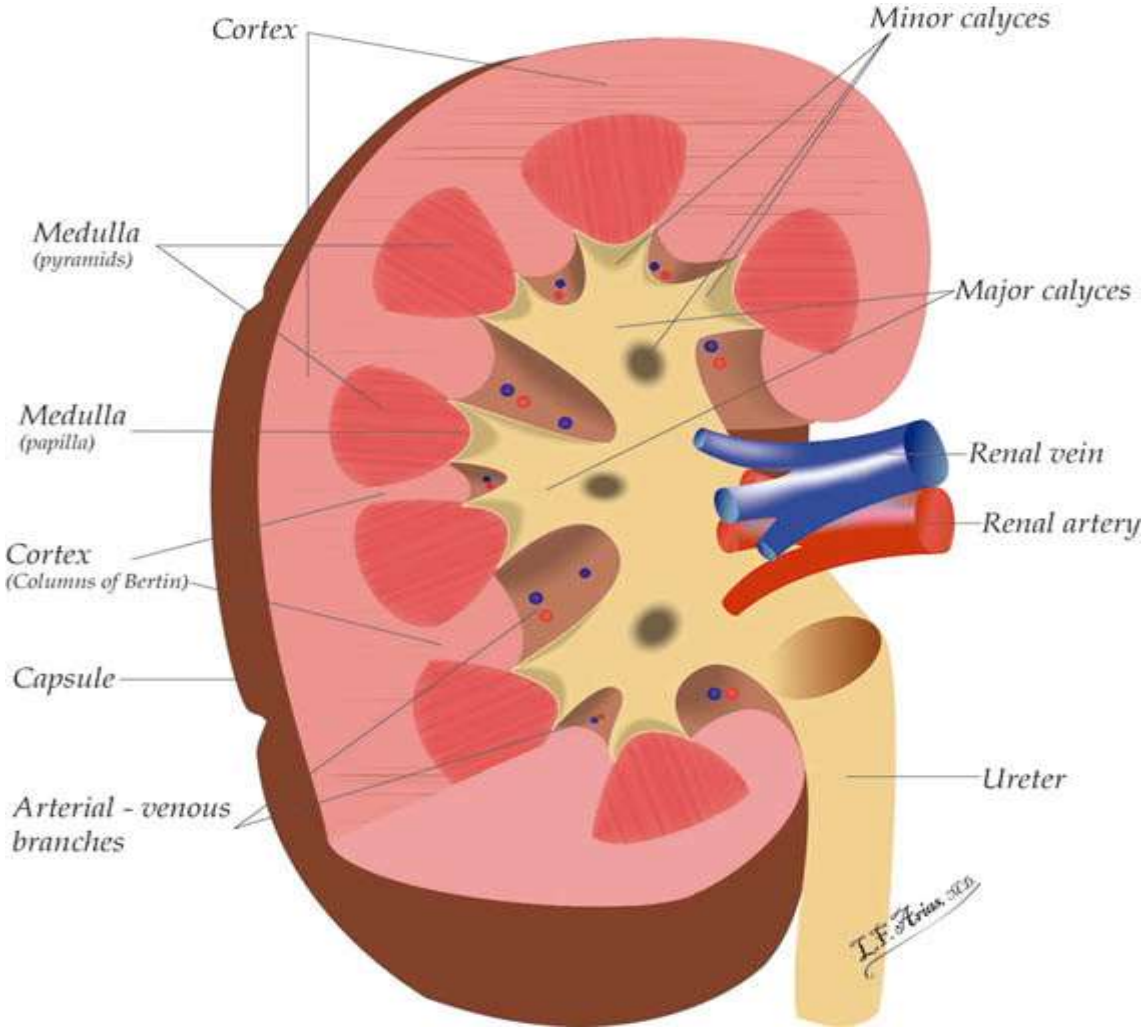
Normal kidney and ureters



Normal kidney and ureters

- Both kidneys should be about the same size. In adults, a difference of more than 2cm in length is abnormal.
- Length: 9-12 cm.
- Width: 4-6 cm.
- Thickness: up to 3.5 cm.
- The renal sinus is very echogenic and normally occupies about one-third of the kidney. (The renal sinus includes the pelvis, calyces, vessels and fat.)
- In the **newborn**, the kidneys are about 4 cm long and 2 cm wide.

Normal kidney ultrasound

- In renal ultrasound we can see the fallowing:

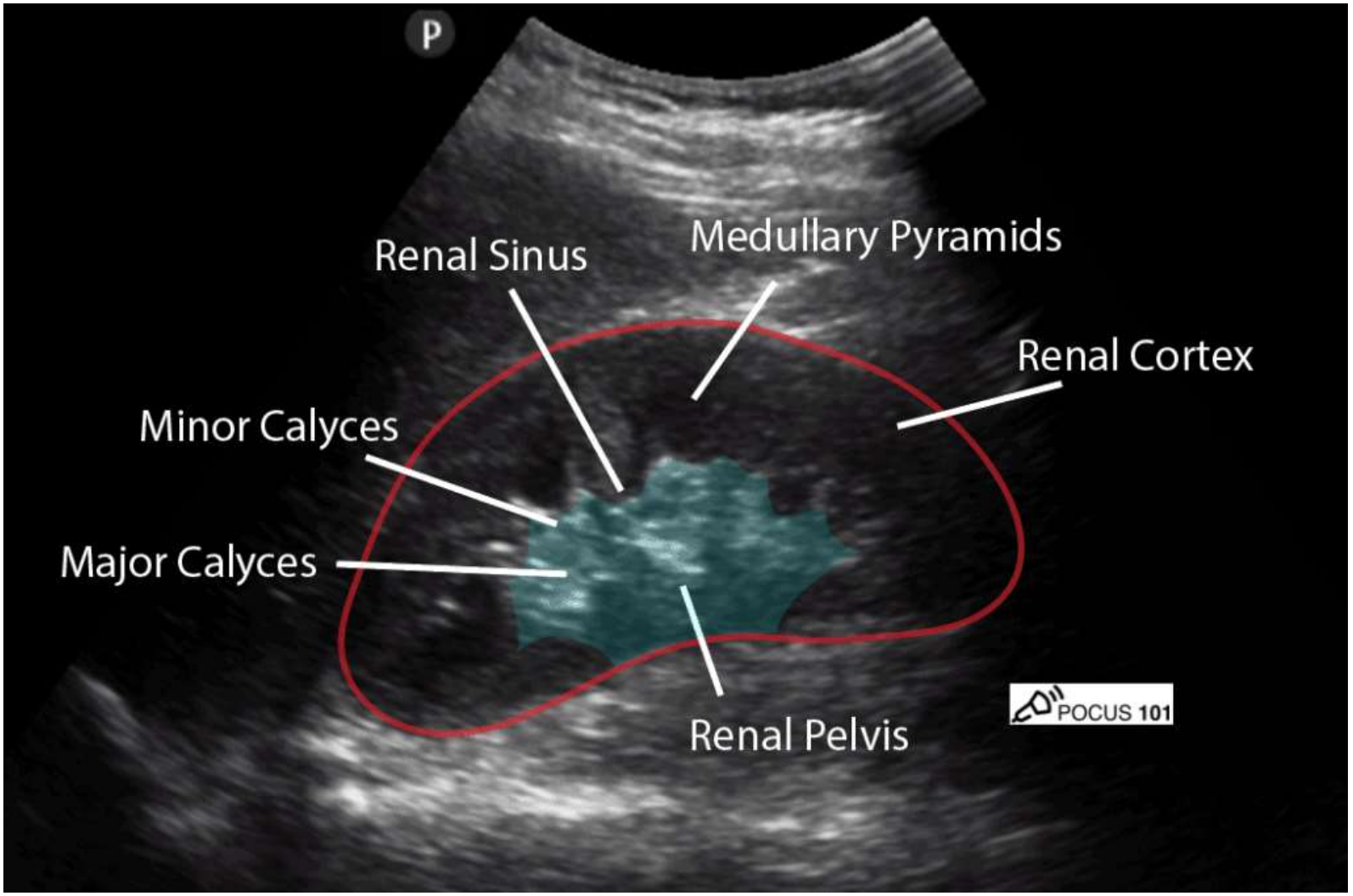
1-The renal capsule. This appears as a bright, smooth, echogenic line around the kidney.

2-Renal cortex (hypoechoic)

3-Medullary pyramids. Hypoechoic pyramid

4-Renal sinus(more echogenic involve renal calyces, the fat, the collecting system and the vessels at the hilum).

5-The renal arteries and veins. These are best seen at the hilum.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Renal Sinus
Medullary Pyramids
Renal Cortex
Minor Calyces
Major Calyces
Renal Pelvis
POCUS 101

Absent kidney at normal site

1- Congenital agenesis

2- Surgical removal

3- ectopic kidney

If the kidney has been removed or agenesis the other kidney will be enlarged in size

bilateral kidney enlargement

- A- with increased homogeneous echogenicity
- Glomerulonephritis
- Amyloidosis

Amyloidosis in a 65-year-old woman with renal insufficiency. Sagittal US shows diffuse increased echogenicity of the cortex within an enlarged kidney.

enlarged, with non homogeneous hyperechogenicity, the possible causes are:

- Lymphoma.
- Metastases.
- Polycystic kidneys.

Unilateral enlargement

- If one kidney appears to be enlarged but has normal echogenicity, the other kidney is small and atrophied .

- The commonest cause of an enlarged kidney is hydronephrosis


D1 = 137.7mm
D2 = 14.3mm

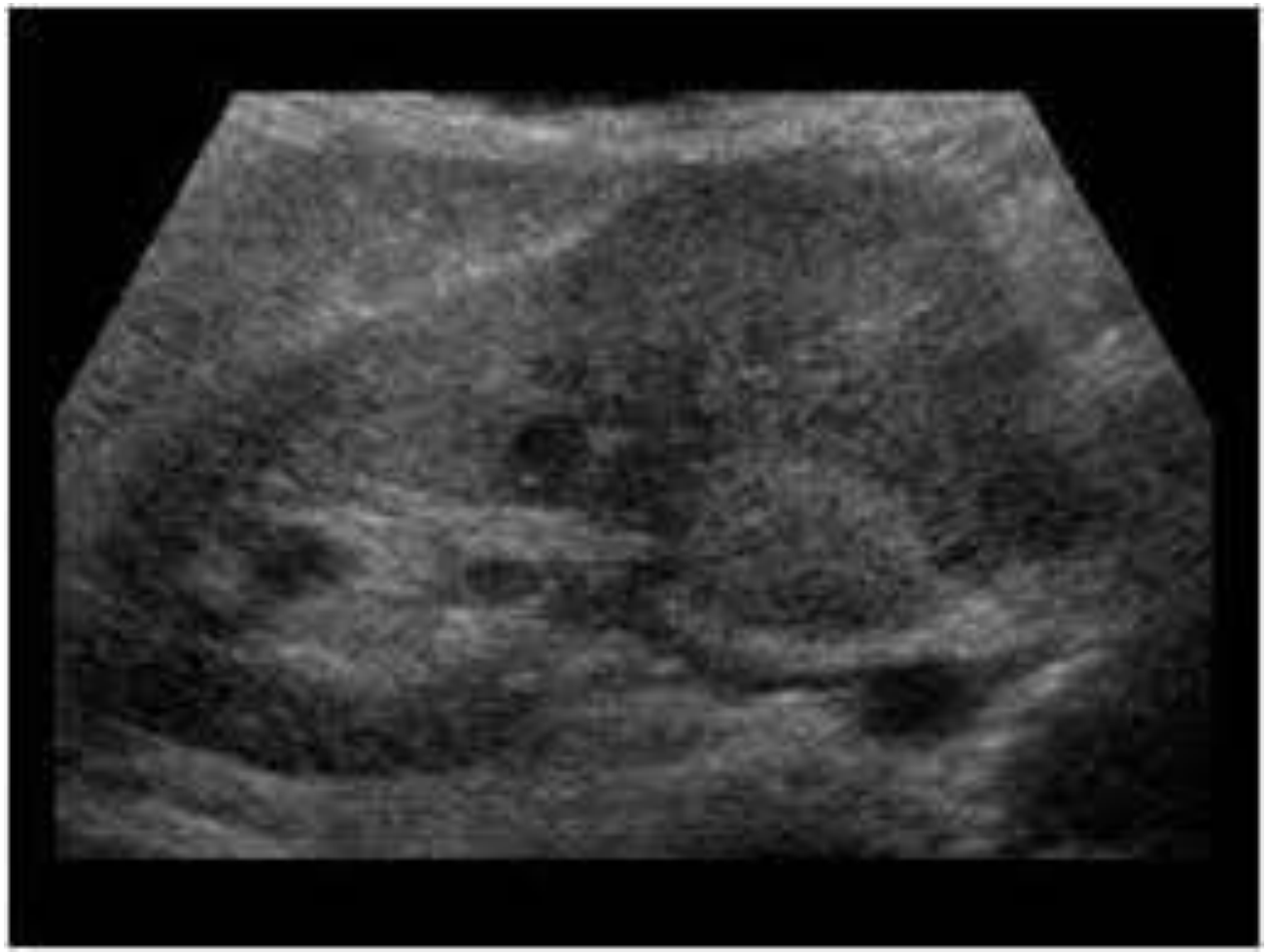
Renal cysts and renal masses

- Simple cysts
- Either single or multiple

Renal masses

- renal angiomyolipoma

Solid renal mass



Complex non homogeneous mass