Anthony O. Odibo [e], Michael J.G. Somers [c], Deborah R. Stein [c]

[a] *American College of Radiology (ACR), Reston, VA, USA*
[b] *American Institute of Ultrasound in Medicine (AIUM), Laurel, MD, USA*
[c] *American Society of Pediatric Nephrology (ASPN), The Woodlands, TX, USA*
[d] *Society for Fetal Urology (SFU), Linthicum, MD, USA*
[e] *Society for Maternal-Fetal Medicine (SMFM), Washington, D.C., USA*
[f] *Society for Pediatric Urology (SPU), Beverly, MA, USA*
[g] *Society for Pediatric Radiology (SPR), Reston, VA, USA*
[h] *Society of Radiologists in Ultrasounds (SRU), Reston, VA, USA*



- objektivní hodnocení
- hodnotí i uretery a močový měchýř
- přesněji dokáže určit pacienty s rizikem močové infekce/vyžadující chirurgickou léčbu
- další studie probíhají…

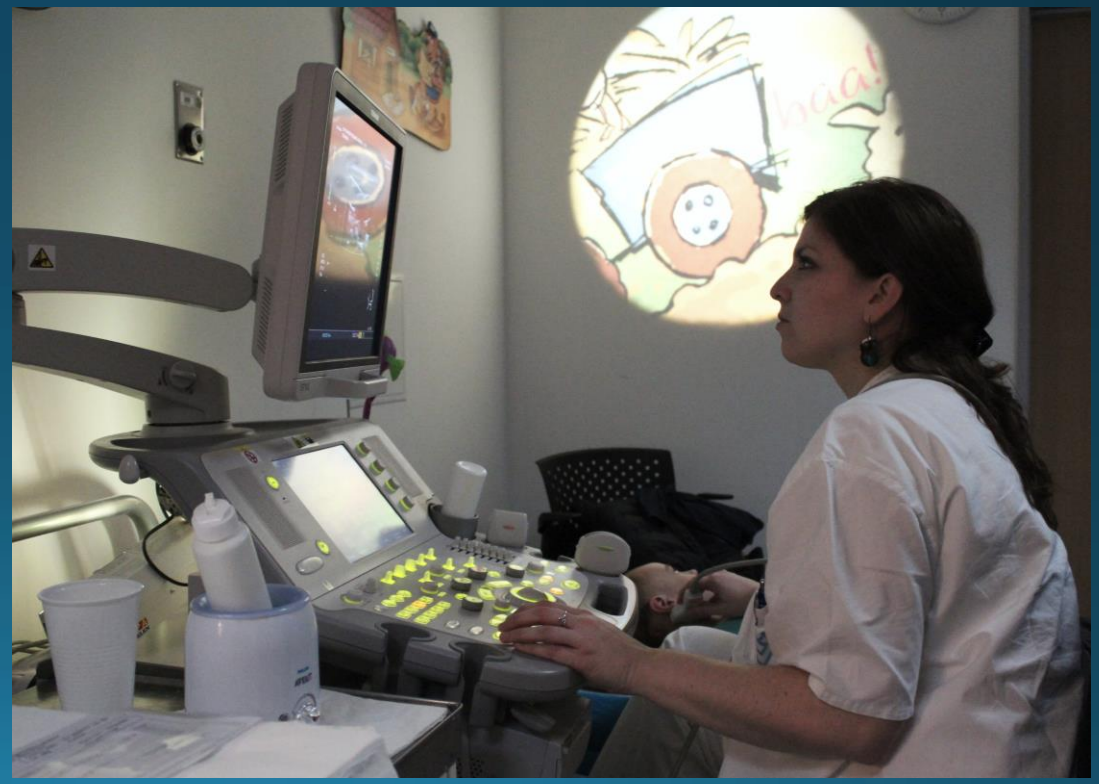
> 48 hodin

> 48 hodin
CAVE: oboustranný vysoký stupeň dilatace, podezření na PUV, oligohydramnion

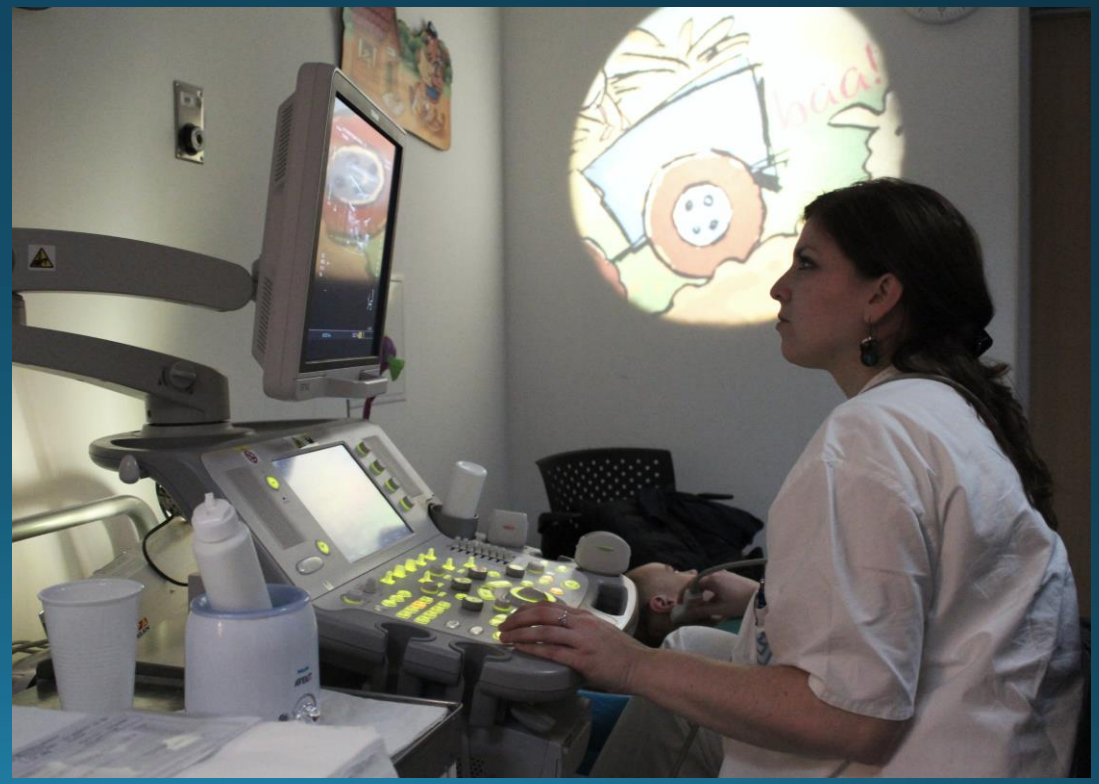
> 48 hodin
CAVE: oboustranný vysoký stupeň dilatace, podezření na PUV, oligohydramnion

vždy kontrolní UZ

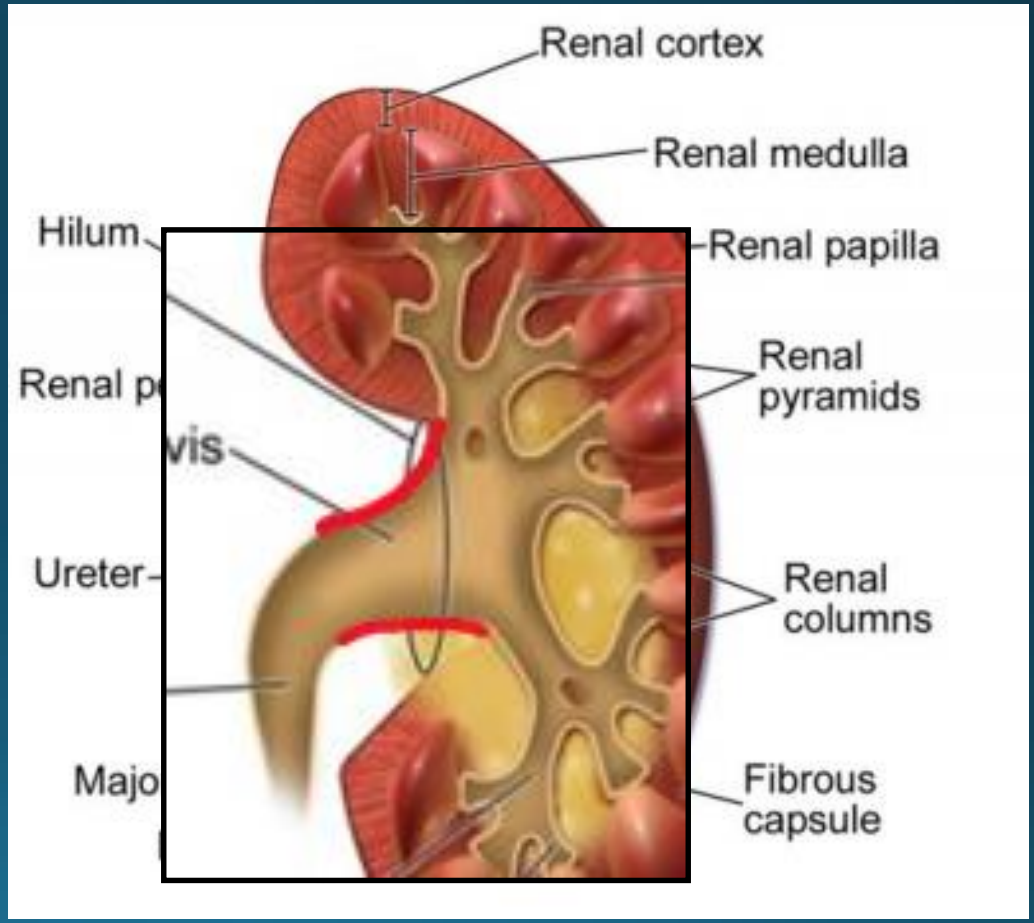
- ultrazvukové vyšetření
- po dostatečné hydrataci (>48 hodin)
- konvexní i lineární sonda
- standardizovaná poloha pacienta



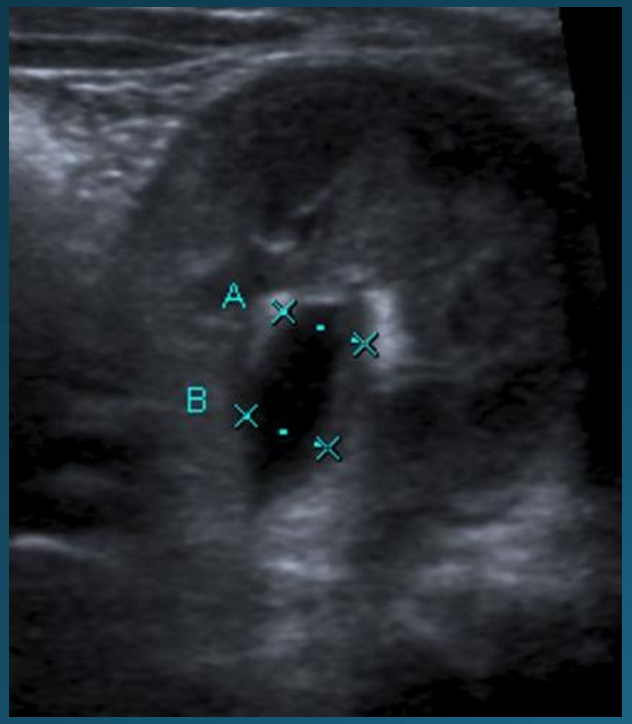
- ultrazvukové vyšetření
- po dostatečné hydrataci (>48 hodin)
- konvexní i lineární sonda
- standardizovaná poloha pacienta
- dynamický proces

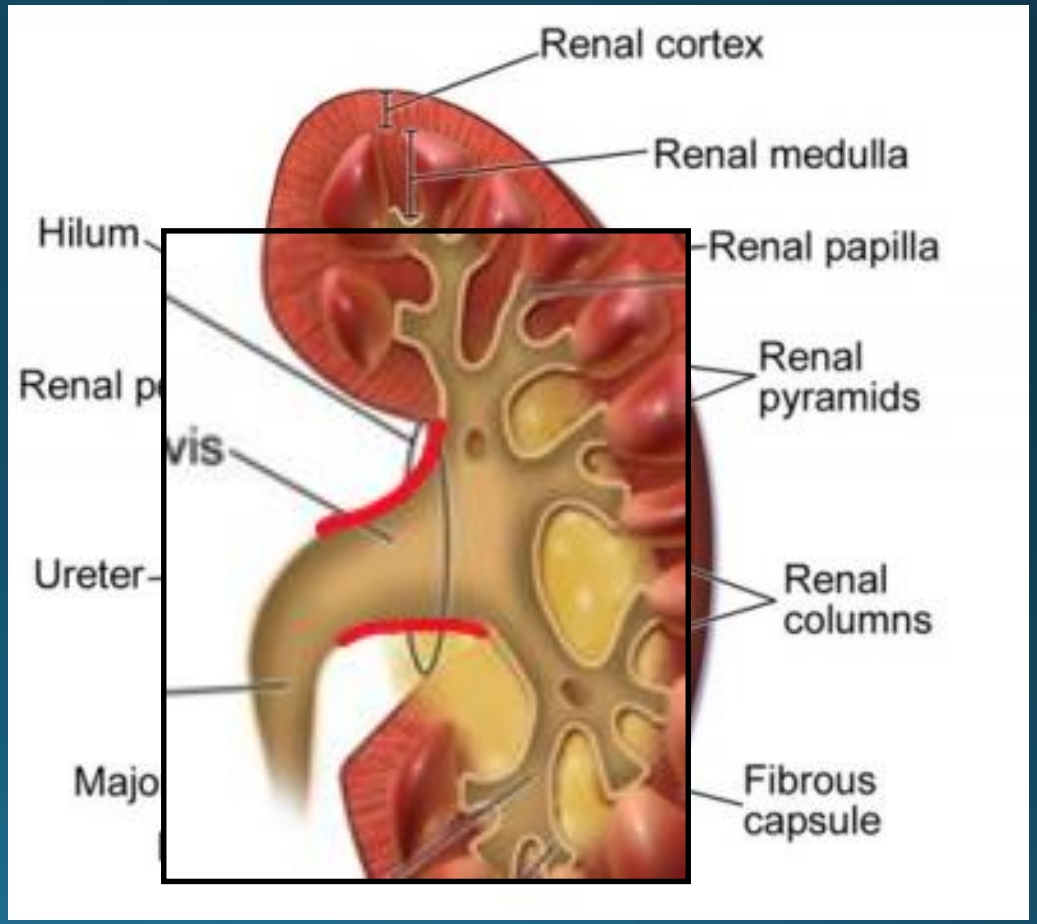


- pánvička
  - AP rozměr
  - maximální intrarenální rozměr

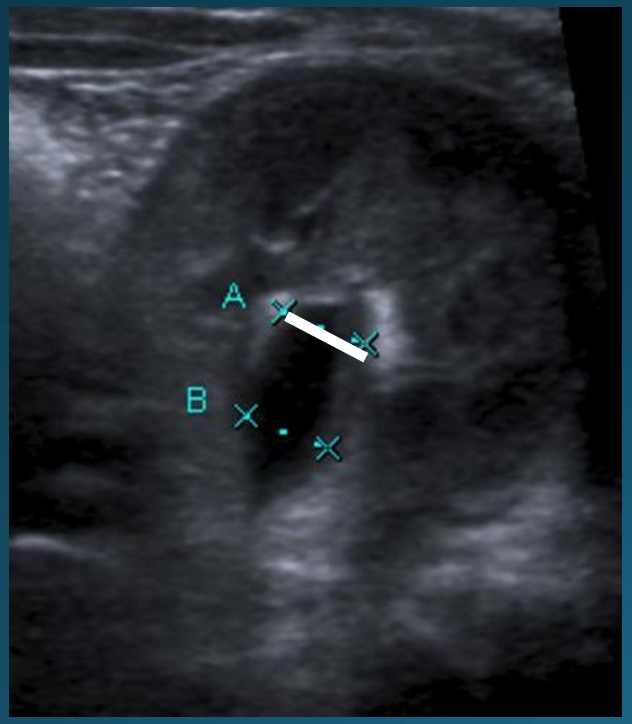


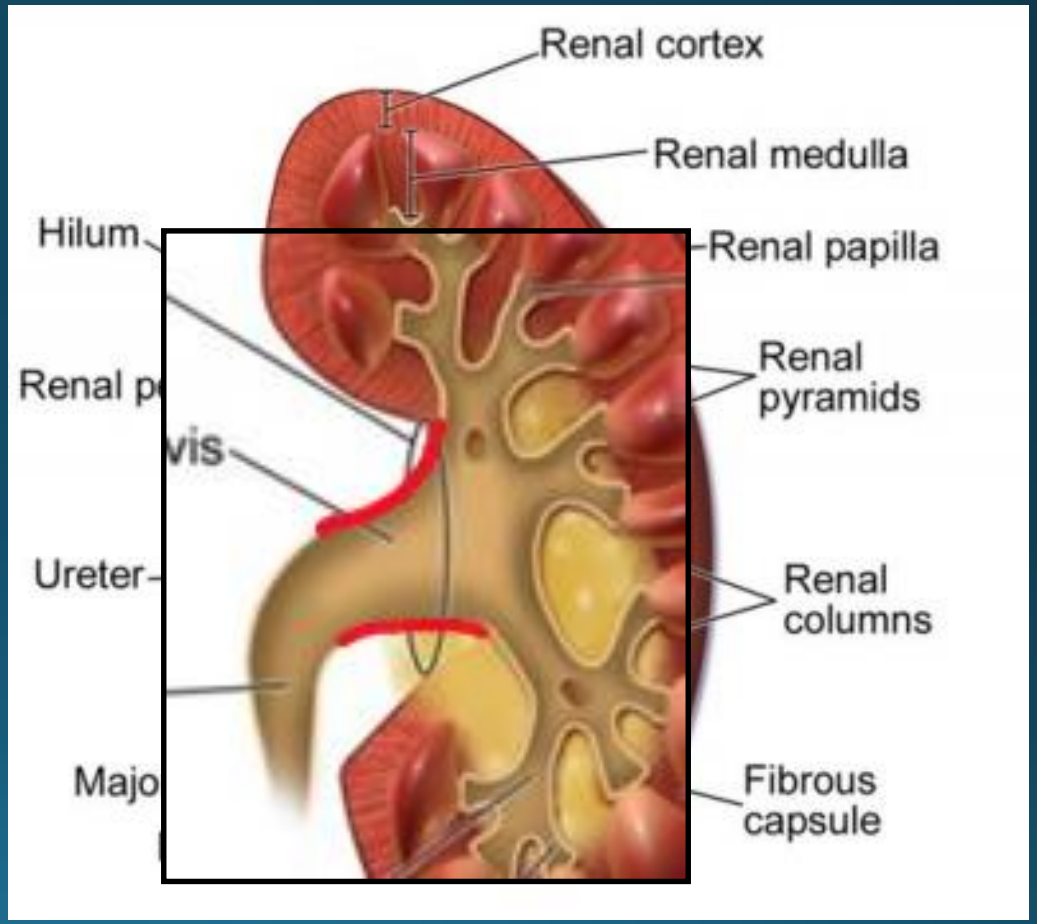
- pánvička
  - AP rozměr
  - maximální intrarenální rozměr



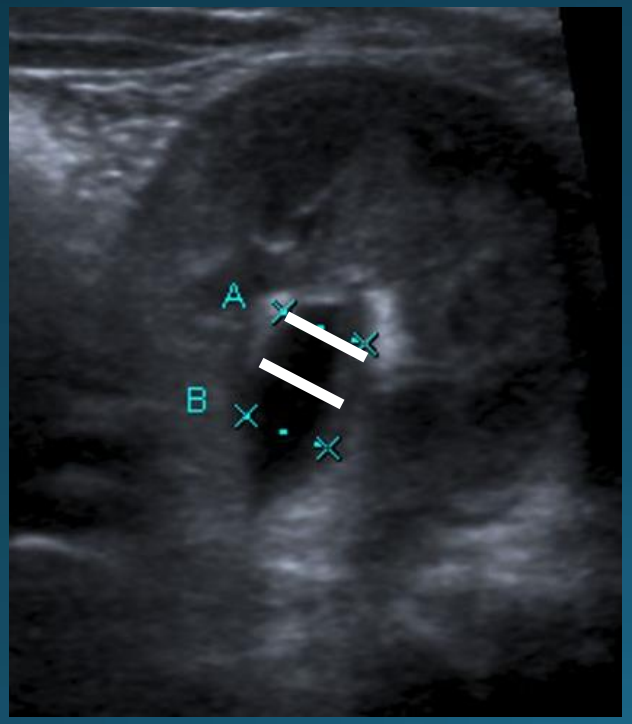


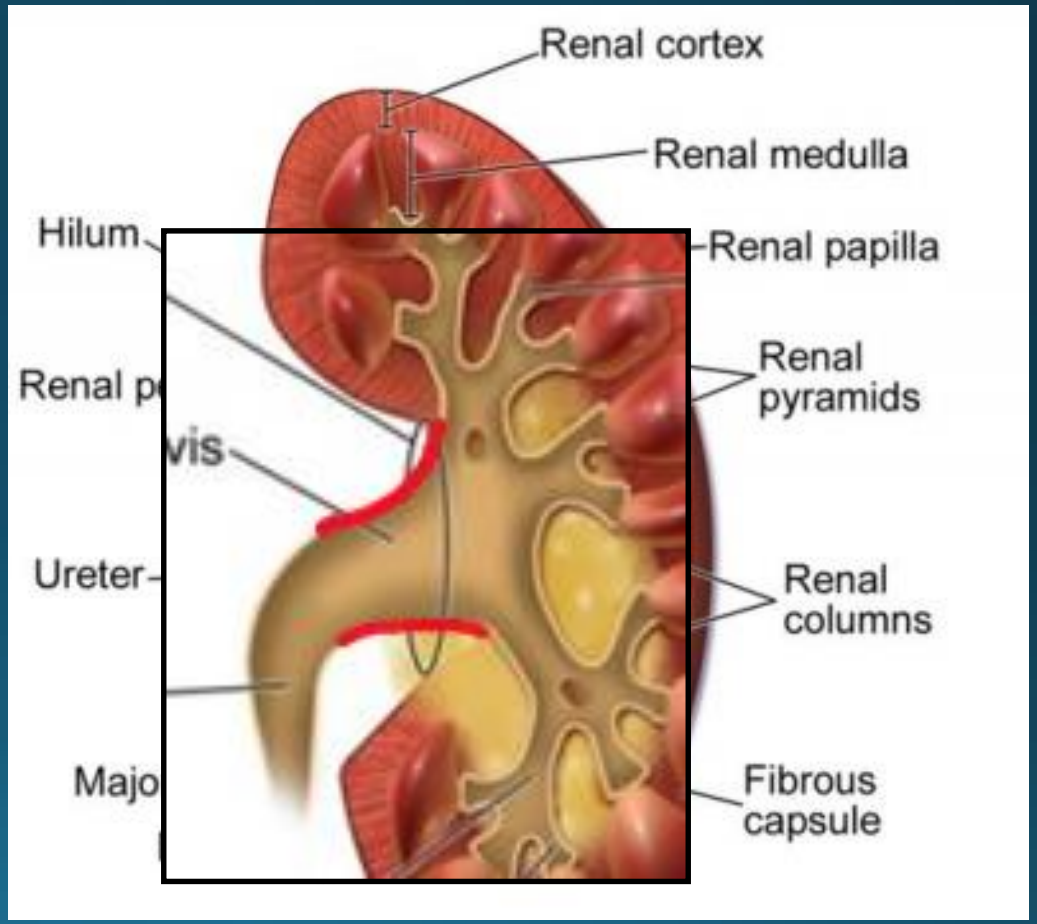
- pánvička
  - AP rozměr
  - maximální intrarenální rozměr



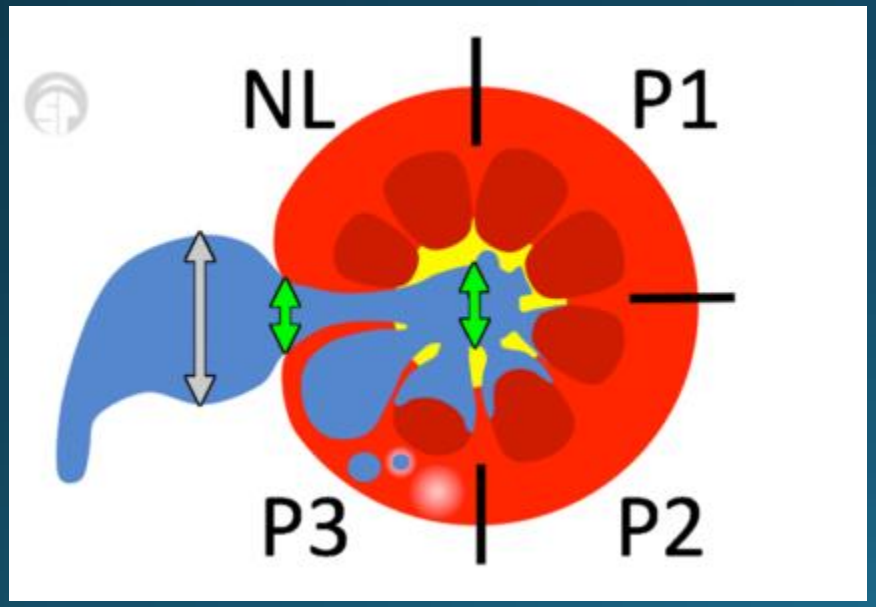


- pánvička
  - AP rozměr
  - maximální intrarenální rozměr

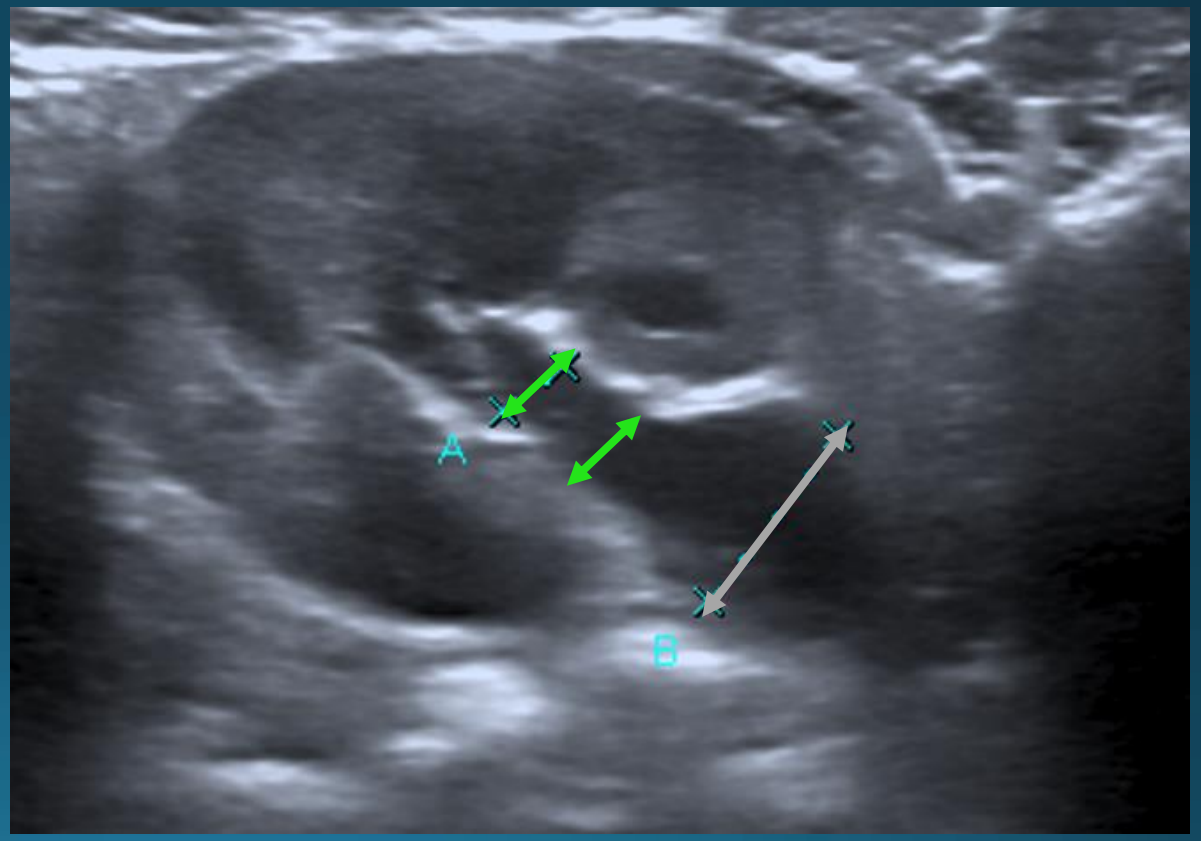




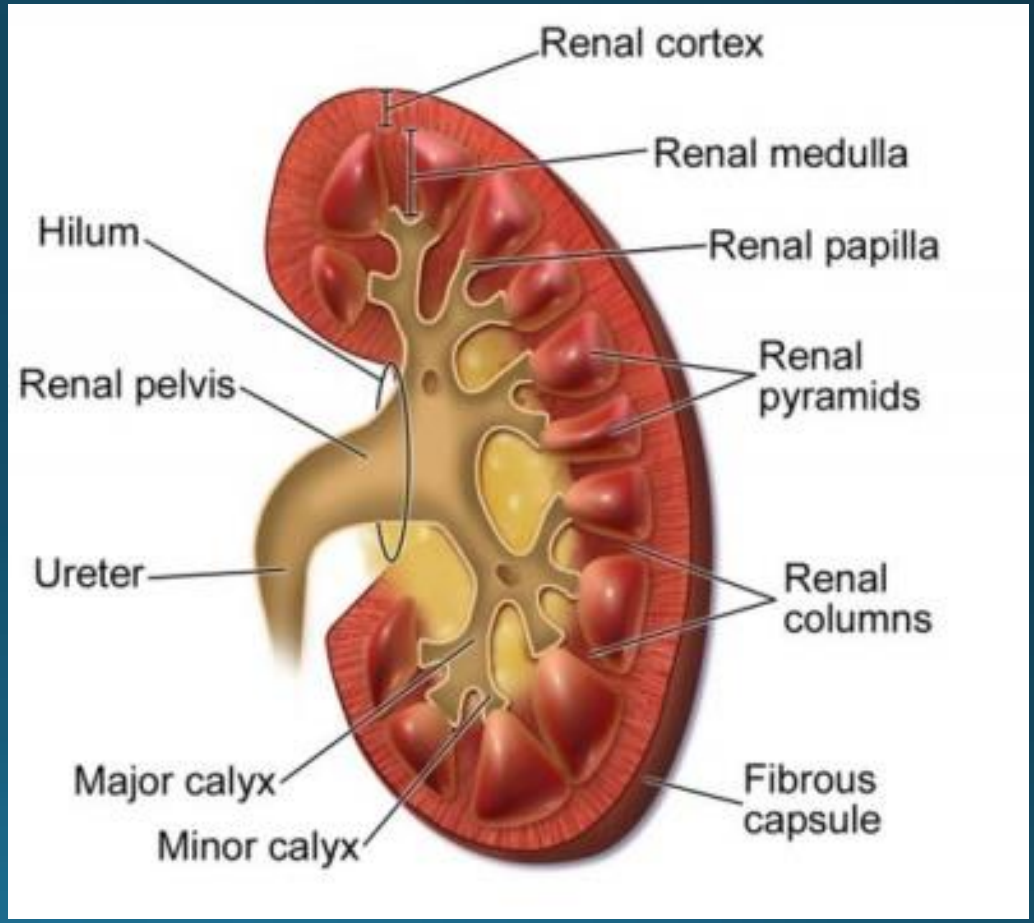
- pánvička
  - AP rozměr
  - maximální intrarenální rozměr

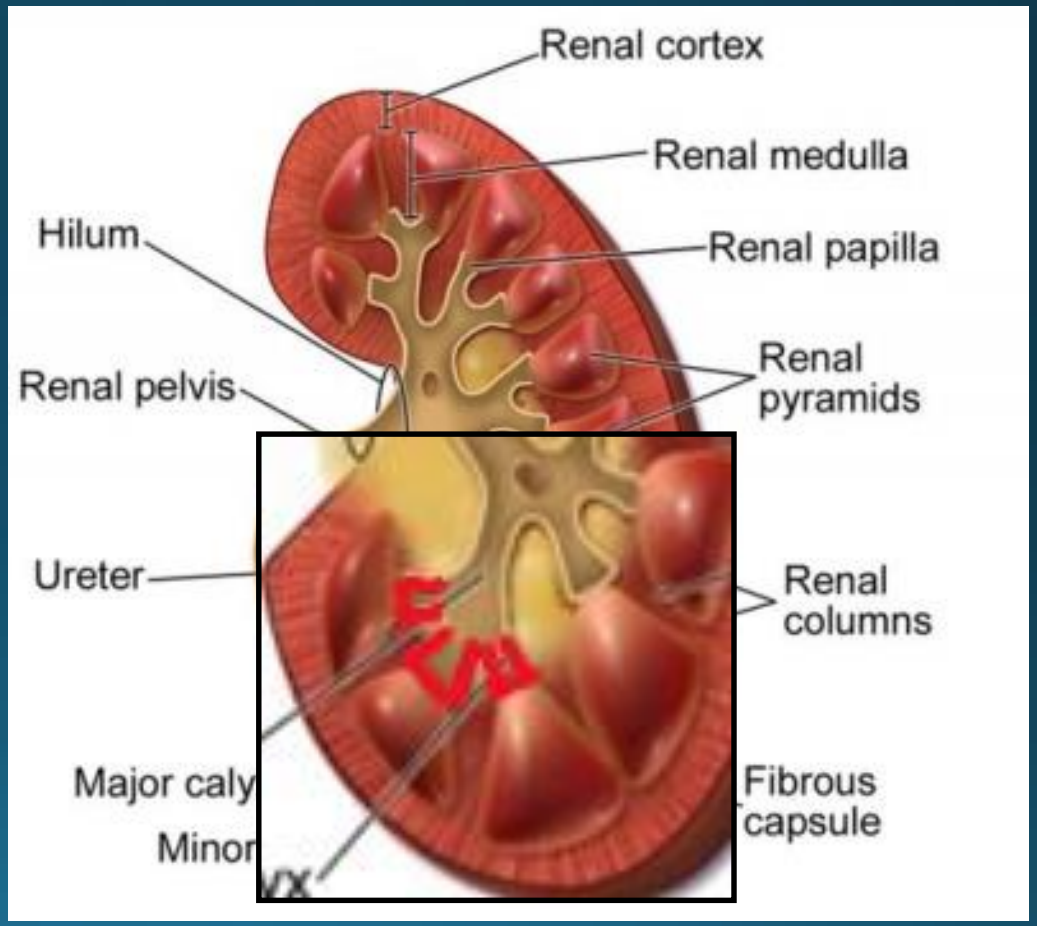


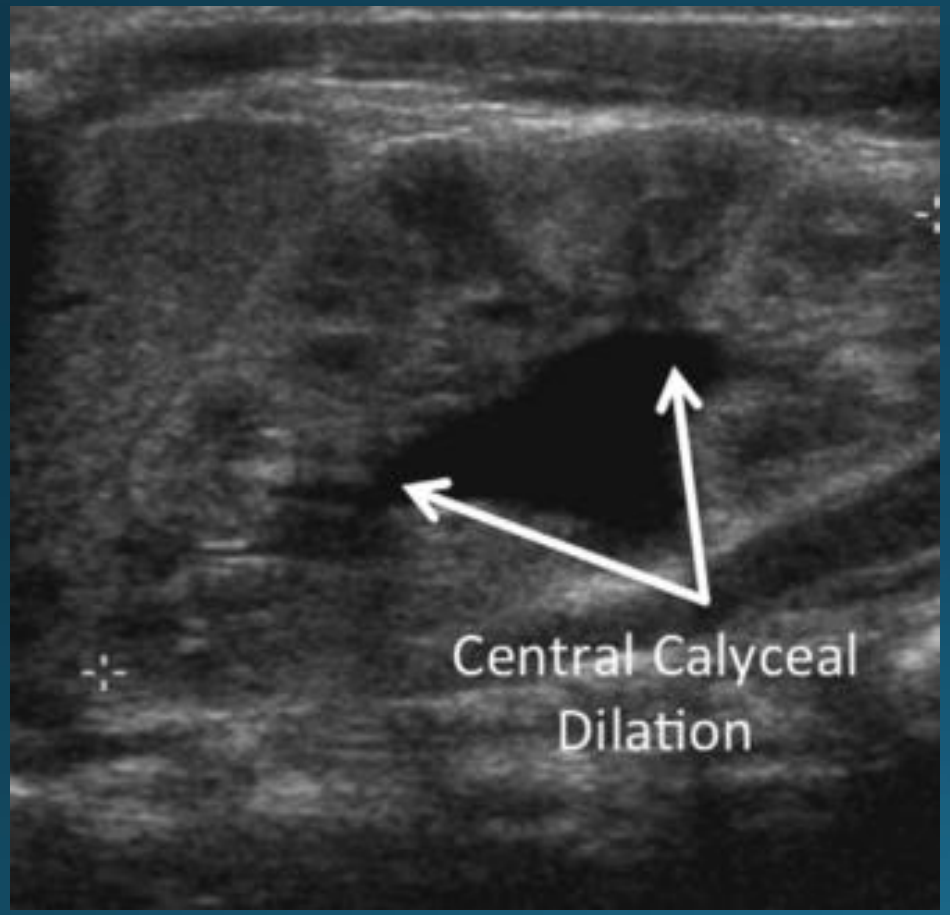
Classification of pediatric urinary tract dilation: the new language



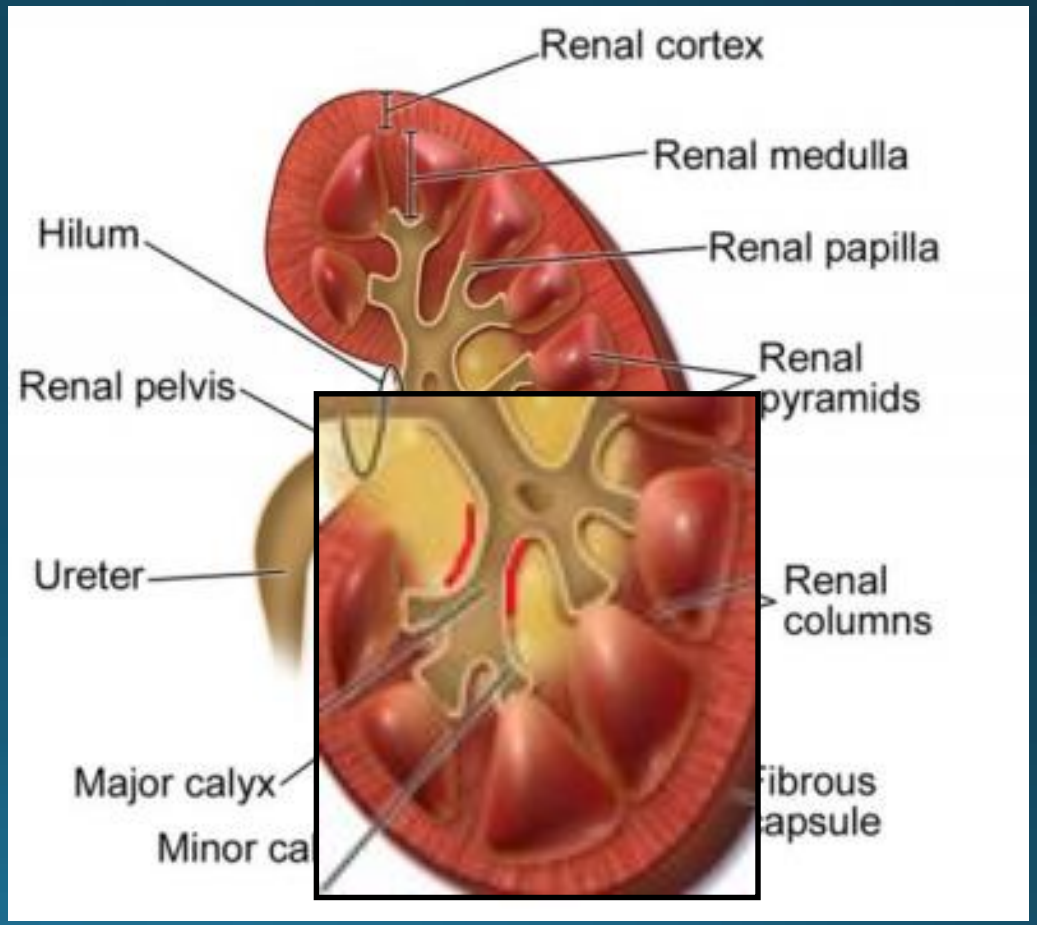
- pánvička
- kalichy
  - periferní
  - centrální



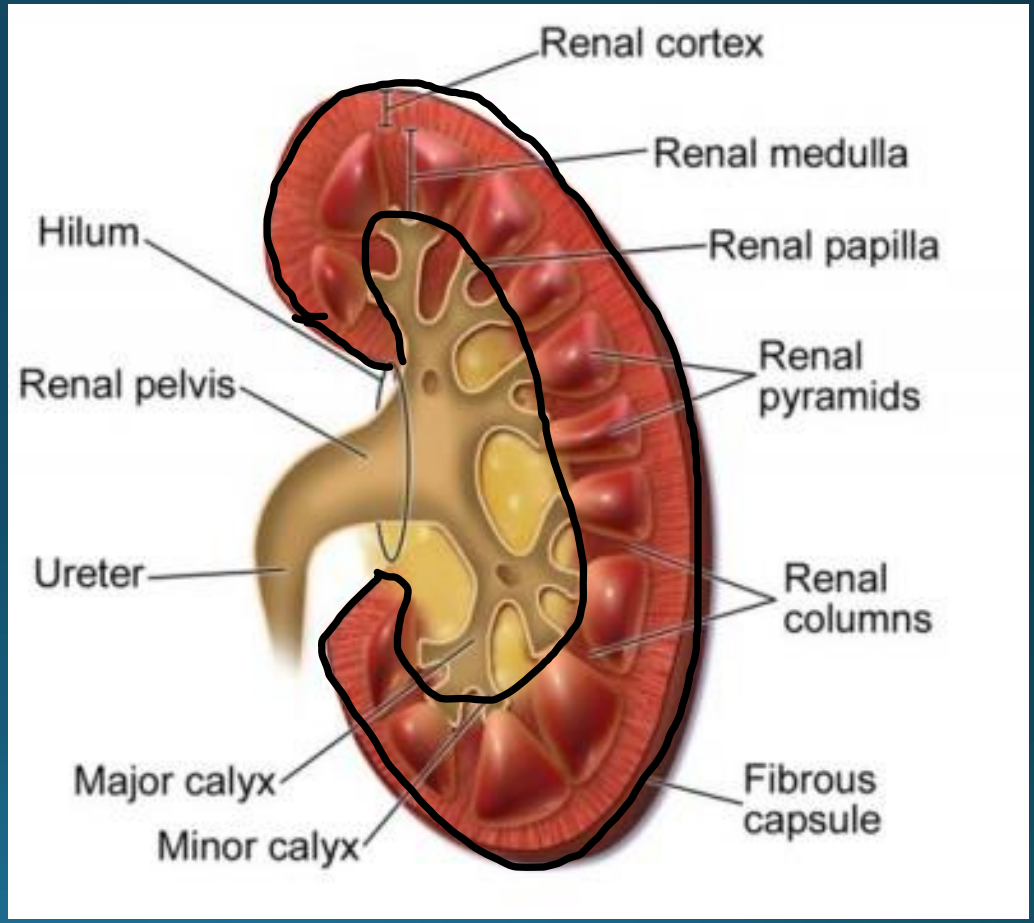

Renal cortex
Renal medulla
Hilum
Renal papilla
Renal pelvis
Renal pyramids
Ureter
Renal columns
Major caly
Minor
Fibrous capsule

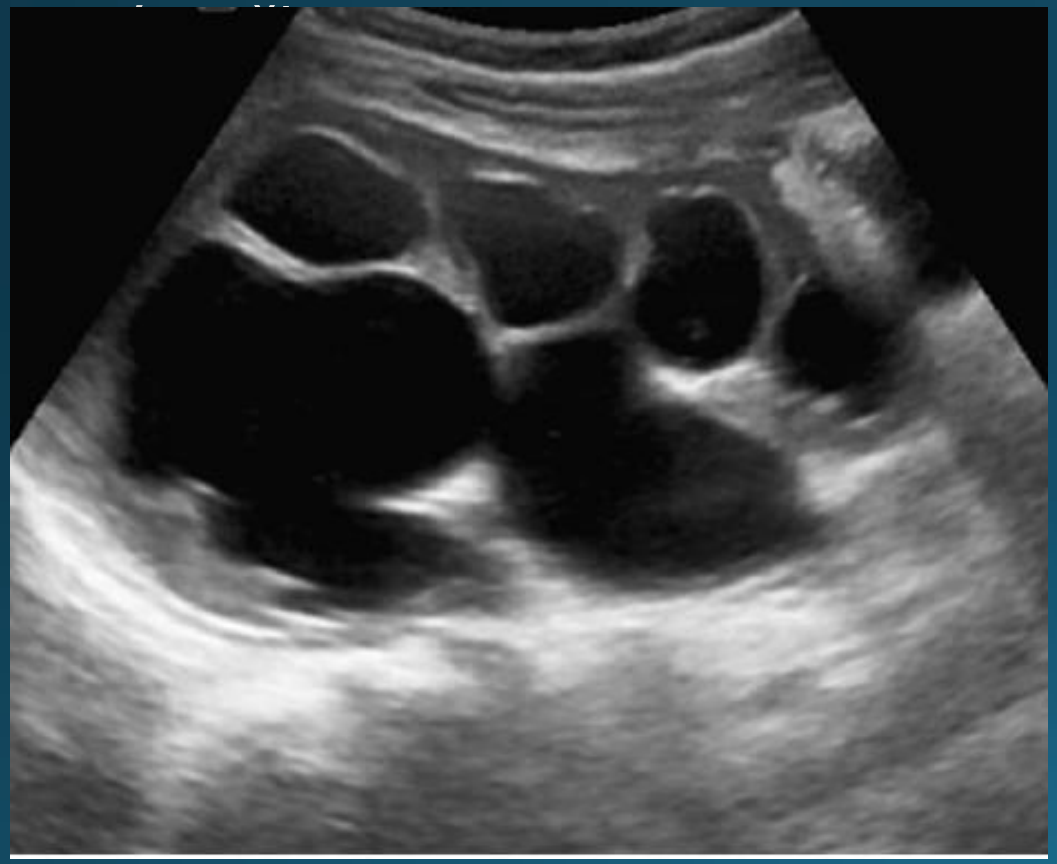


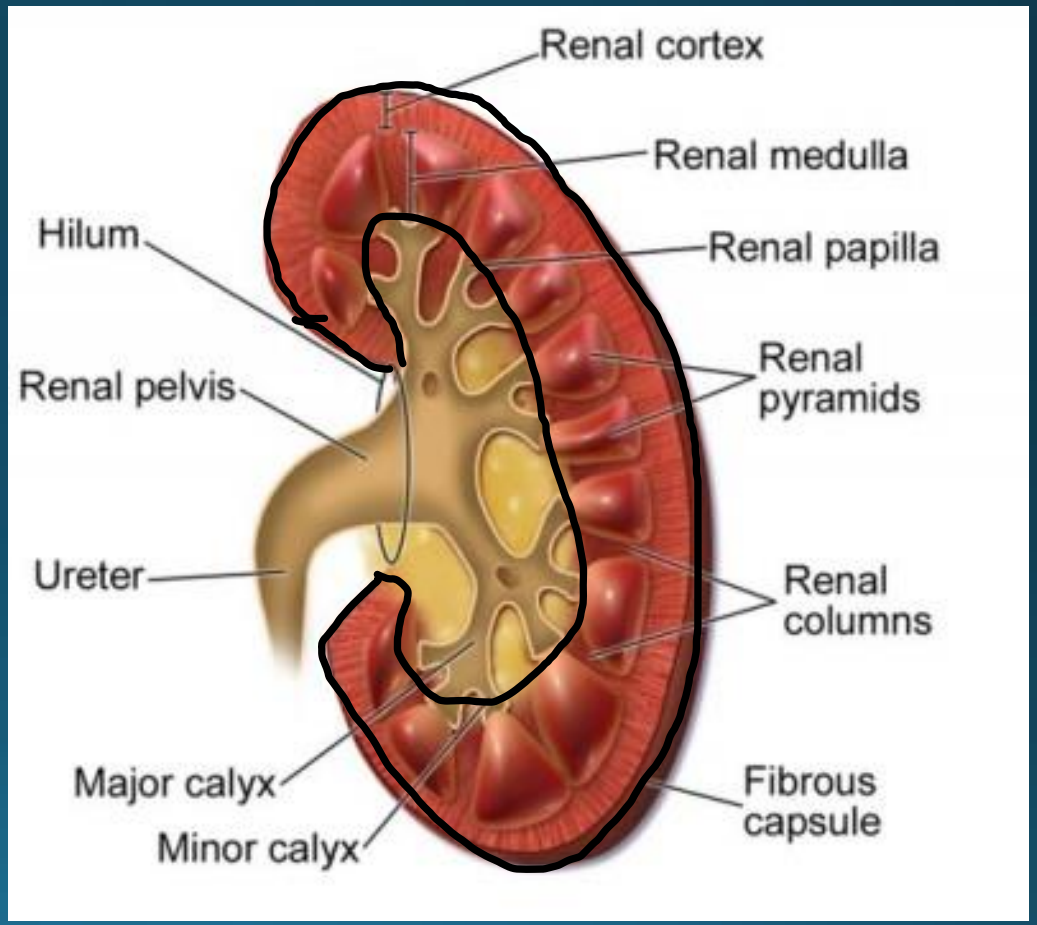
Multidisciplinary consensus on the classification of prenatal and postnatal urinary tract dilation (UTD classification system)



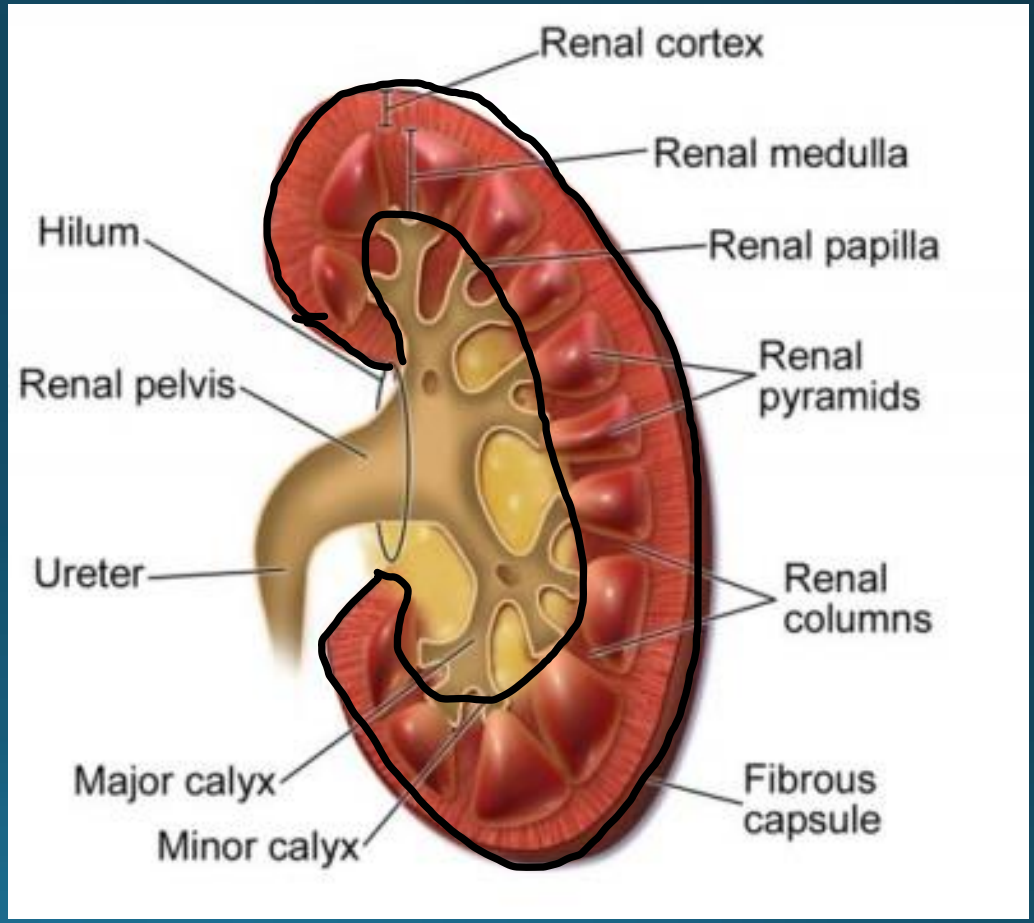
- pánvička
- kalichy
- tloušťka parenchymu
  - subjektivní hodnocení
  - srovnání s druhou stranou

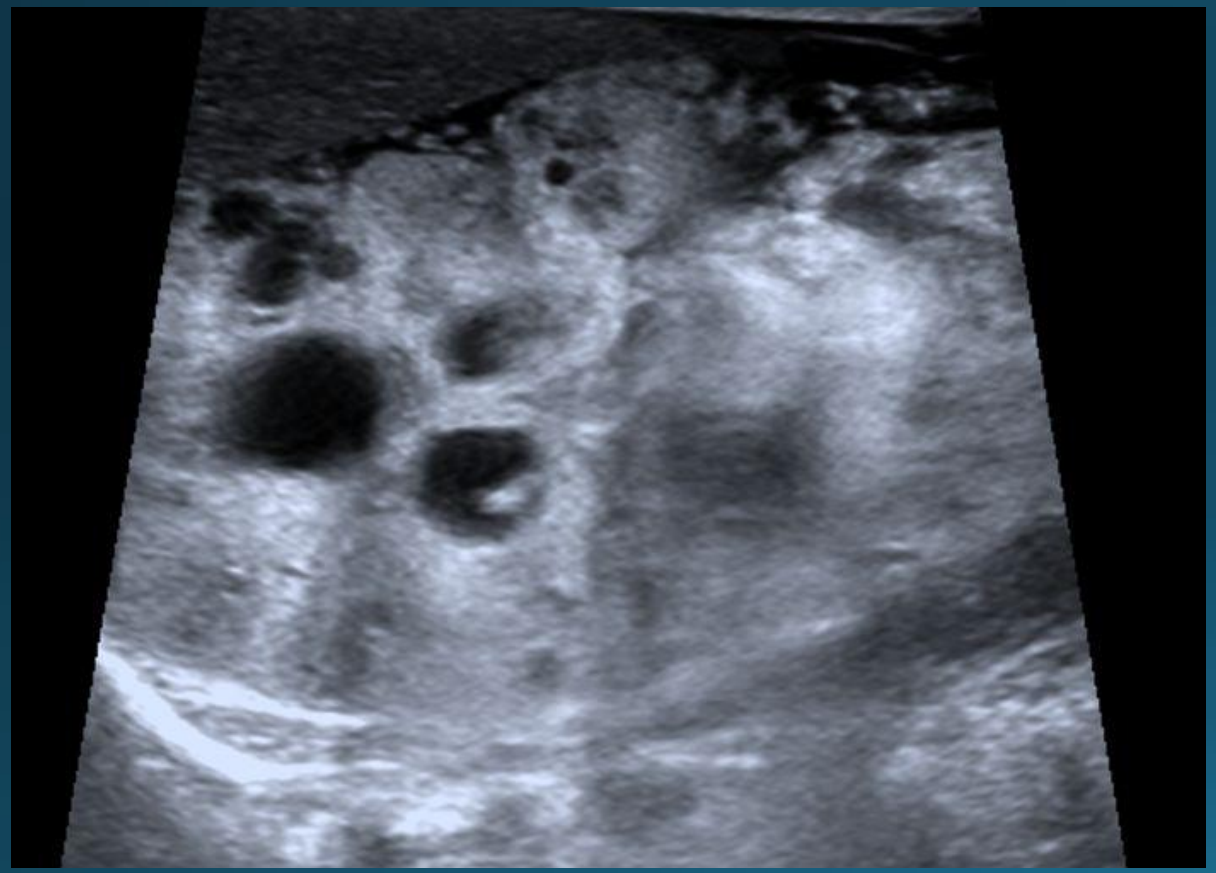


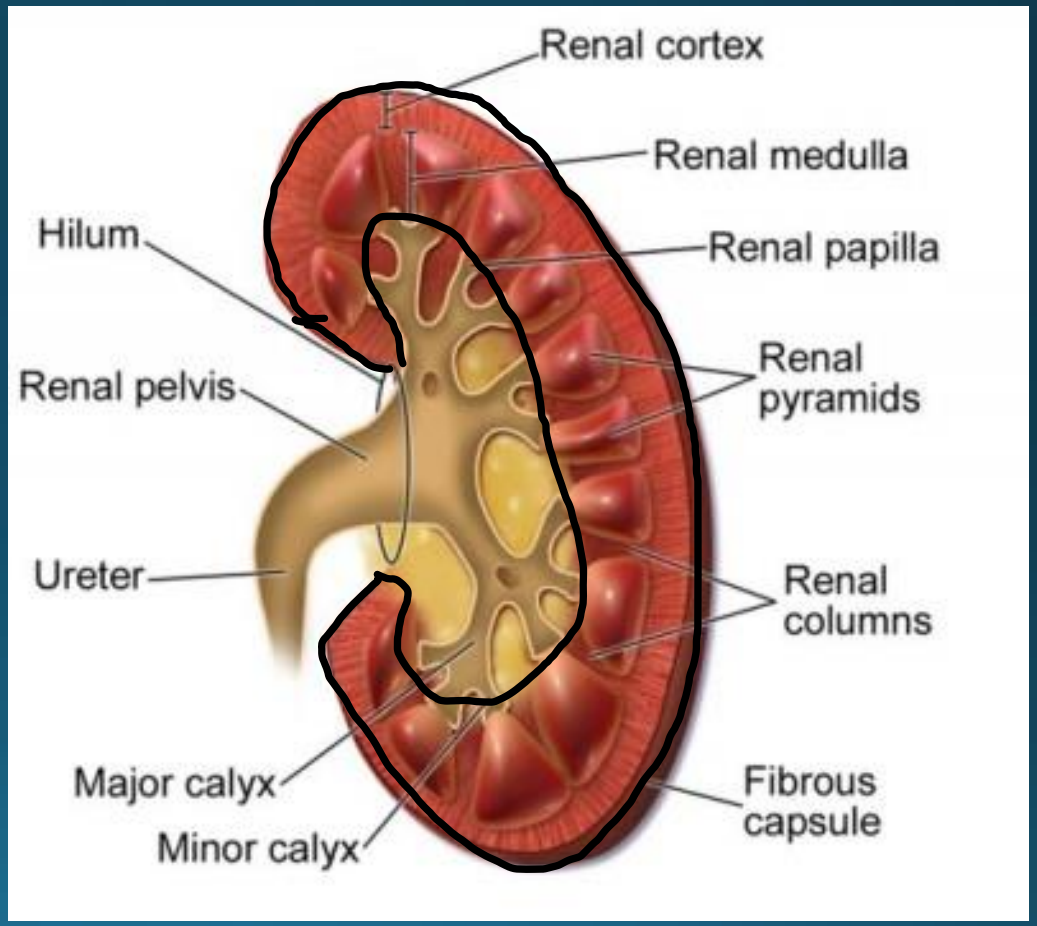


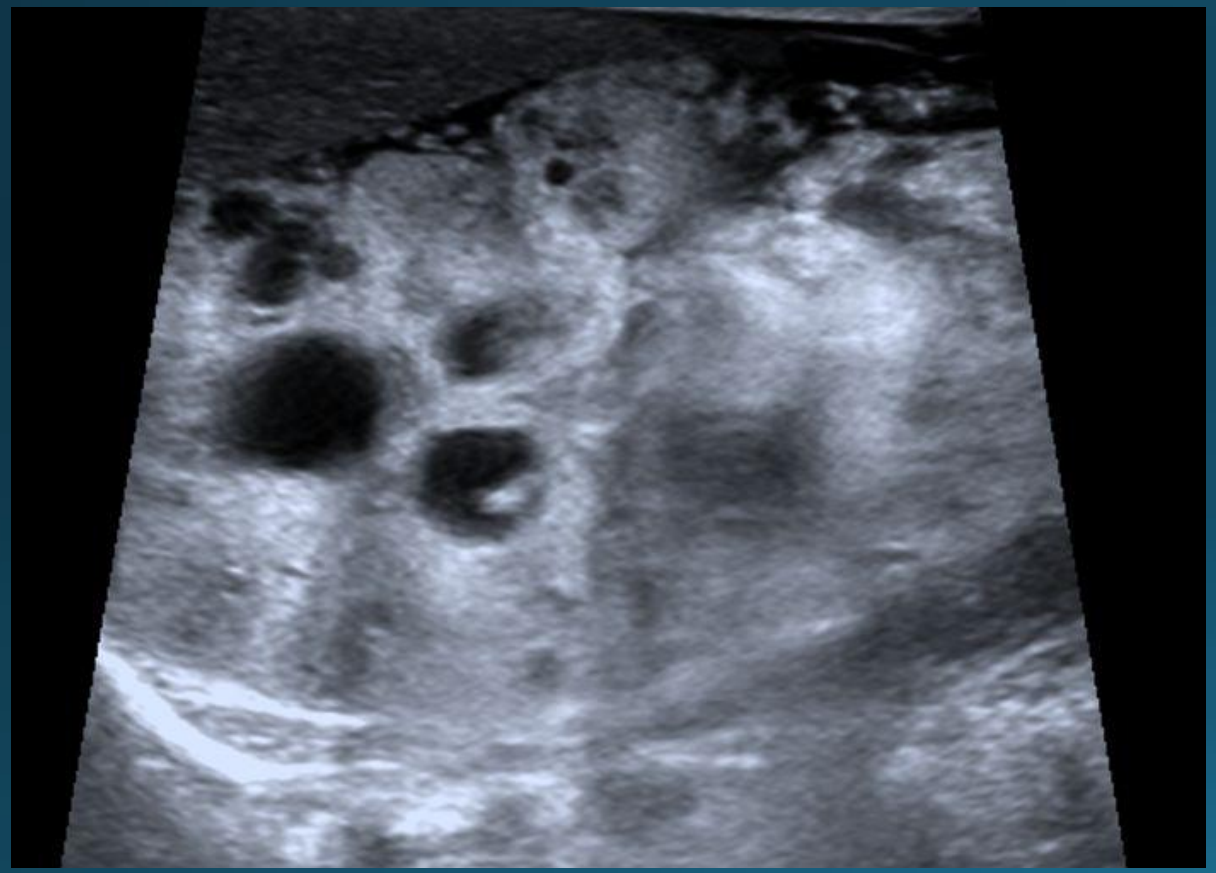

Renal cortex
Renal medulla
Hilum
Renal papilla
Renal pelvis
Renal pyramids
Ureter
Renal columns
Major calyx
Fibrous capsule
Minor calyx

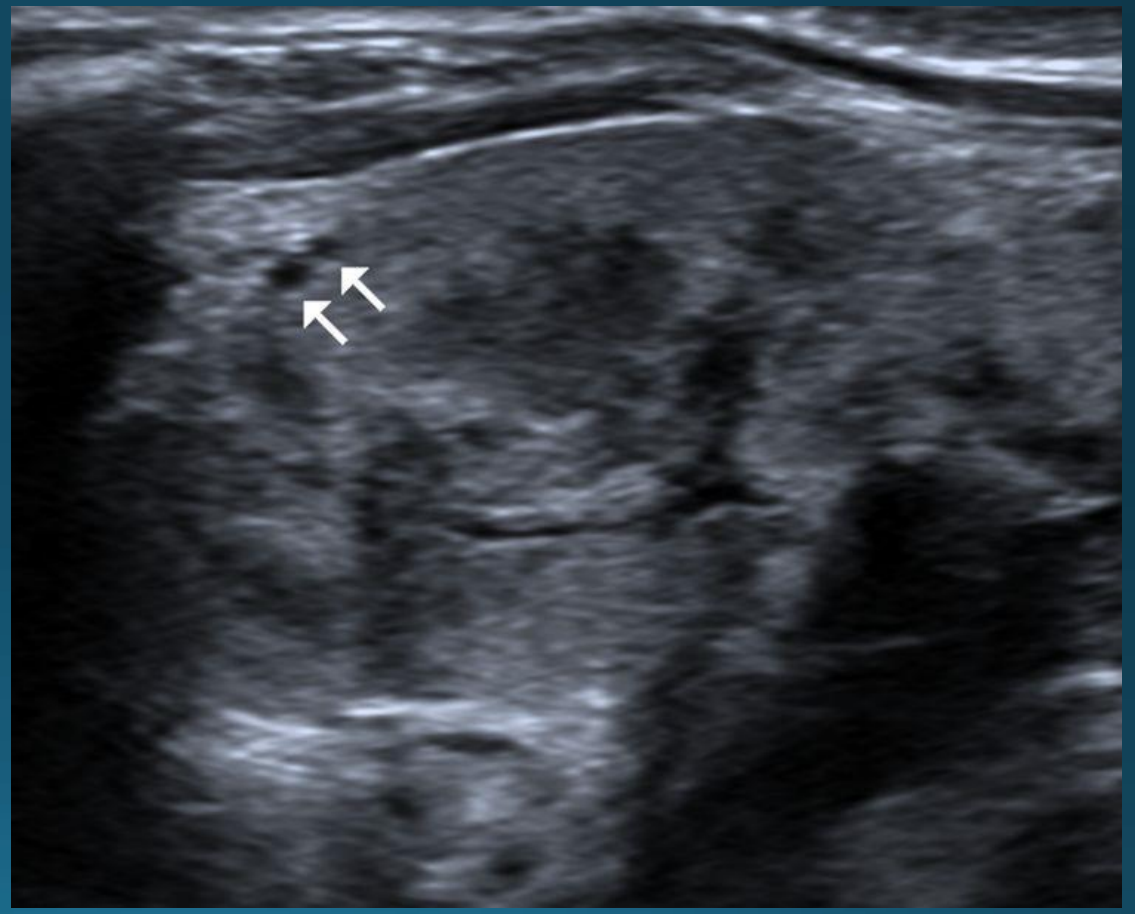
- pánvička
- kalichy
- tloušťka parenchymu
- vzhled parenchymu
  - echogenita
  - kortikomedullární dif.
  - přítomnost cyst

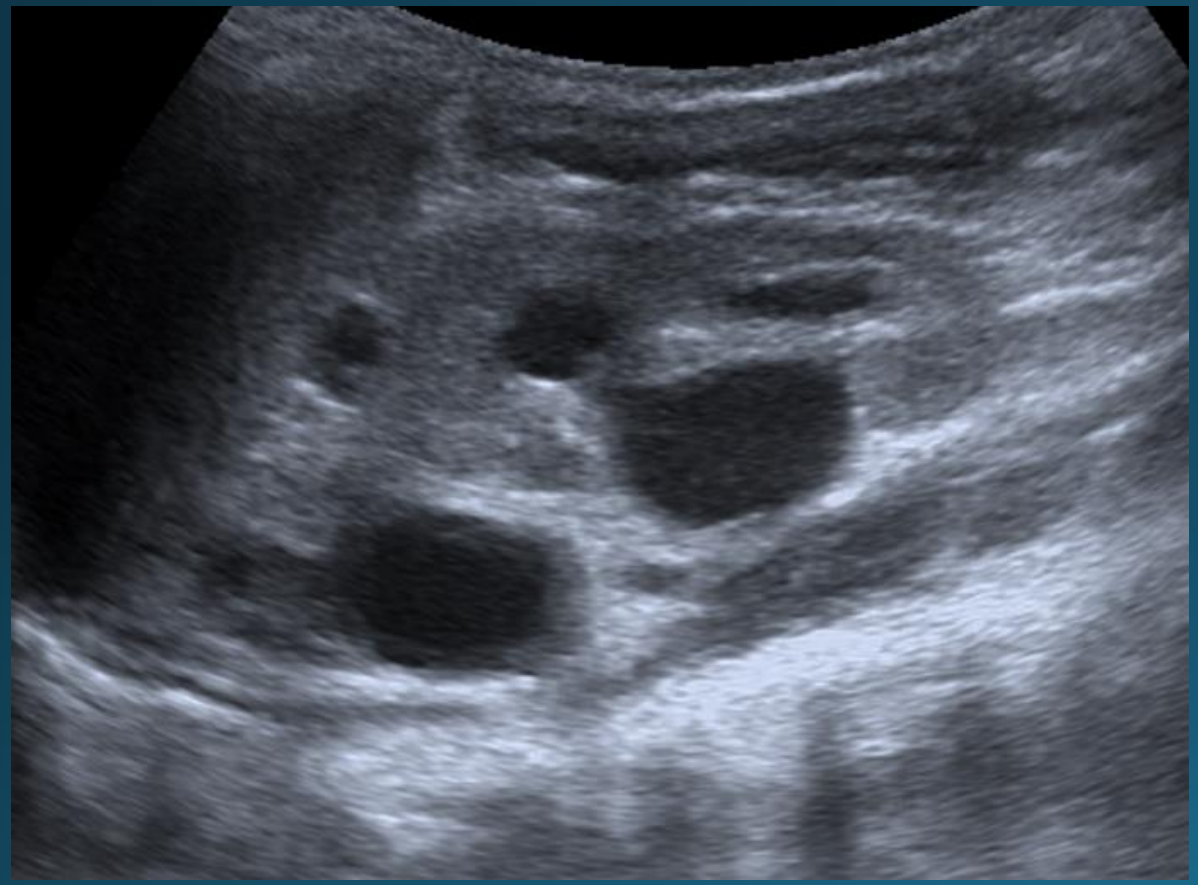


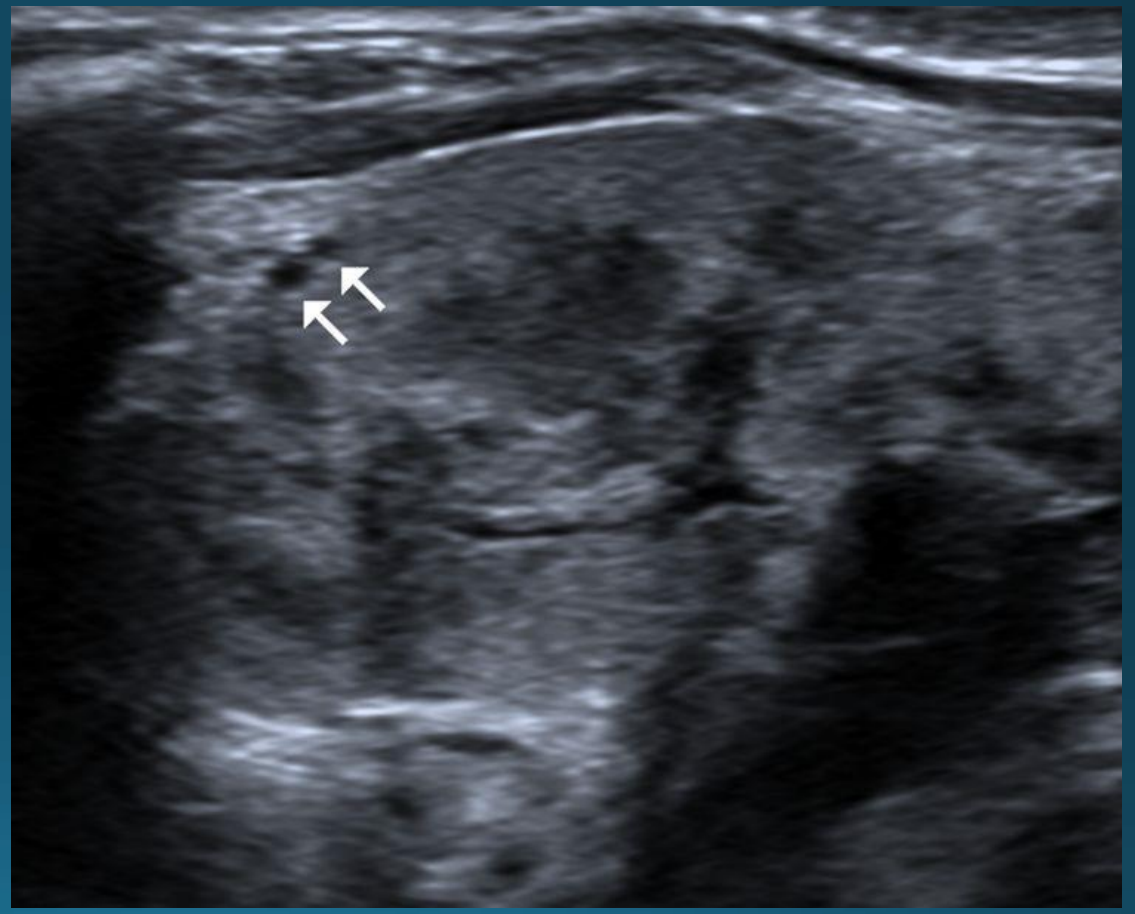


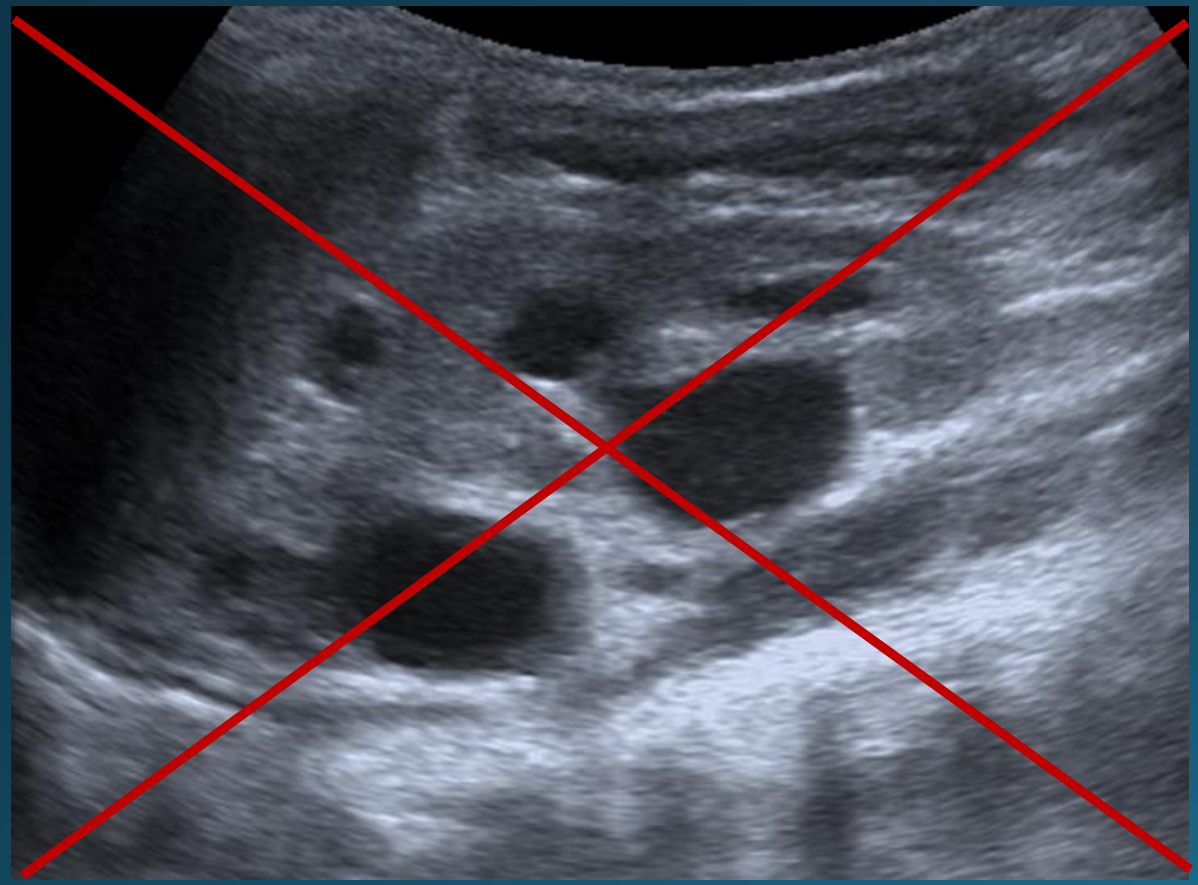

Renal cortex
Renal medulla
Hilum
Renal papilla
Renal pyramids
Renal pelvis
Ureter
Renal columns
Major calyx
Fibrous capsule
Minor calyx

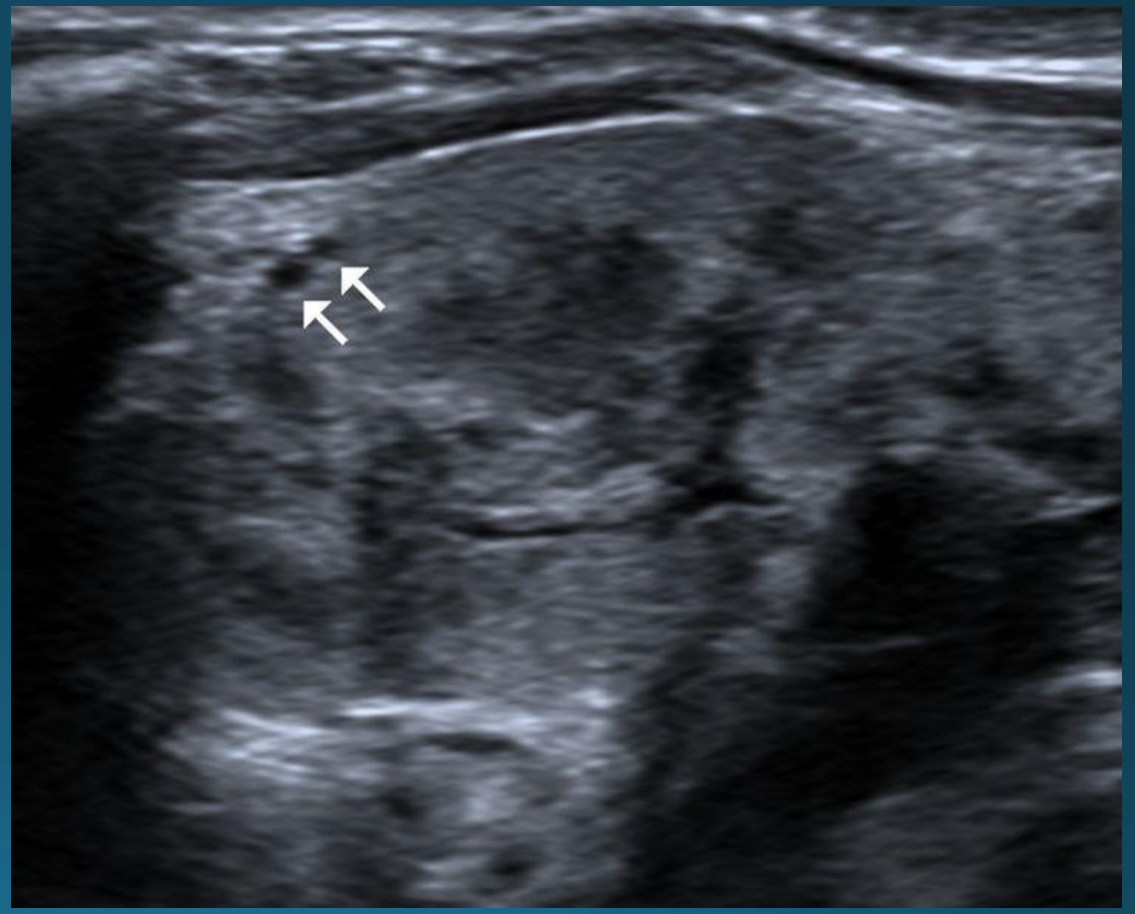




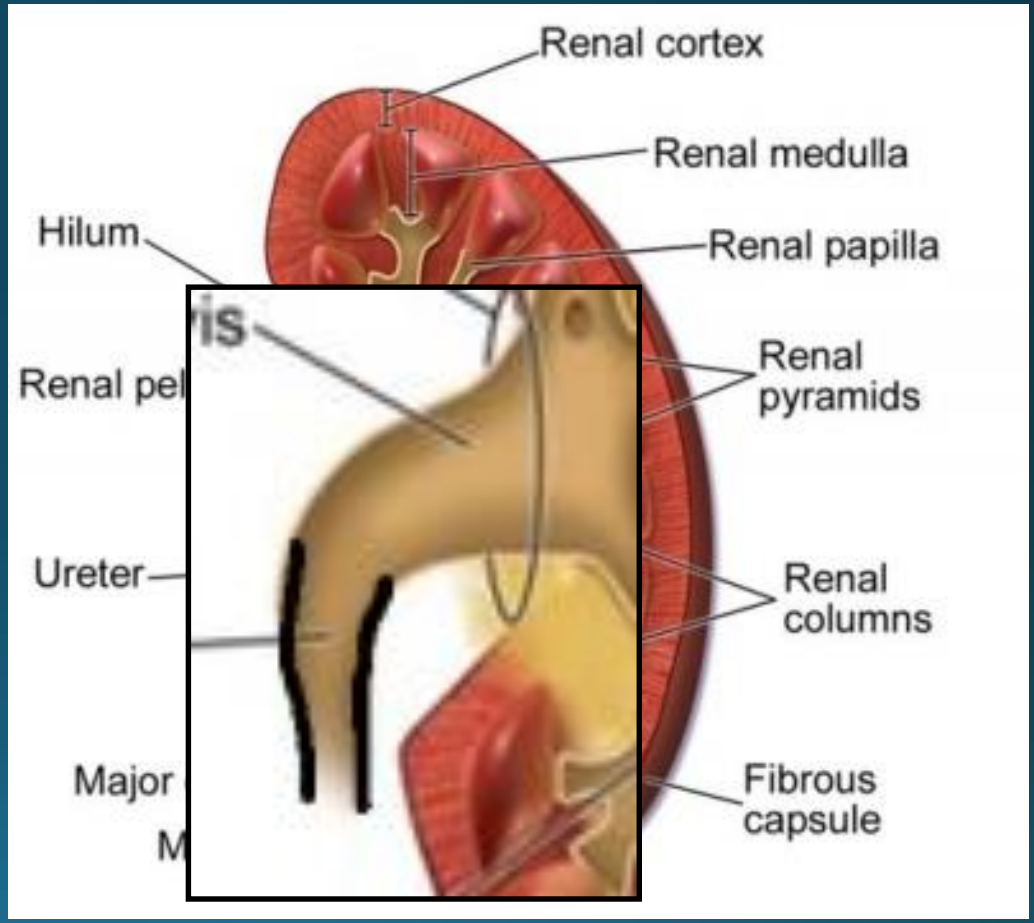


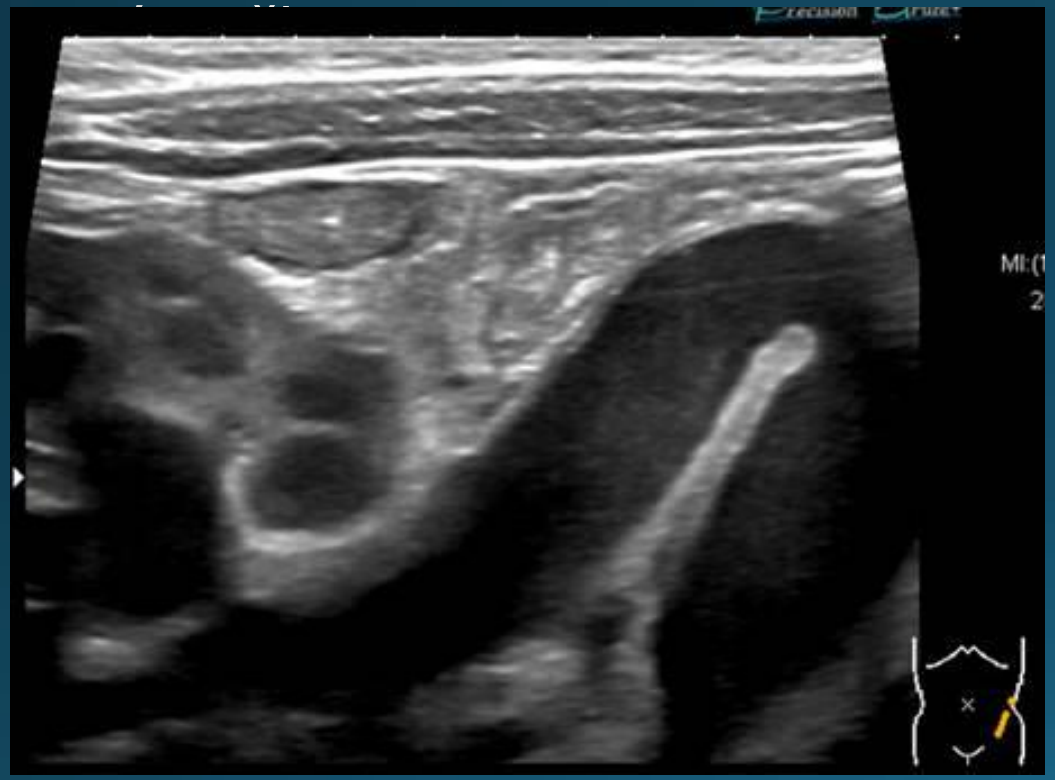


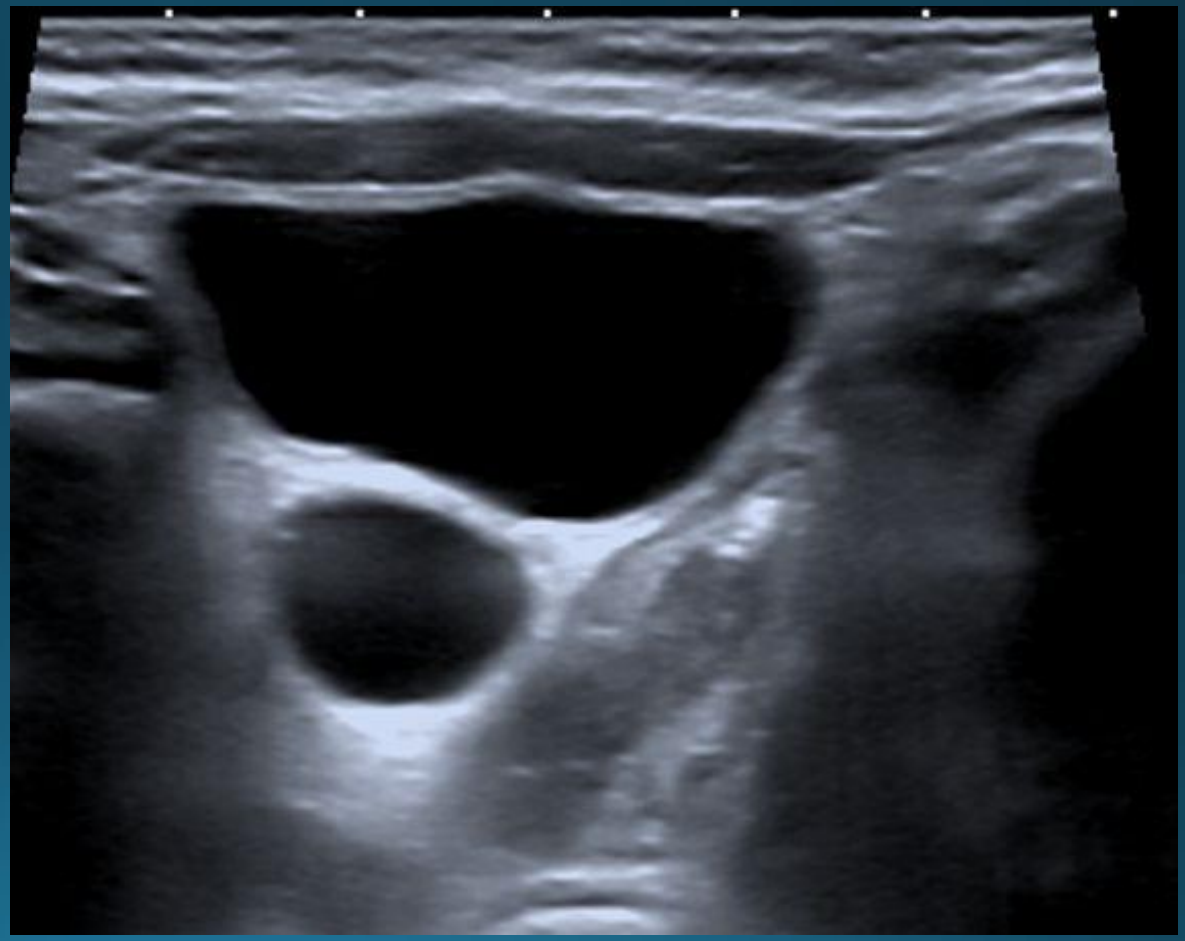




- pánvička
- kalichy
- tloušťka parenchymu
- vzhled parenchymu
- uretery
  - perzistující dilatace?

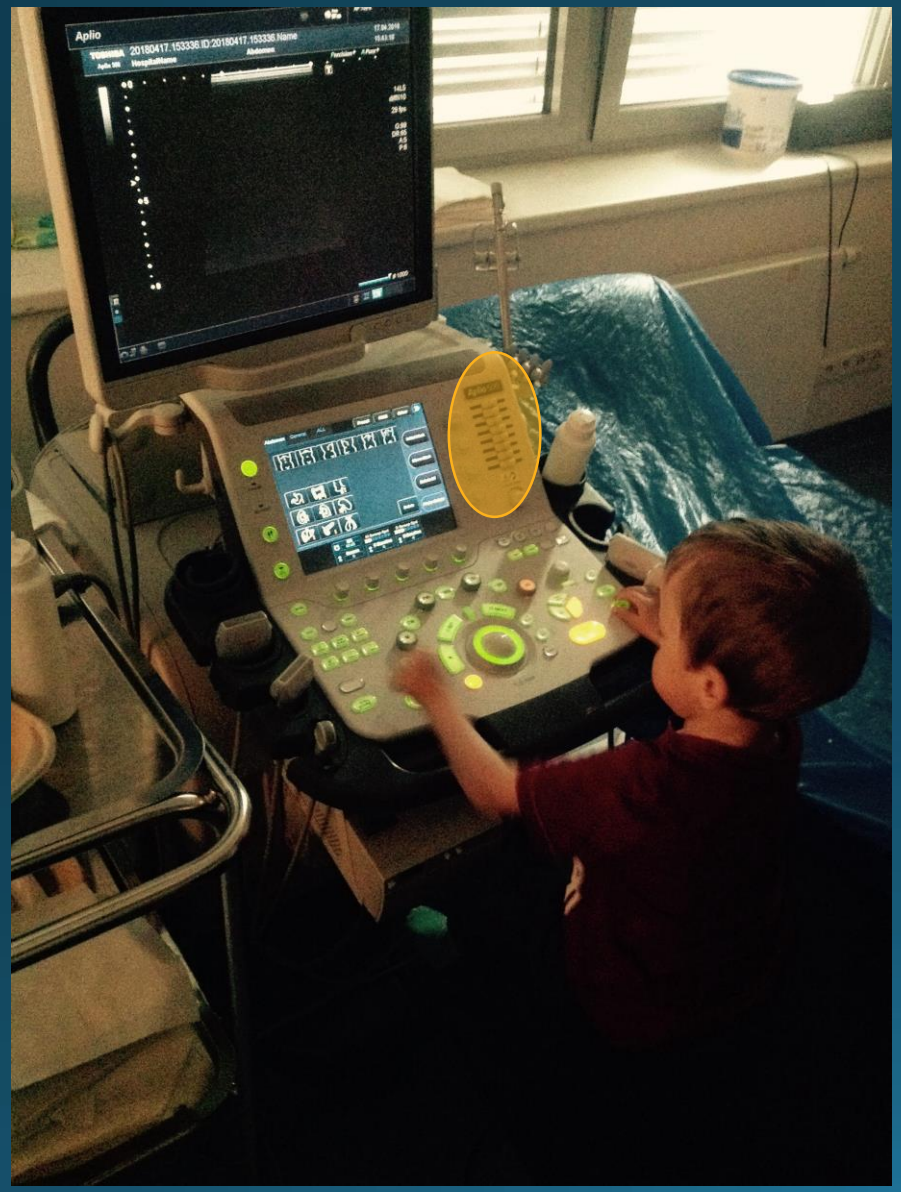


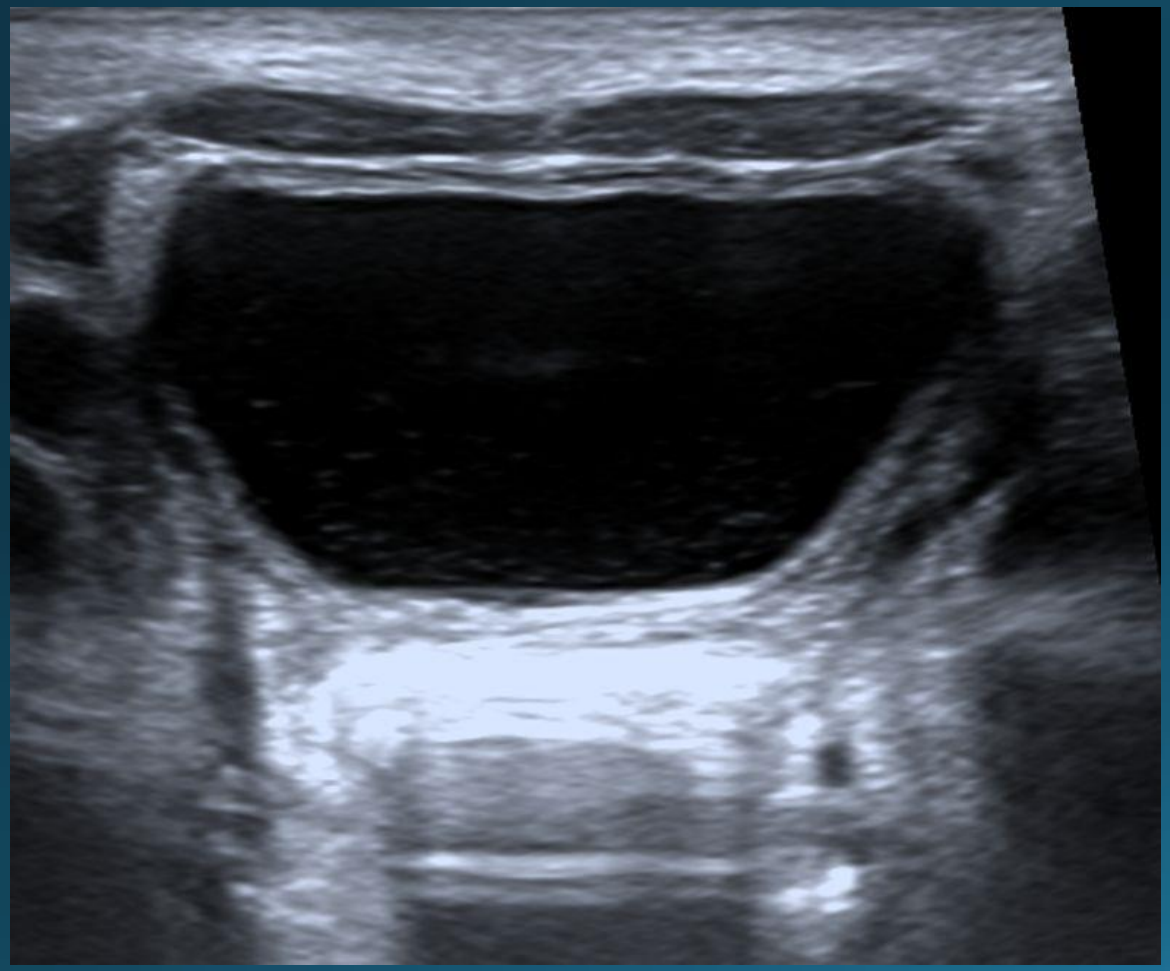


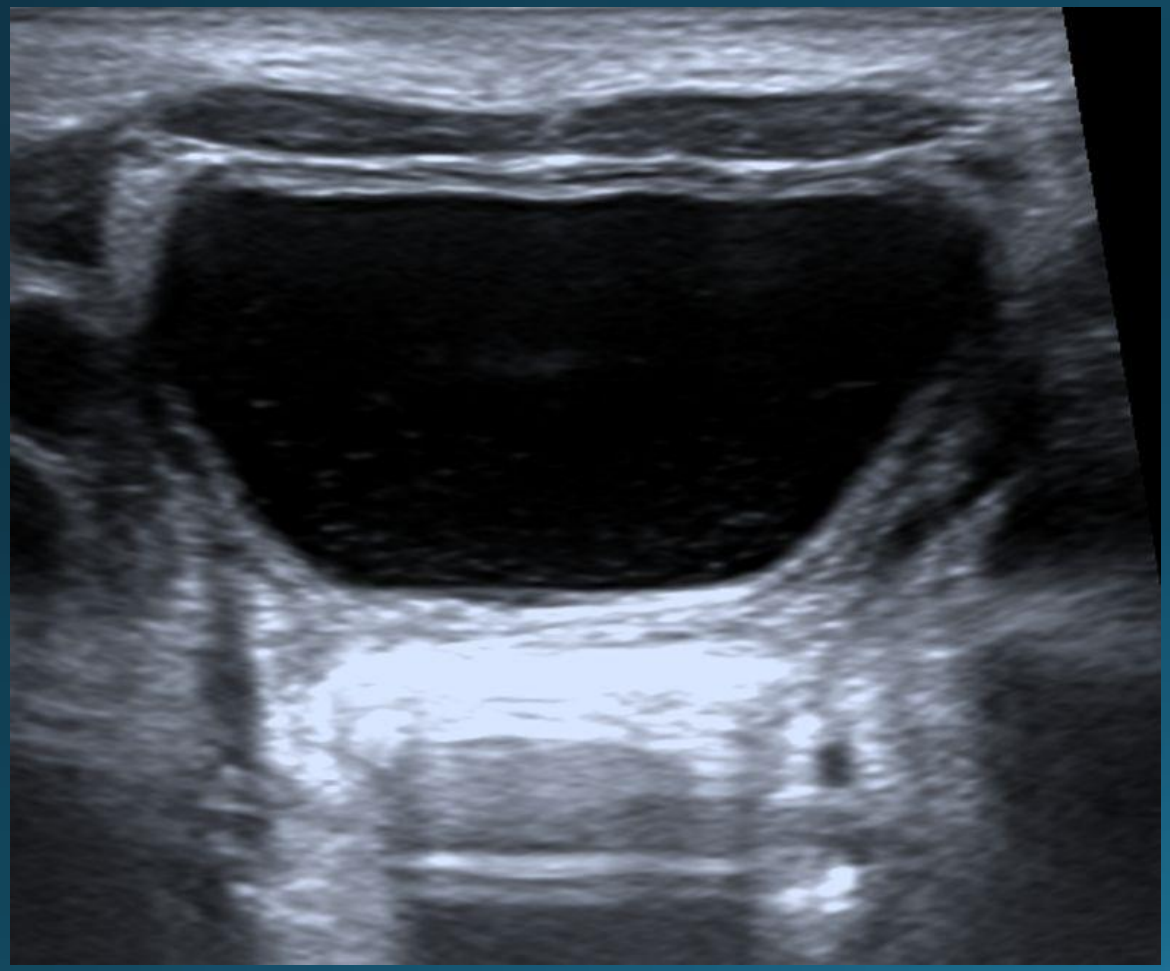


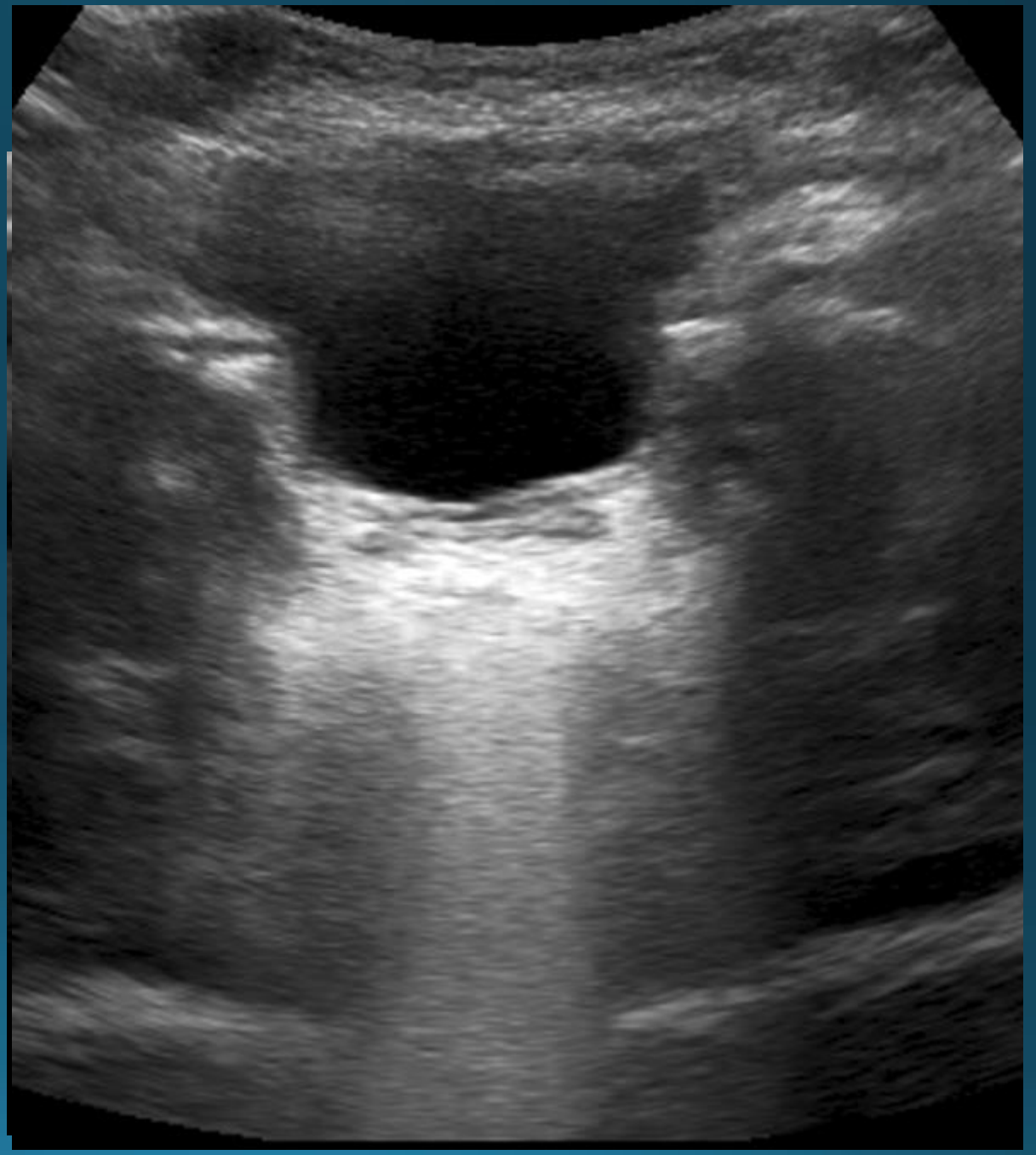
- pánvička
- kalichy
- tloušťka parenchymu
- vzhled parenchymu
- uretery
- močový měchýř
  - tloušťka stěny
  - ureterokéla?
  - zadní uretra

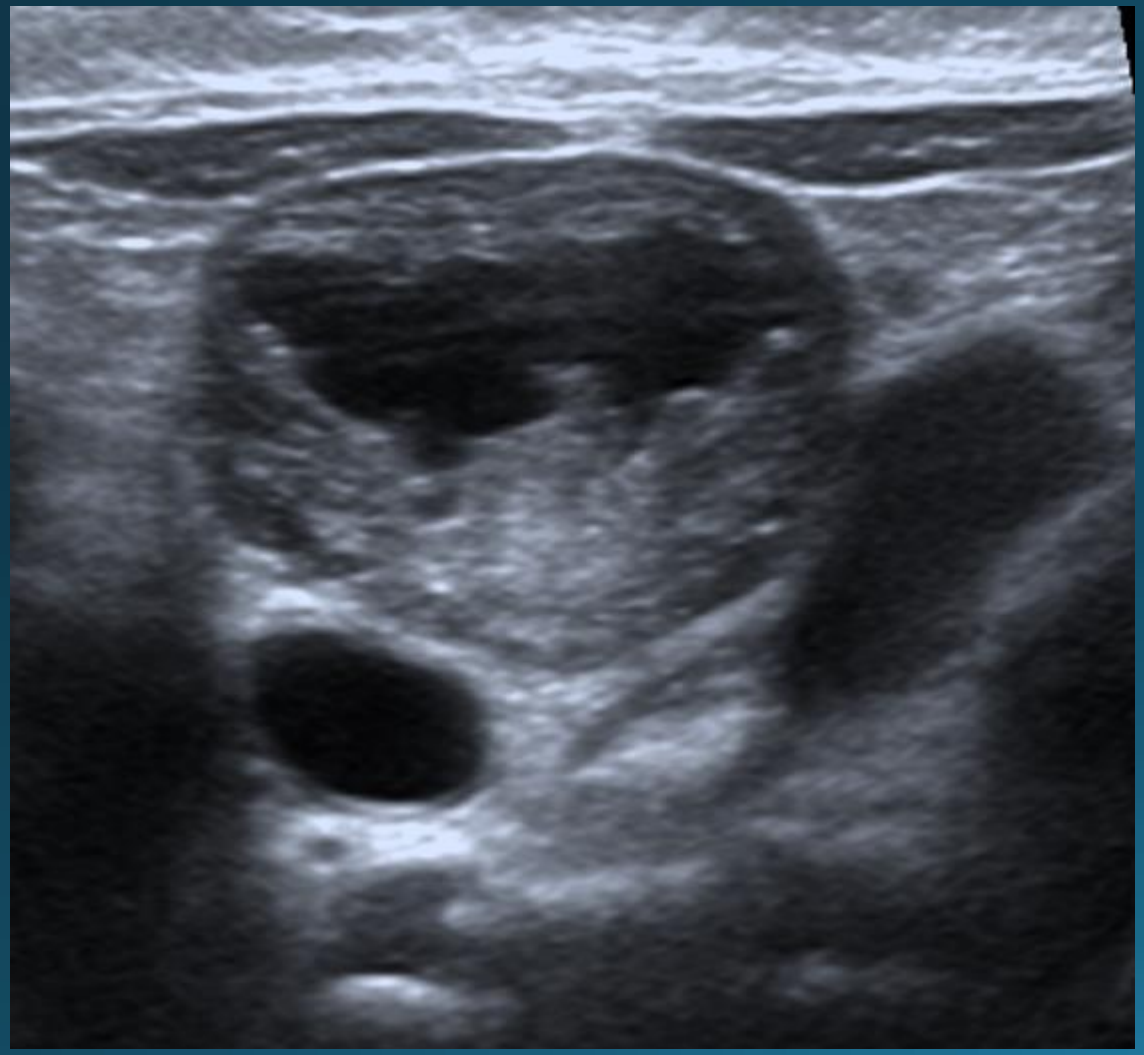
- pánvička
- kalichy
- tloušťka parenchymu
- vzhled parenchymu
- uretery
- močový měchýř
  - tloušťka stěny
  - ureterokéla?
  - zadní uretra

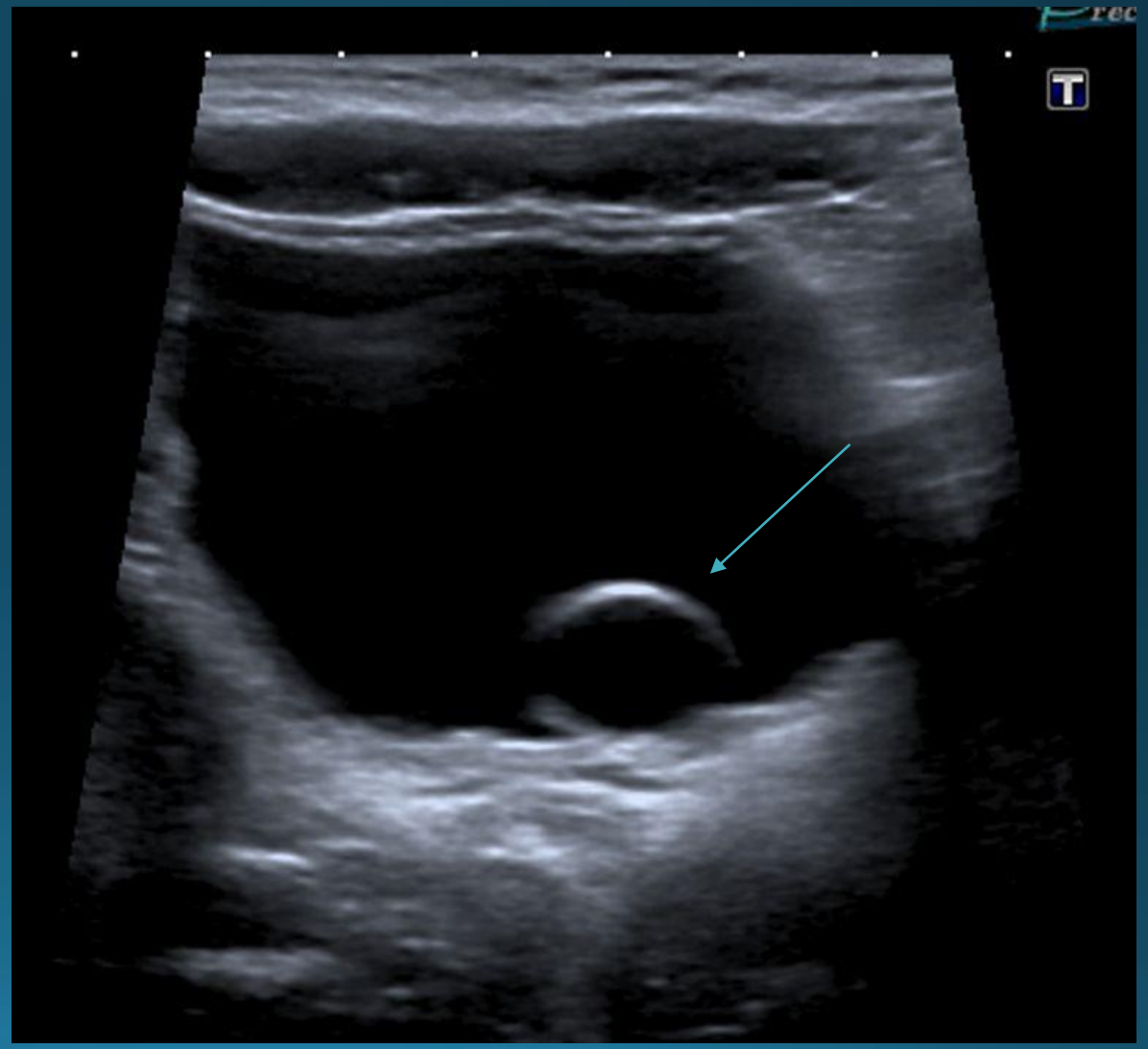

Aplio









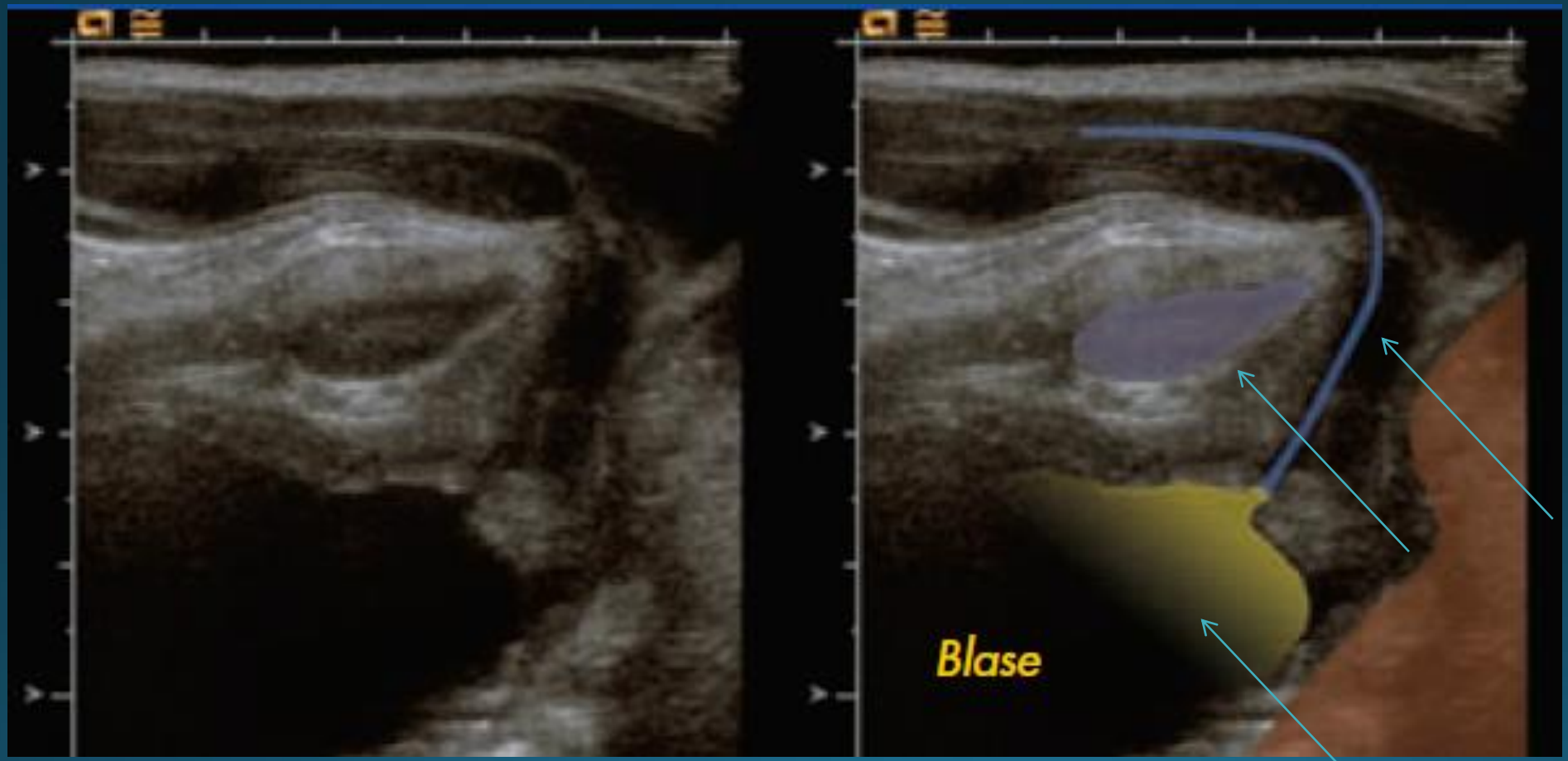


Dokumentations Empfehlung

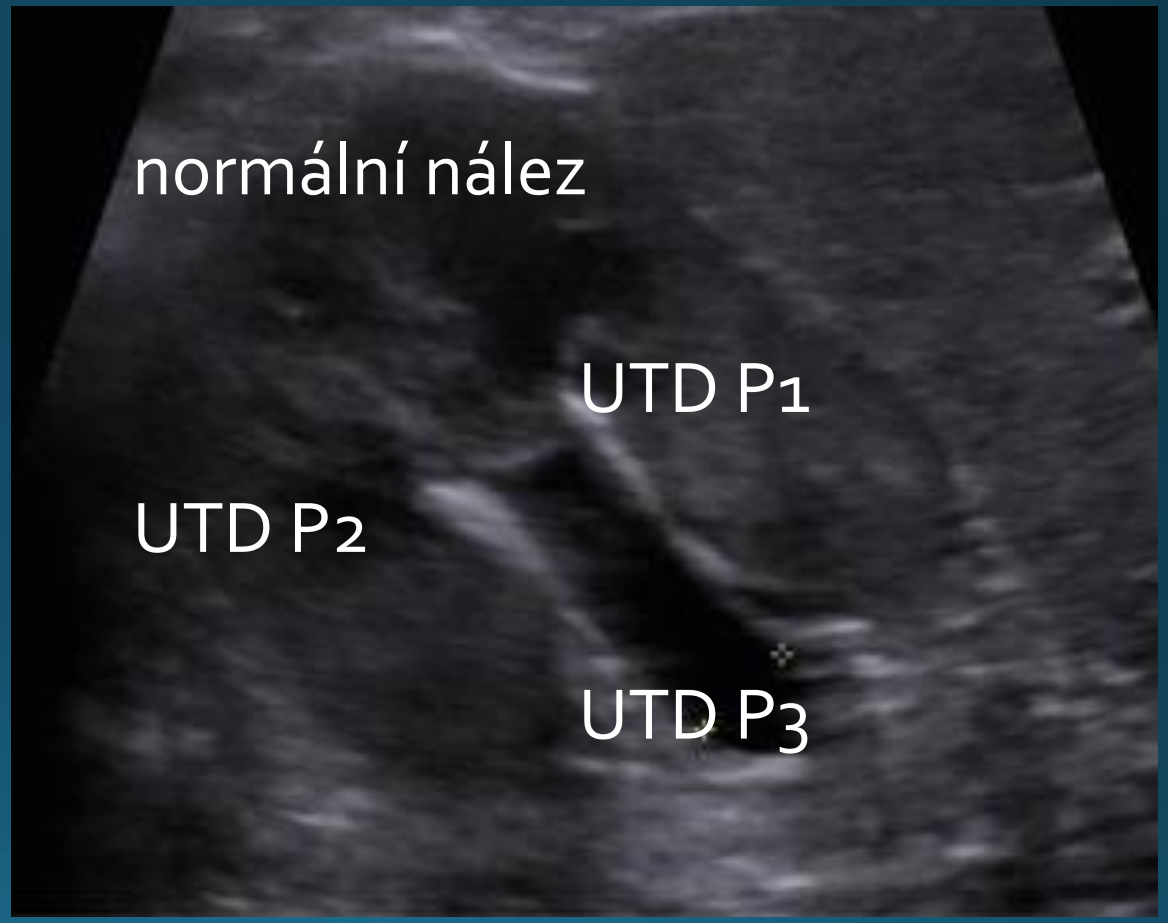
ÖGUM DEGUM

Standarddokumentation der Sonografie des kindlichen Harntraktes

Riccabona M., Schweintzger G., Leidig E., Hahn H., Deeg KH., Feldkamp A.



- pánvička
- kalichy
- tloušťka parenchymu
- vzhled parenchymu
- uretery
- močový měchýř



pánvička < 10 mm

bez dilatace kalichů

normální tloušťka parenchymu

normální vzhled parenchymu

normální uretery

normální močový měchýř

normální nález

pánvička 10-14 mm

dilatace centrálních kalichů

normální uretery

normální tloušťka parenchymu

normální vzhled parenchymu

normální močový měchýř

UTD P1

pánvička 10-14 mm

dilatace centrálních kalichů

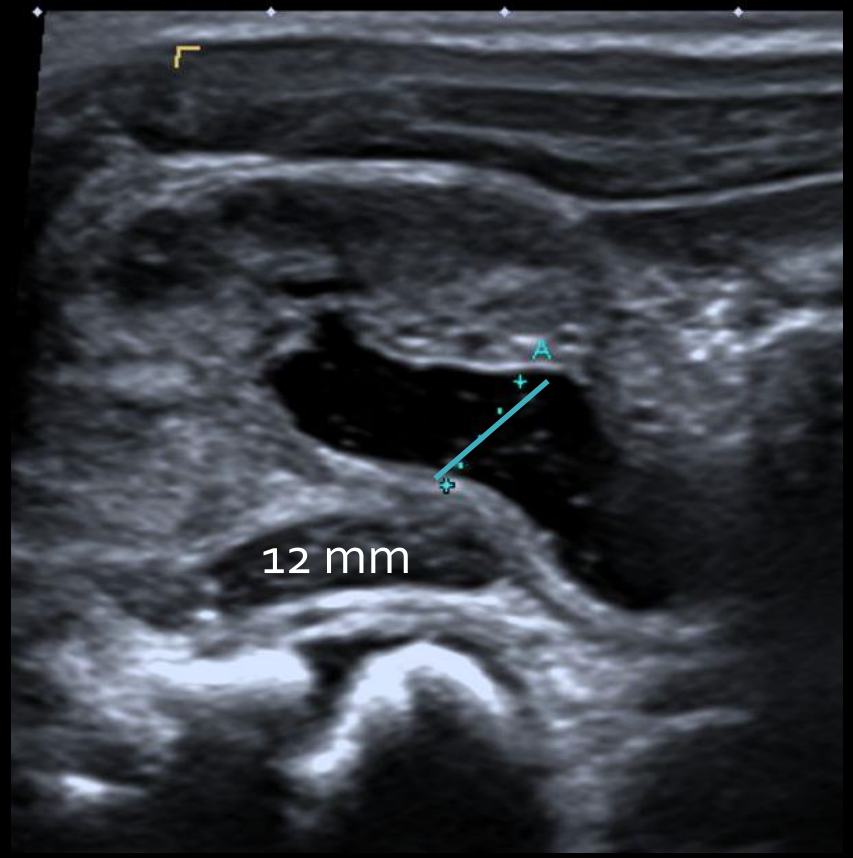
normální uretery

normální tloušťka parenchymu

normální vzhled parenchymu

normální močový měchýř

UTD P1



pánvička 10-14 mm

dilatace centrálních kalichů

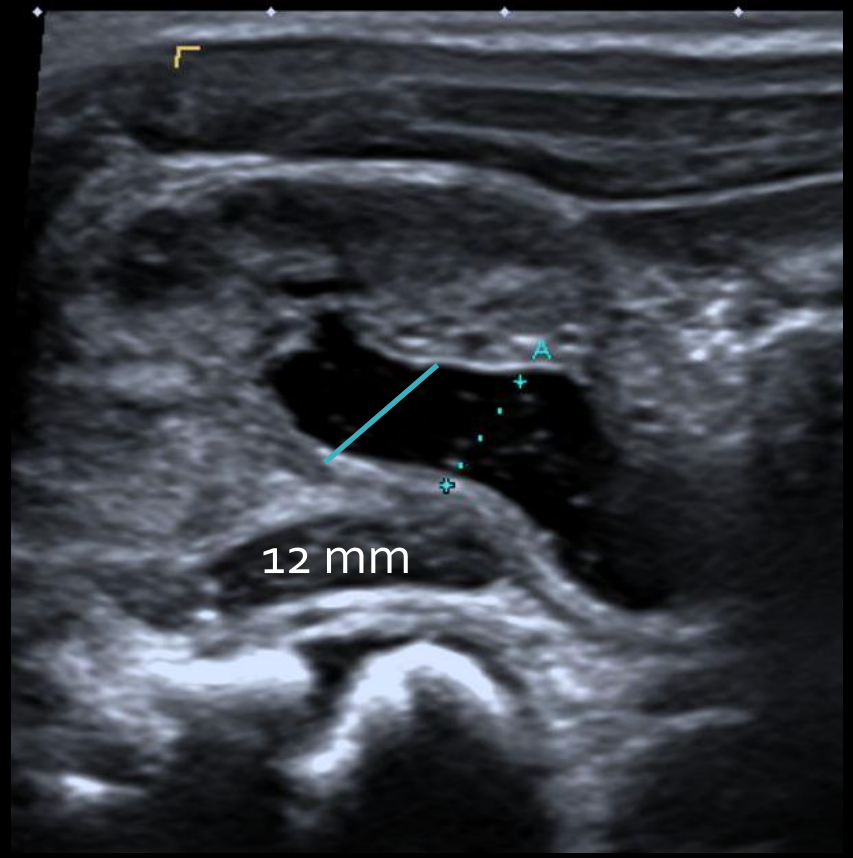
normální uretery

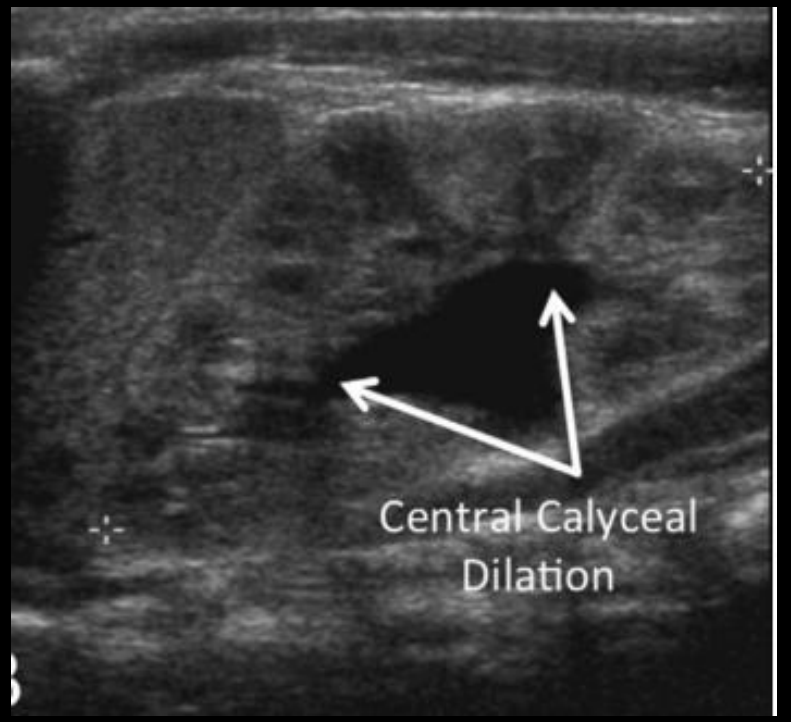
normální tloušťka parenchymu

normální vzhled parenchymu

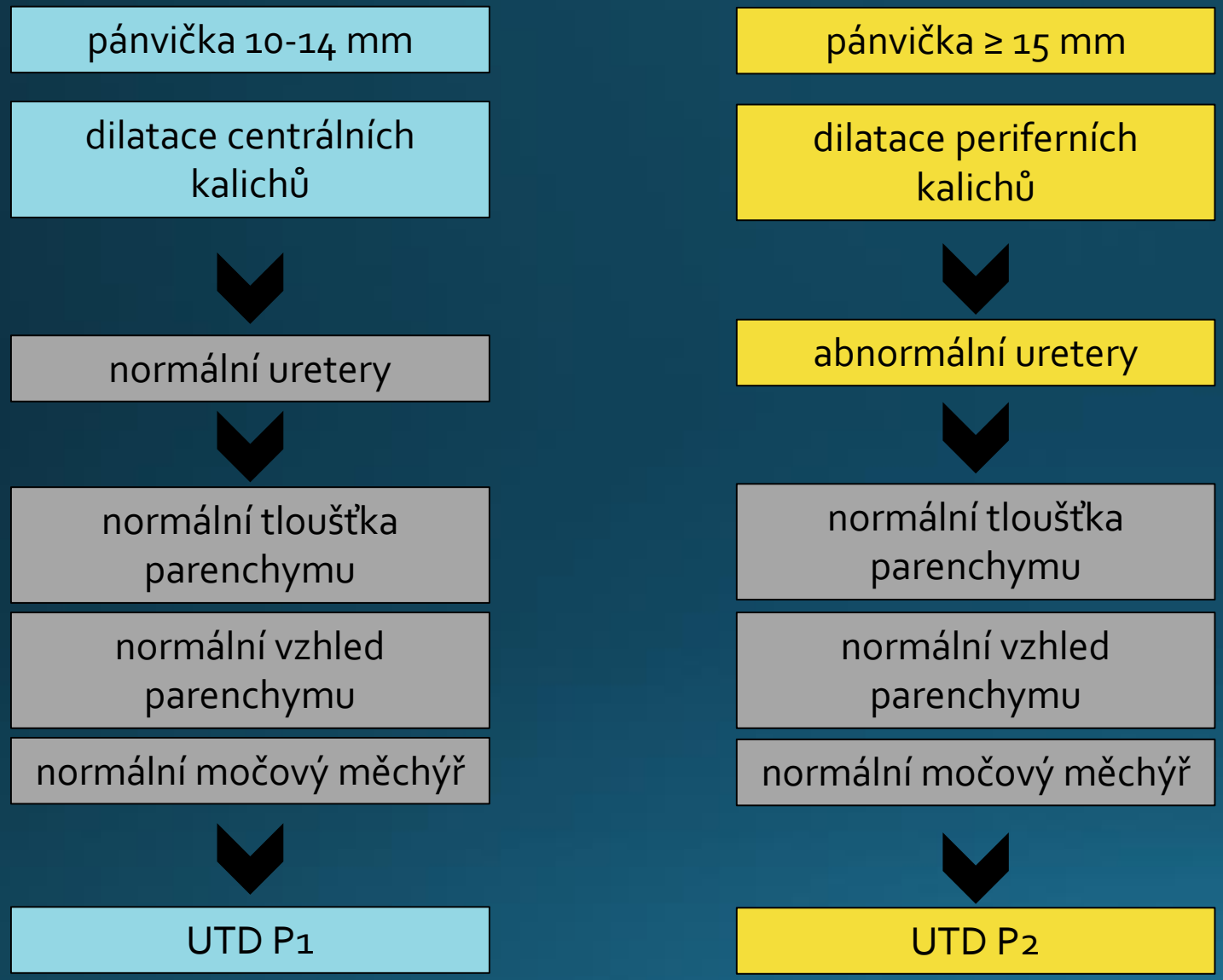
normální močový měchýř

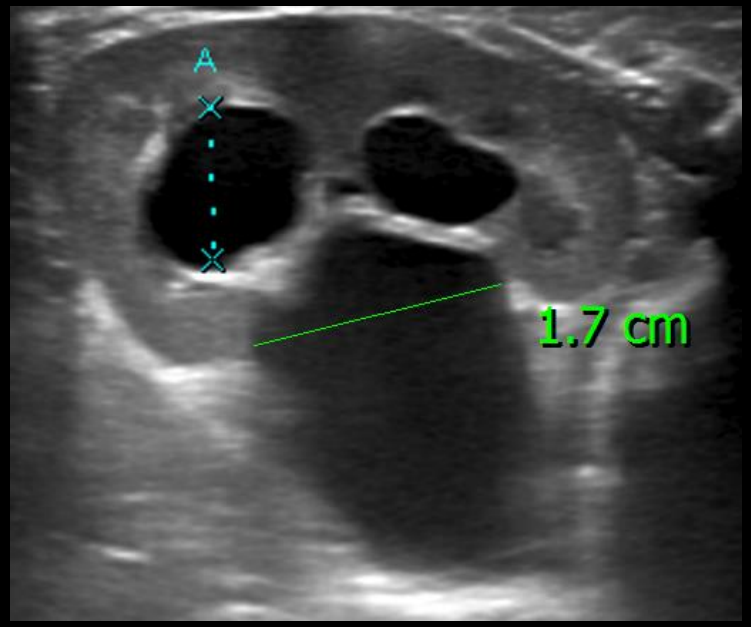
UTD P1

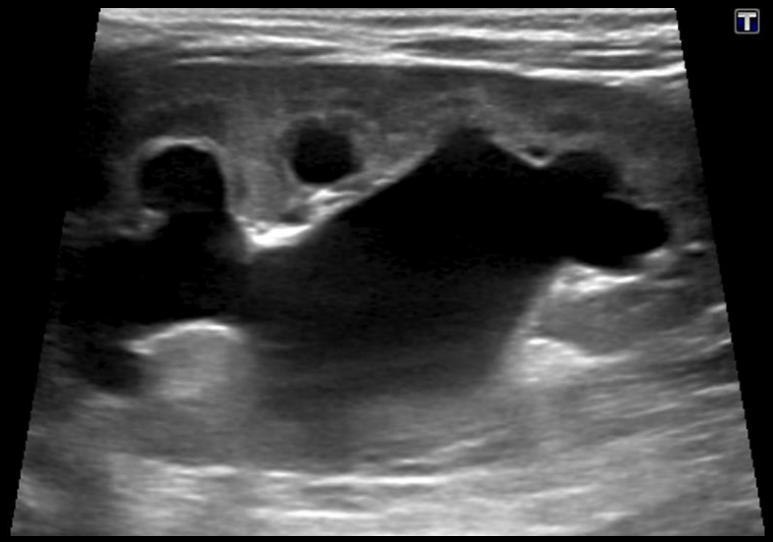




Multidisciplinary consensus on the classification of prenatal and postnatal urinary tract dilation (UTD classification system)


pánvička 10-14 mm
dilatace centrálních kalichů
normální uretery
normální tloušťka parenchymu
normální vzhled parenchymu
normální močový měchýř
UTD P1
pánvička ≥ 15 mm
dilatace periferních kalichů
abnormální uretery
normální tloušťka parenchymu
normální vzhled parenchymu
normální močový měchýř
UTD P2





pánvička ≥ 15 mm

dilatace periferních kalichů

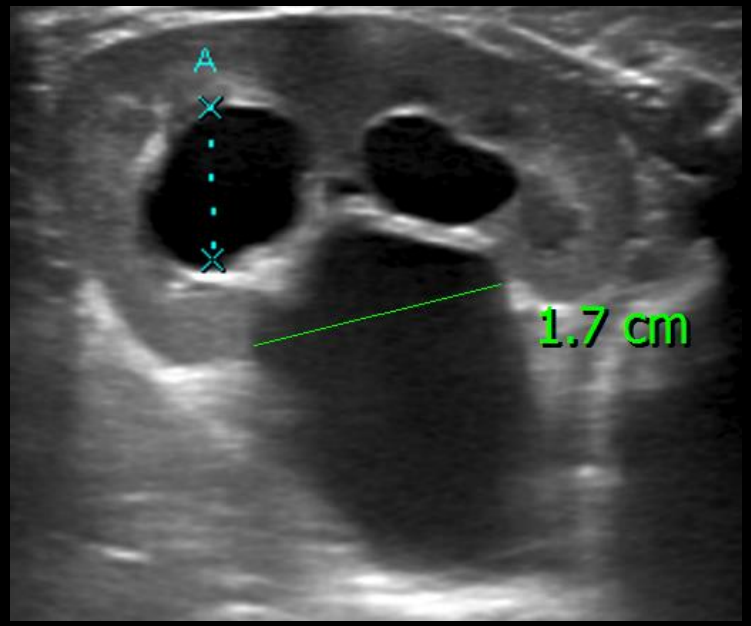
abnormální uretery

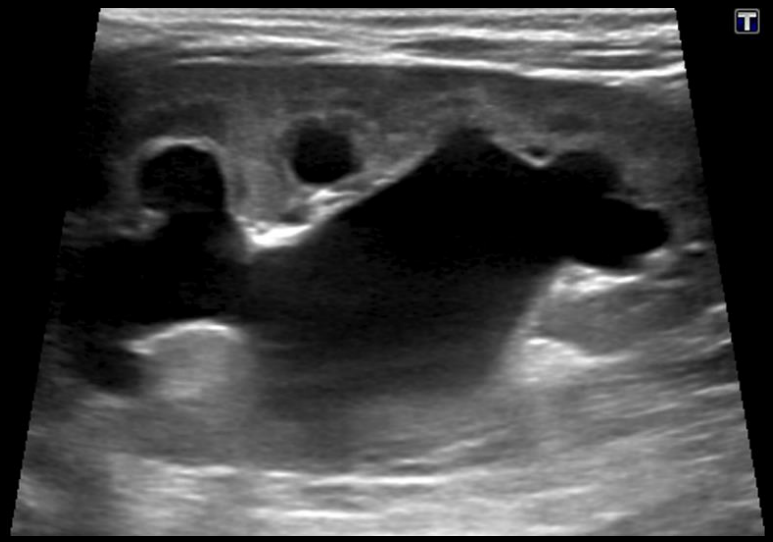
normální tloušťka parenchymu

normální vzhled parenchymu

normální močový měchýř

UTD P2





pánvička ≥ 15 mm

dilatace periferních kalichů

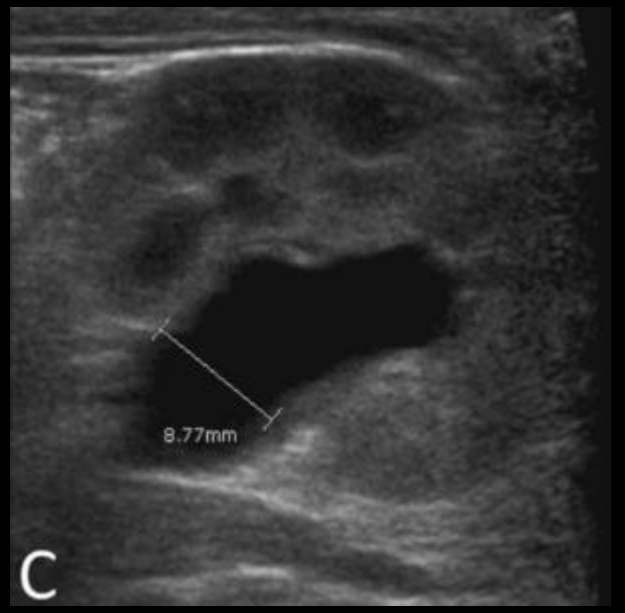
abnormální uretery

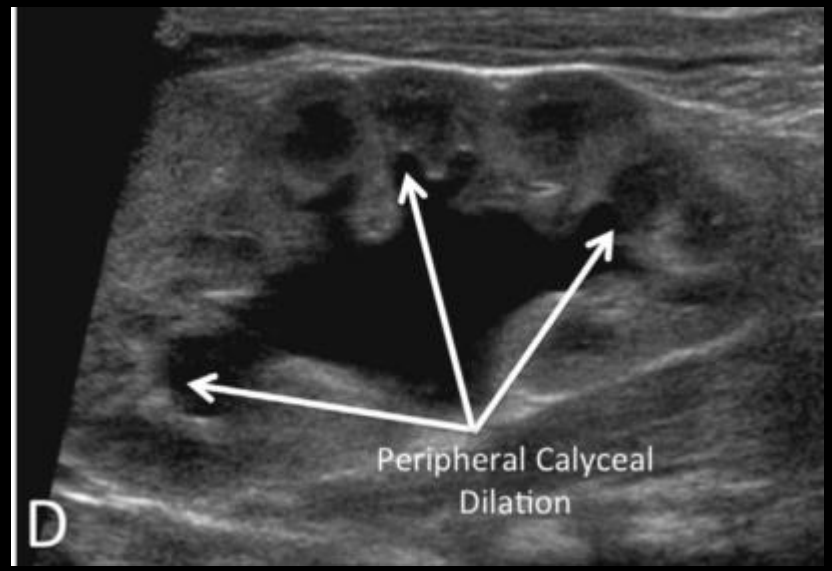
normální tloušťka parenchymu

normální vzhled parenchymu

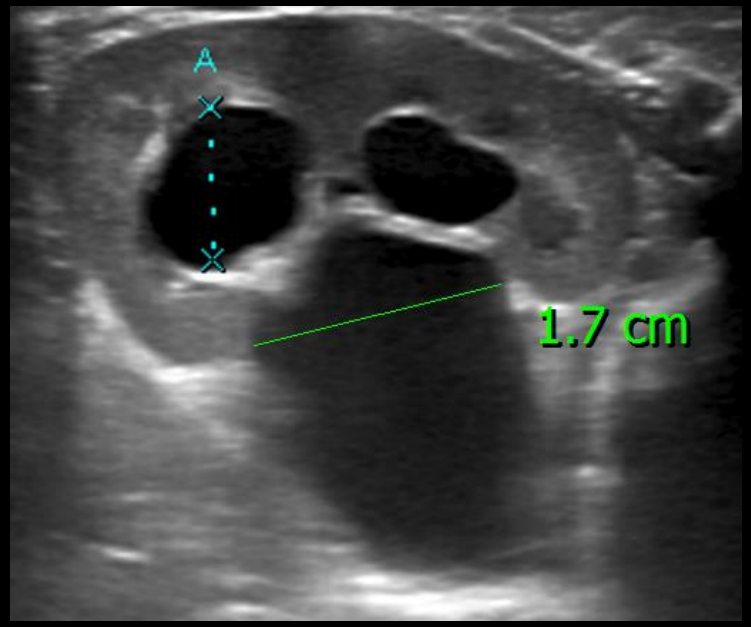
normální močový měchýř

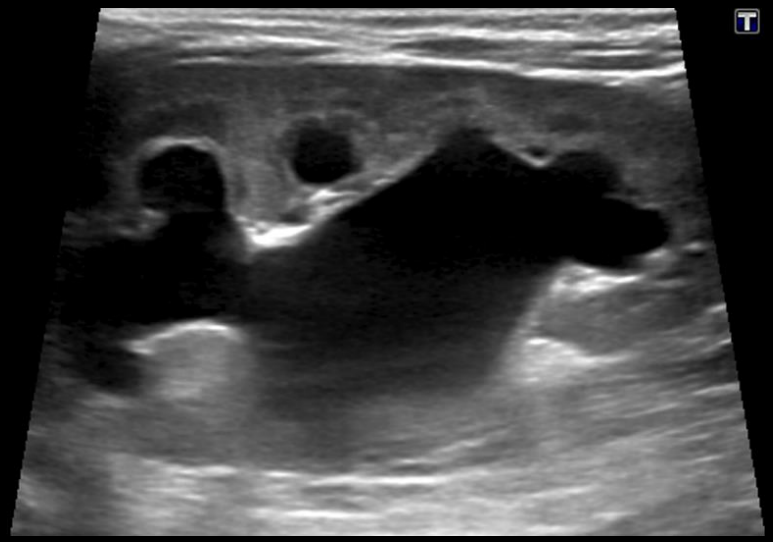
UTD P2





Multidisciplinary consensus on the classification of prenatal and postnatal urinary tract dilation (UTD classification system)





pánvička ≥ 15 mm

dilatace periferních kalichů

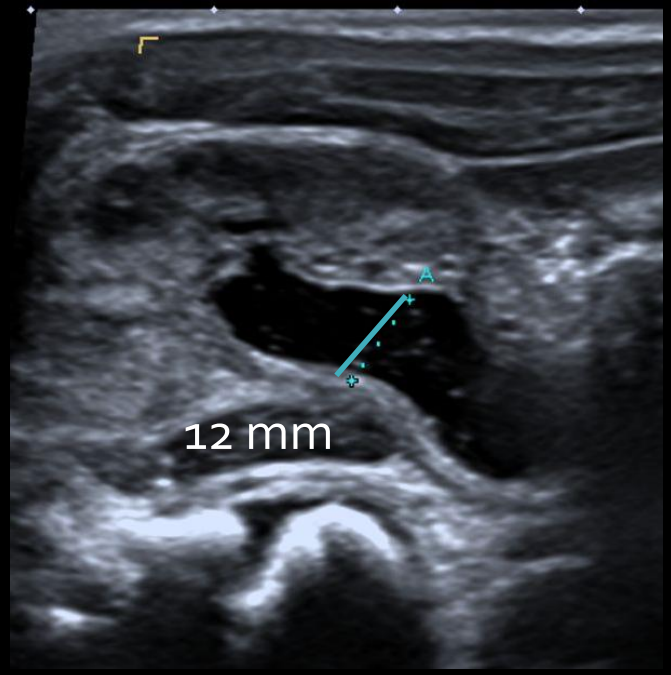
abnormální uretery

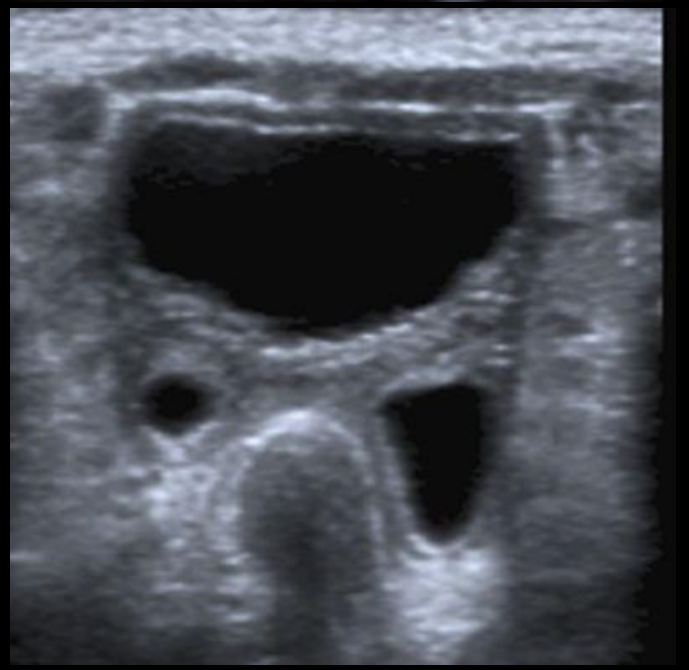
normální tloušťka parenchymu

normální vzhled parenchymu

normální močový měchýř

UTD P2





pánvička 10-14 mm

dilatace centrálních kalichů

normální uretery

normální tloušťka parenchymu

normální vzhled parenchymu

normální močový měchýř

UTD P1

pánvička ≥ 15 mm

dilatace periferních kalichů

abnormální uretery

normální tloušťka parenchymu

normální vzhled parenchymu

normální močový měchýř

UTD P2

pánvička ≥ 15 mm

dilatace periferních kalichů

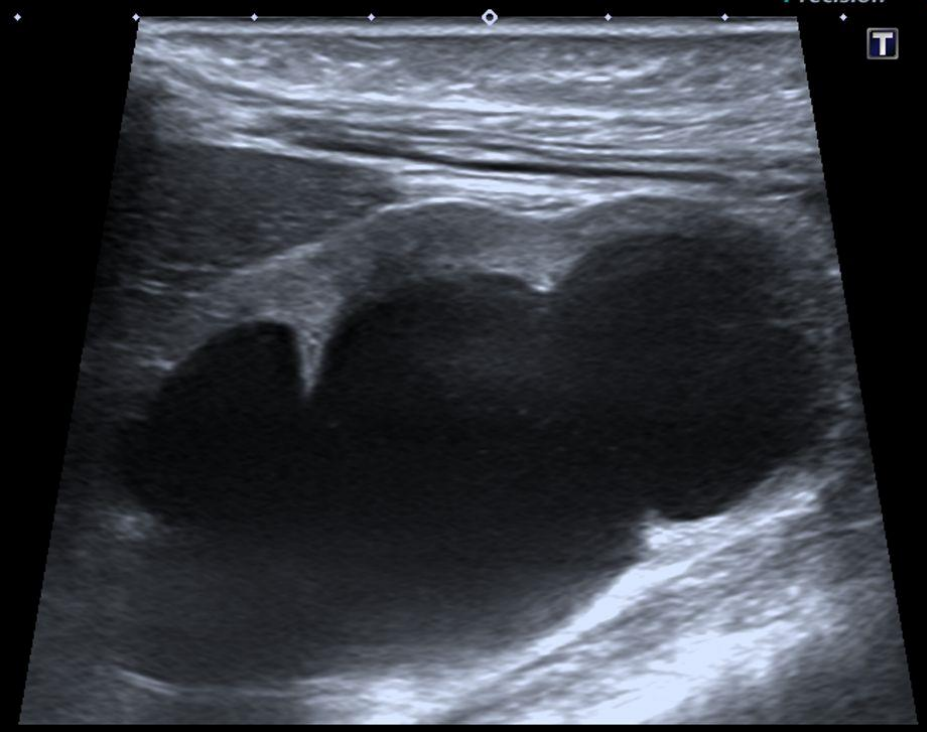
abnormální uretery

abnormální tloušťka parenchymu

abnormální vzhled parenchymu

abnormální močový měchýř

UTD P3



pánvička ≥ 15 mm

dilatace periferních kalichů

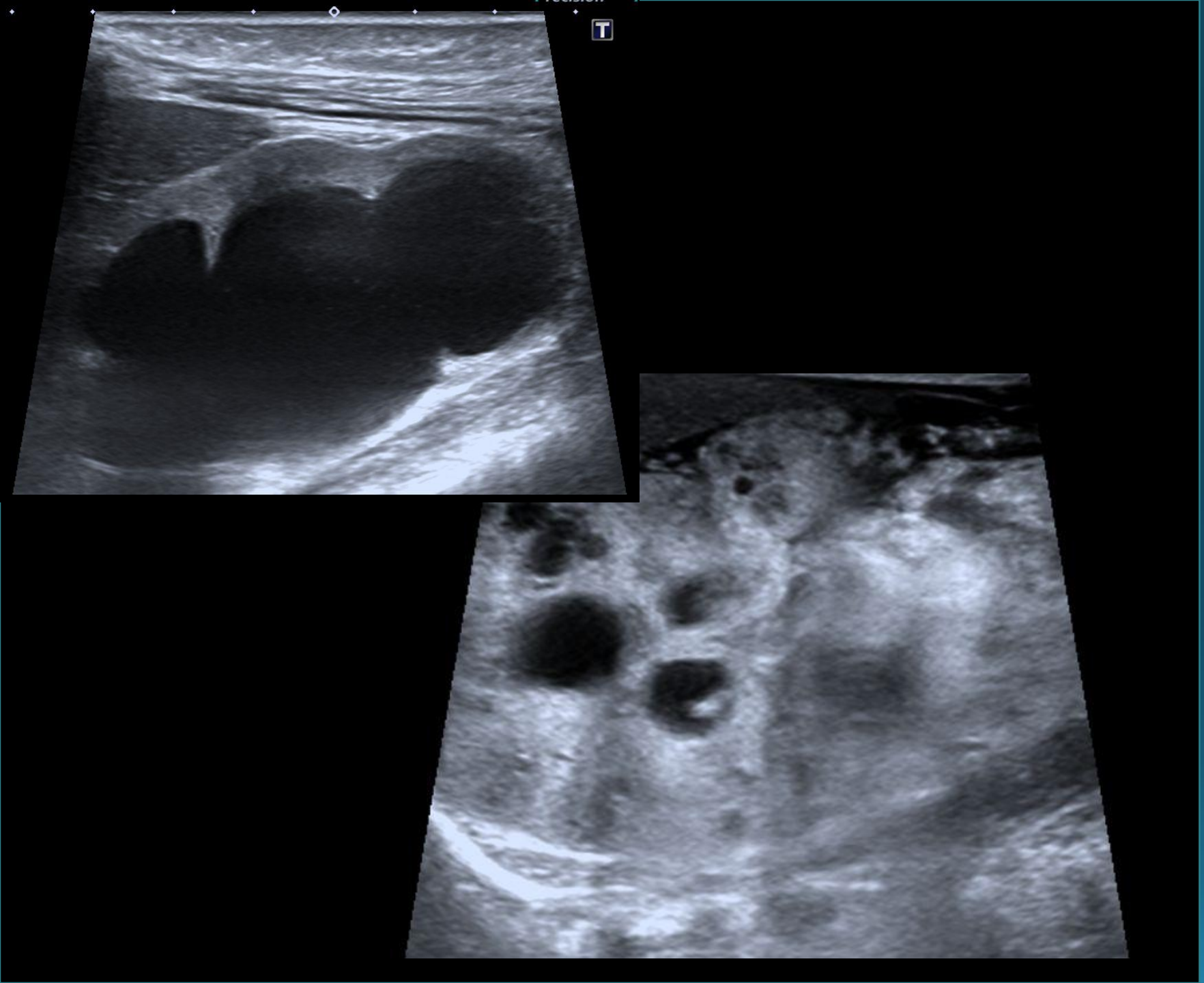
abnormální uretery

abnormální tloušťka parenchymu

abnormální vzhled parenchymu

abnormální močový měchýř

UTD P3



pánvička ≥ 15 mm

dilatace periferních kalichů

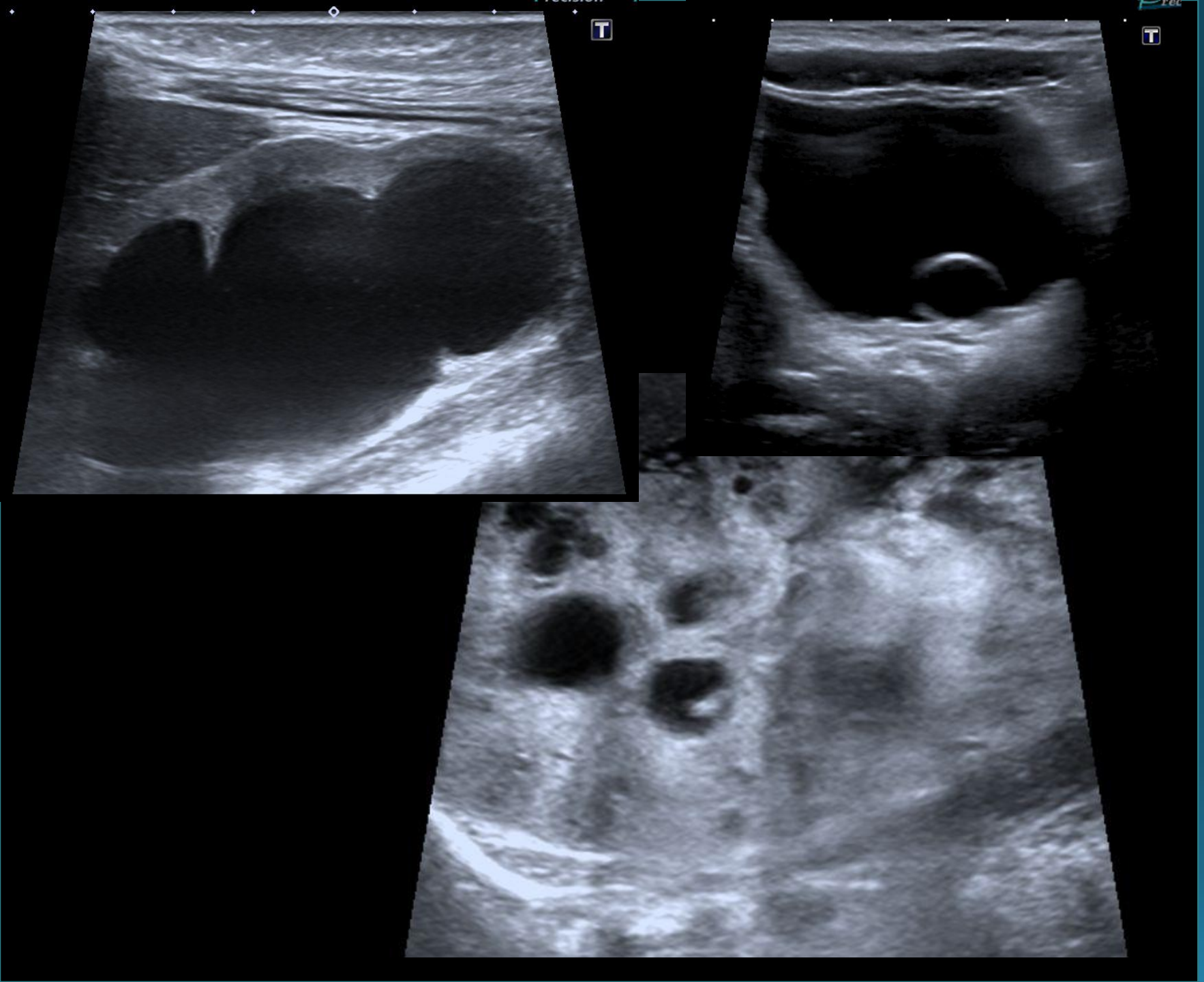
abnormální uretery

abnormální tloušťka parenchymu

abnormální vzhled parenchymu

abnormální močový měchýř

UTD P3



pánvička ≥ 15 mm

dilatace periferních kalichů

abnormální uretery

abnormální tloušťka parenchymu

abnormální vzhled parenchymu

abnormální močový měchýř

UTD P3

pánvička 10-14 mm

dilatace centrálních kalichů

normální uretery

normální tloušťka parenchymu

normální vzhled parenchymu

normální močový měchýř

UTD P1

pánvička ≥ 15 mm

dilatace periferních kalichů

abnormální uretery

normální tloušťka parenchymu

normální vzhled parenchymu

normální močový měchýř

UTD P2

pánvička ≥ 15 mm

dilatace periferních kalichů

abnormální uretery

abnormální tloušťka parenchymu

abnormální vzhled parenchymu

abnormální močový měchýř

UTD P3

kontrolní UZ
za 1-6 měsíců

MCUG
dle klinika

ATB
dle klinika

isotopy:
nejsou doporučeny

UTD P1

pánvička ≥ 15 mm

dilatace periferních kalichů

abnormální uretery

normální tloušťka parenchymu

normální vzhled parenchymu

normální močový měchýř

UTD P2

pánvička ≥ 15 mm

dilatace periferních kalichů

abnormální uretery

abnormální tloušťka parenchymu

abnormální vzhled parenchymu

abnormální močový měchýř

UTD P3

kontrolní UZ
za 1-6 měsíců

MCUG
dle klinika

ATB
dle klinika

isotopy:
nejsou doporučeny

UTD P1

kontrolní UZ
za 1-3 měsíce

MCUG
dle klinika

ATB
dle klinika

isotopy:
dle klinika

UTD P2

pánvička ≥ 15 mm

dilatace periferních kalichů

abnormální uretery

abnormální tloušťka parenchymu

abnormální vzhled parenchymu

abnormální močový měchýř

UTD P3

kontrolní UZ
za 1-6 měsíců

MCUG
dle klinika

ATB
dle klinika

isotopy:
nejsou doporučeny

UTD P1

kontrolní UZ
za 1-3 měsíce

MCUG
dle klinika

ATB
dle klinika

isotopy:
dle klinika

UTD P2

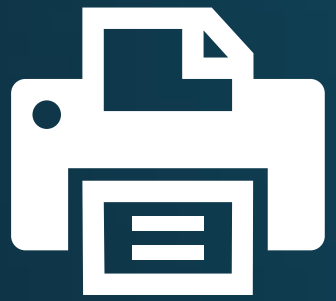
kontrolní UZ
za 1 měsíc

MCUG
ano

ATB
ano

isotopy:
dle klinika

UTD P3



- pánvička
- kalichy
- tloušťka parenchymu
- vzhled parenchymu
- ureter
- močový měchýř

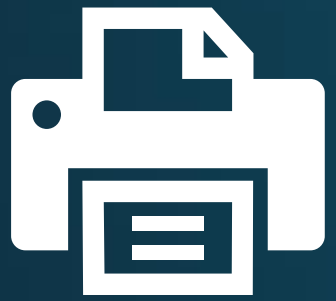
normální nález

UTD P1

UTD P2

UTD P3

„na podkladu…“



- pánvička
- kalichy
- tloušťka parenchymu
- vzhled parenchymu
- ureter
- močový měchýř

normální nález

UTD P1

UTD P2

UTD P3

„na podkladu…“

„doporučuji…“

> 48 hodin

> 48 hodin

UZ
pánvička, kalichy,
uretery, parenchym,
močový měchýř

> 48 hodin

UZ
pánvička, kalichy,
uretery, parenchym,
močový měchýř

slovní popis
norma/UTD P1-P3
doporučení