

MULTICYSTIC KIDNEY– POTTER TYPE II

Definition and Incidence



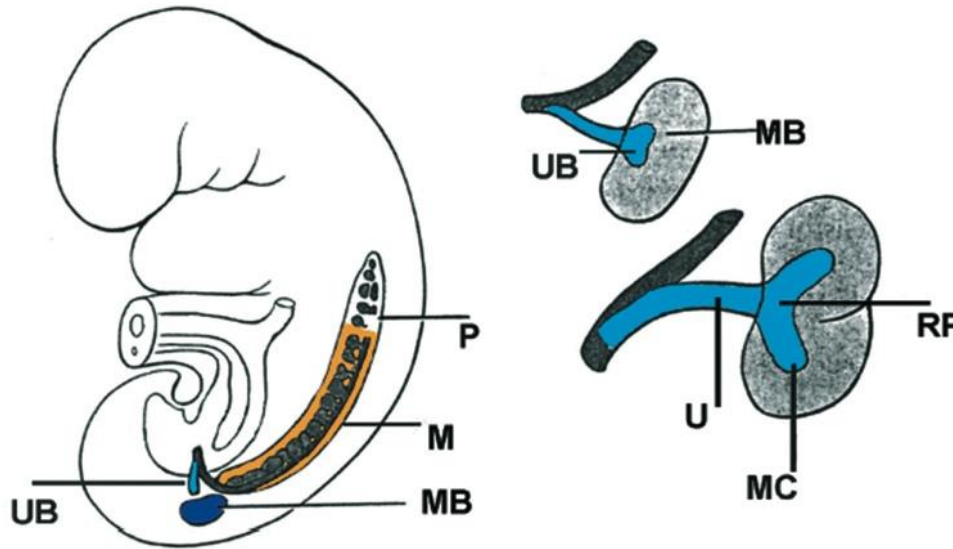
It is an enlarged kidney whose parenchyma is replaced by multiple, non-communicating cysts, of variable size and number.

CLIP 1

Incidence at birth is 1/1000–5000 live births; unilateral in approximately 75–80% of cases.

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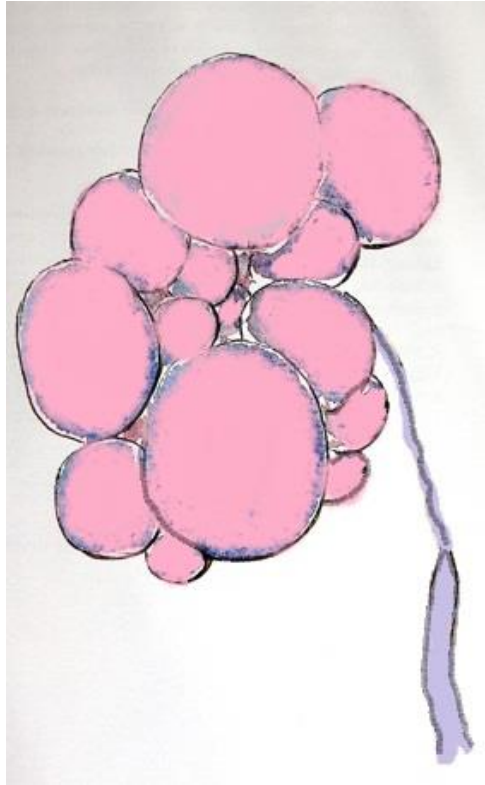
Etiology and Pathogenesis



The possible embryologic causes are either an interference of nephron induction by the metanephric blastema, or a defect of communication between the ureteric bud and the metanephric blastema. A possible role of vascular compromise has also been hypothesized. The defect should act early during nephrogenesis, leading to early functional impairment and cystic degeneration of the parenchyma.

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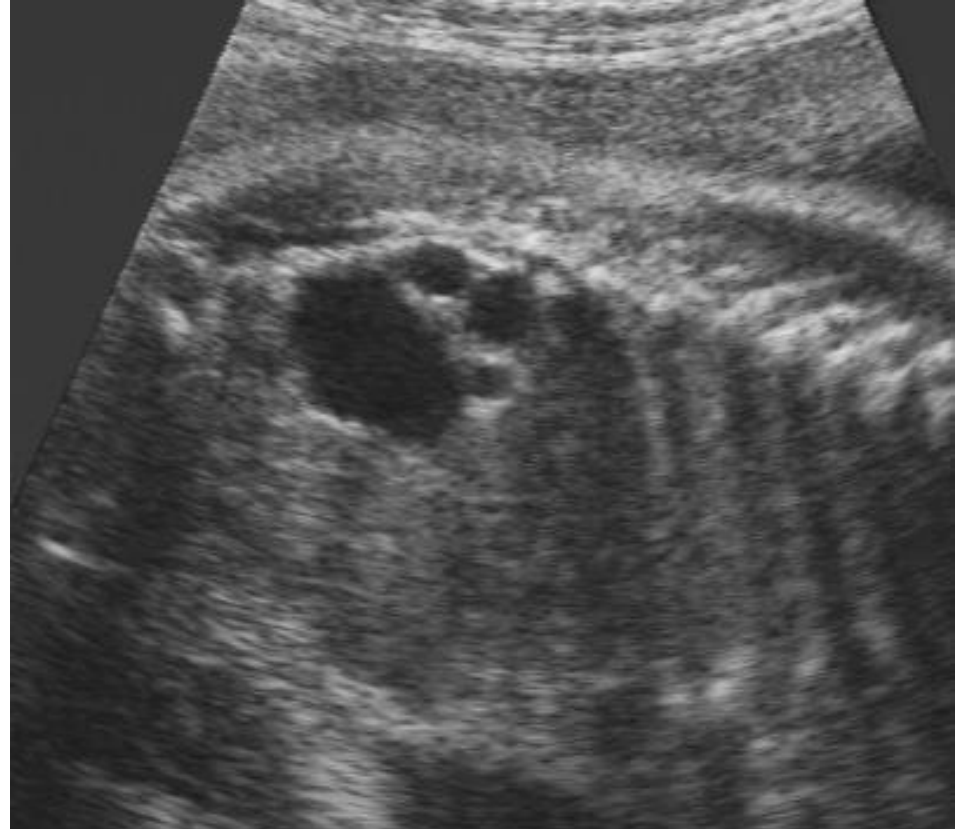
Pathology



The cysts have a typical “bunch of grapes” appearance and result from degeneration of both cortical and medullary components. The kidney architecture is severely compromised, suggesting a developmental defect occurring early during the renal embryogenesis. The ureter is typically atretic

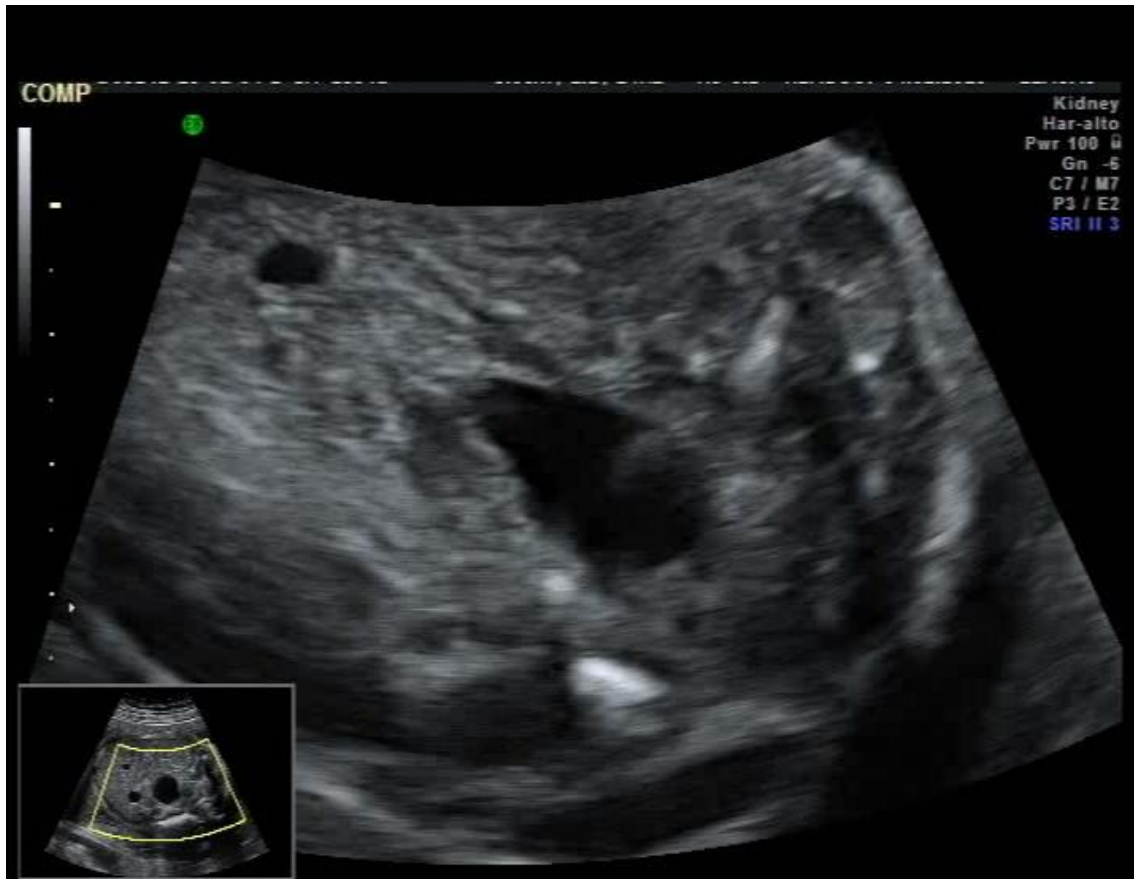
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Diagnosis



The typical ultrasound appearance is characterized by a single kidney with multiple non communicating cysts of variable size, mixed with hyperechogenic parenchyma.

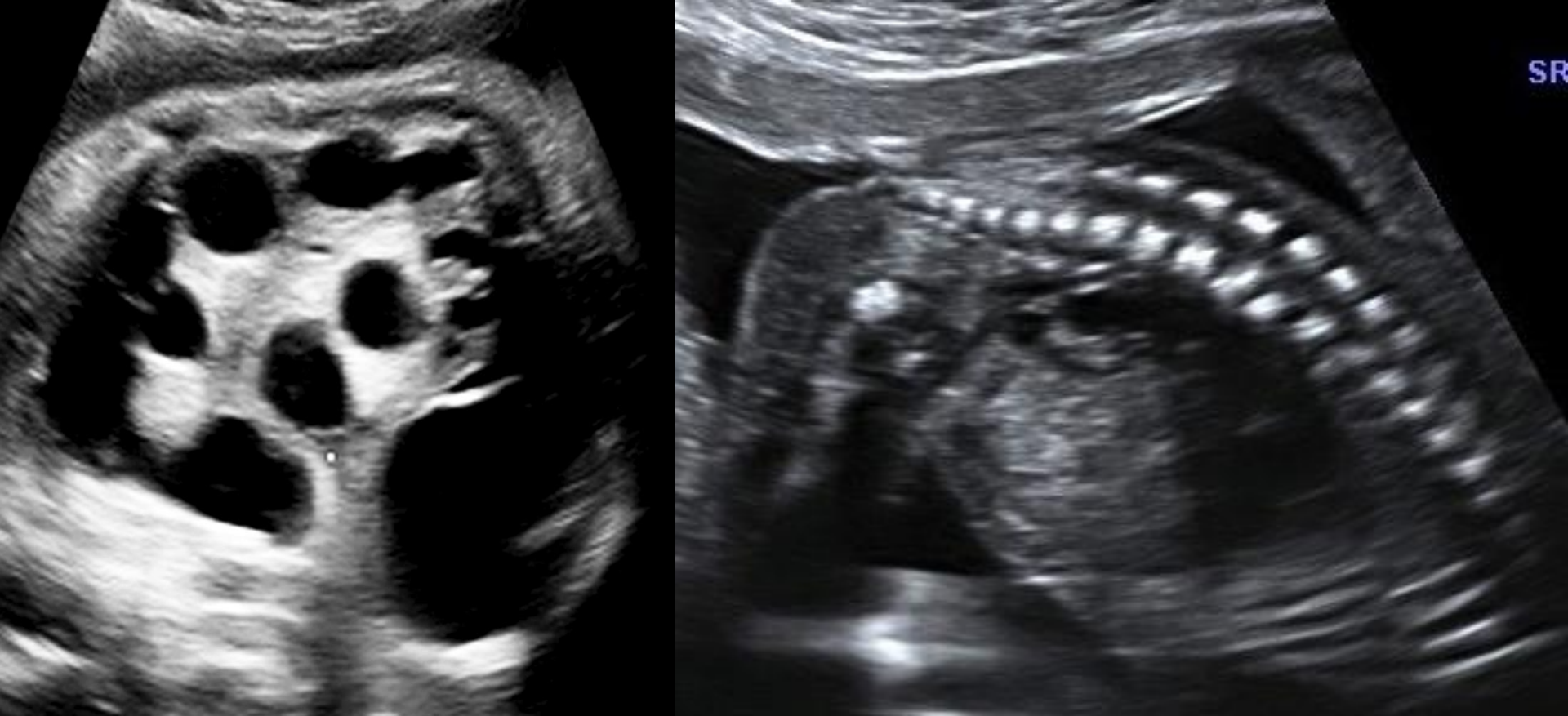
MULTICYSTIC KIDNEY– POTTER TYPE II Diagnosis



CLIP 2

MULTICYSTIC KIDNEY– POTTER TYPE II

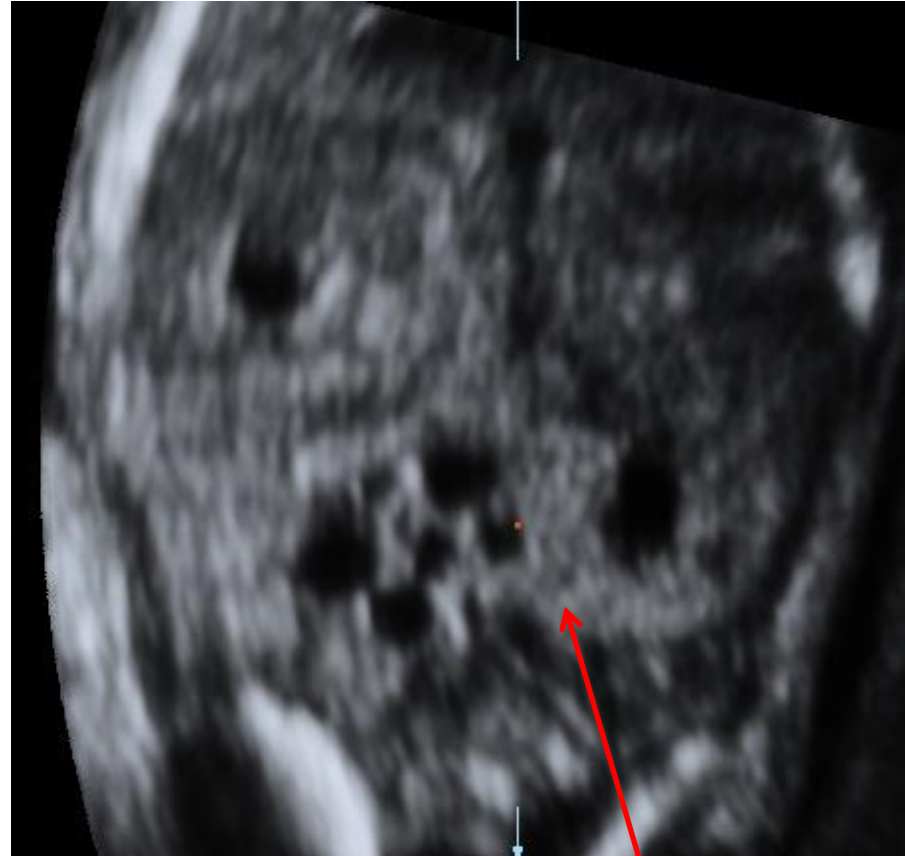
Diagnosis



The dimensions of the kidney depends on the number and dimensions of the cysts that do not communicate with a renal pelvis. The kidney may be enlarged, or decreased in size. Intrauterine evolution is possible.

SMALL AND ECTOPIC MULTICYSTIC KIDNEY

Small and ectopic multicystic kidneys may be difficult at times to identify sonographically



Horseshoe kidney with one-sided multicystic dysplasia

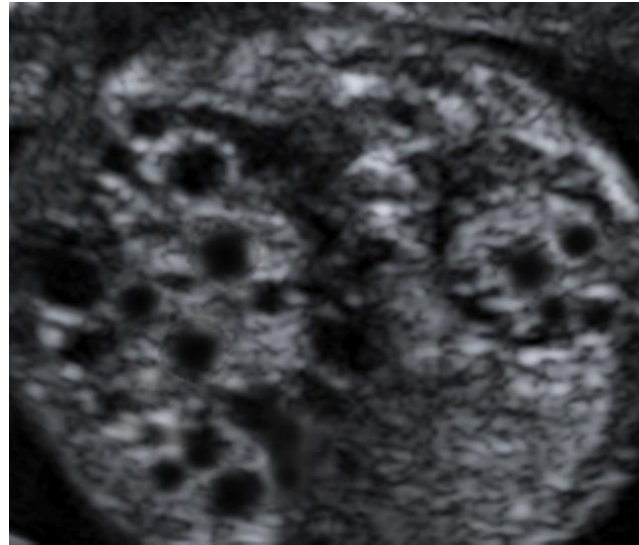
MULTICYSTIC KIDNEY– POTTER TYPE II

Diagnosis

Unilateral



Bilateral



Segmented

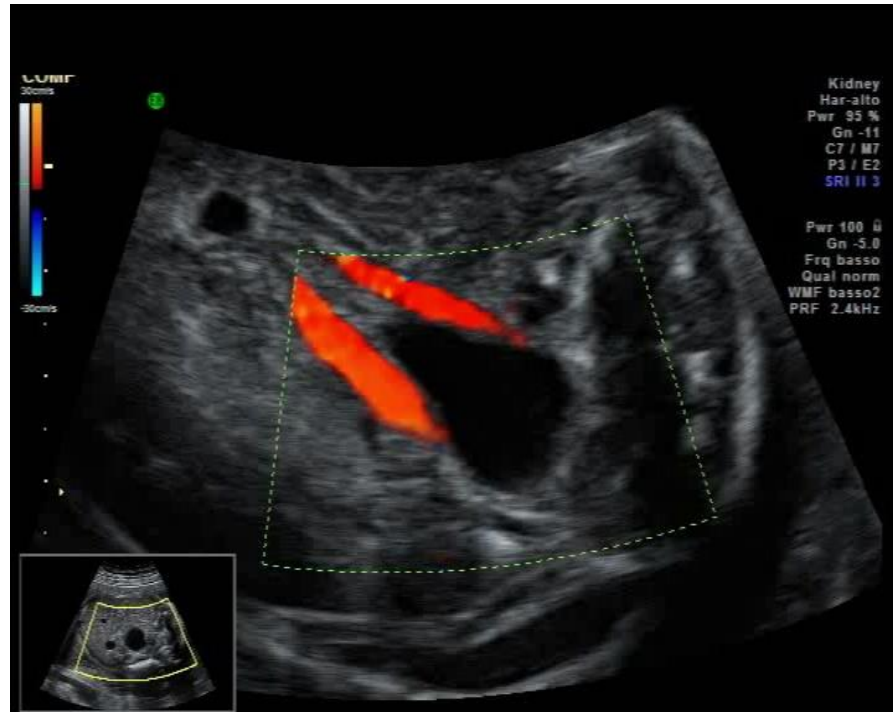


MCDK is unilateral in the majority of cases (approximately 75–80% of cases), but may also be bilateral or segmented, in which case small areas of renal parenchyma are also present.

MULTICYSTIC KIDNEY– POTTER TYPE II

Diagnosis

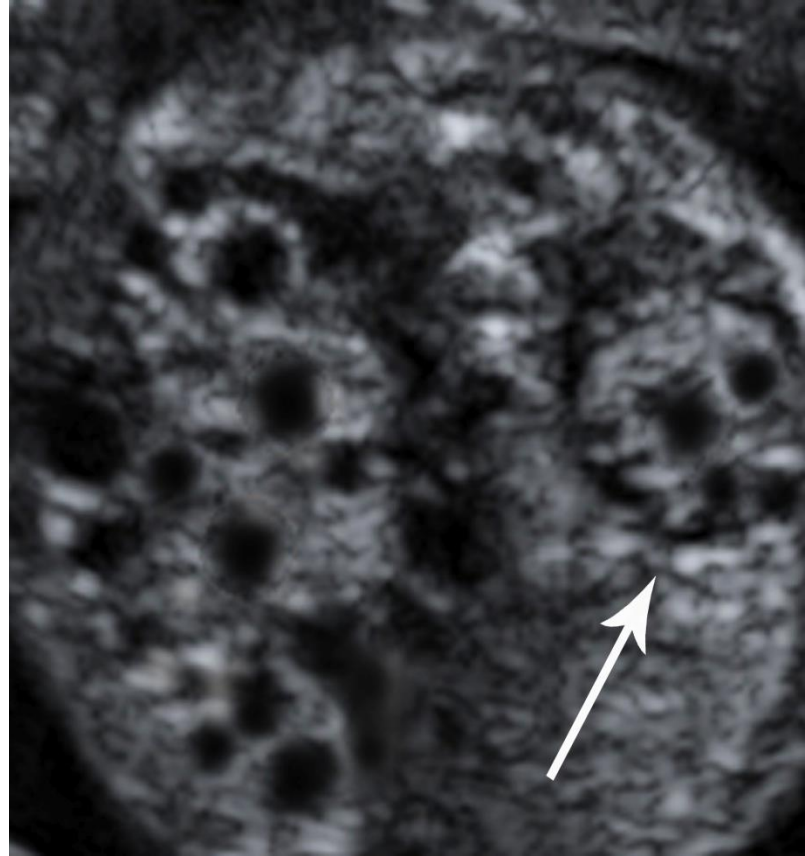
CLIP 3



With unilateral MCKD the bladder and quantity of amniotic fluid are usually normal.

MULTICYSTIC KIDNEY– POTTER TYPE II: Diagnosis

Bilateral MCKD



If MCKD is bilateral, oligohydramnios is usually present. In some cases MCKD size may be normal (arrow) or hypoplastic. It has been reported that these kidneys have a tendency to progressive involution, especially in postnatal life

MULTICYSTIC KIDNEY– POTTER TYPE II: Differential Diagnosis

Cystic Dysplasia: Potter IV



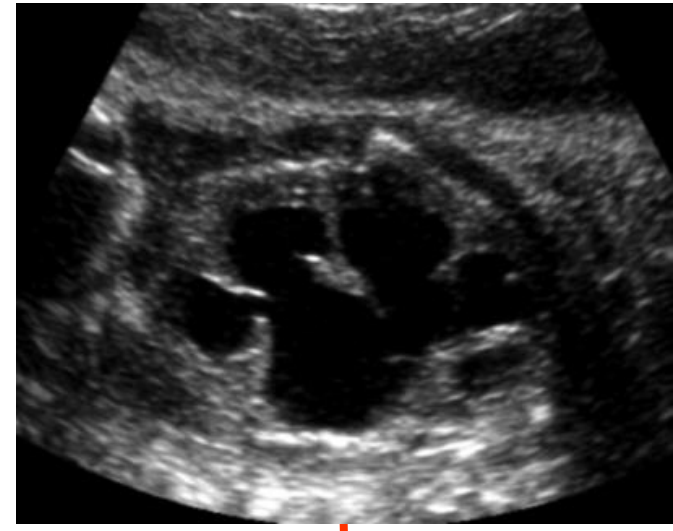
Usually bilateral; kidneys are small or of normal size. The cysts are pericortical

MDKD



Usually unilateral; kidneys are small to enlarged the cysts are sparse irregularly with interposed echogenic tissue.

Severe Hydronephrosis



Large pelvis communicating with enlarged calyces