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Radiology Case Studies

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Case 1

- 55 year old female
- Sent for renal ultrasound to investigate recurrent UTI's
- Normal except:

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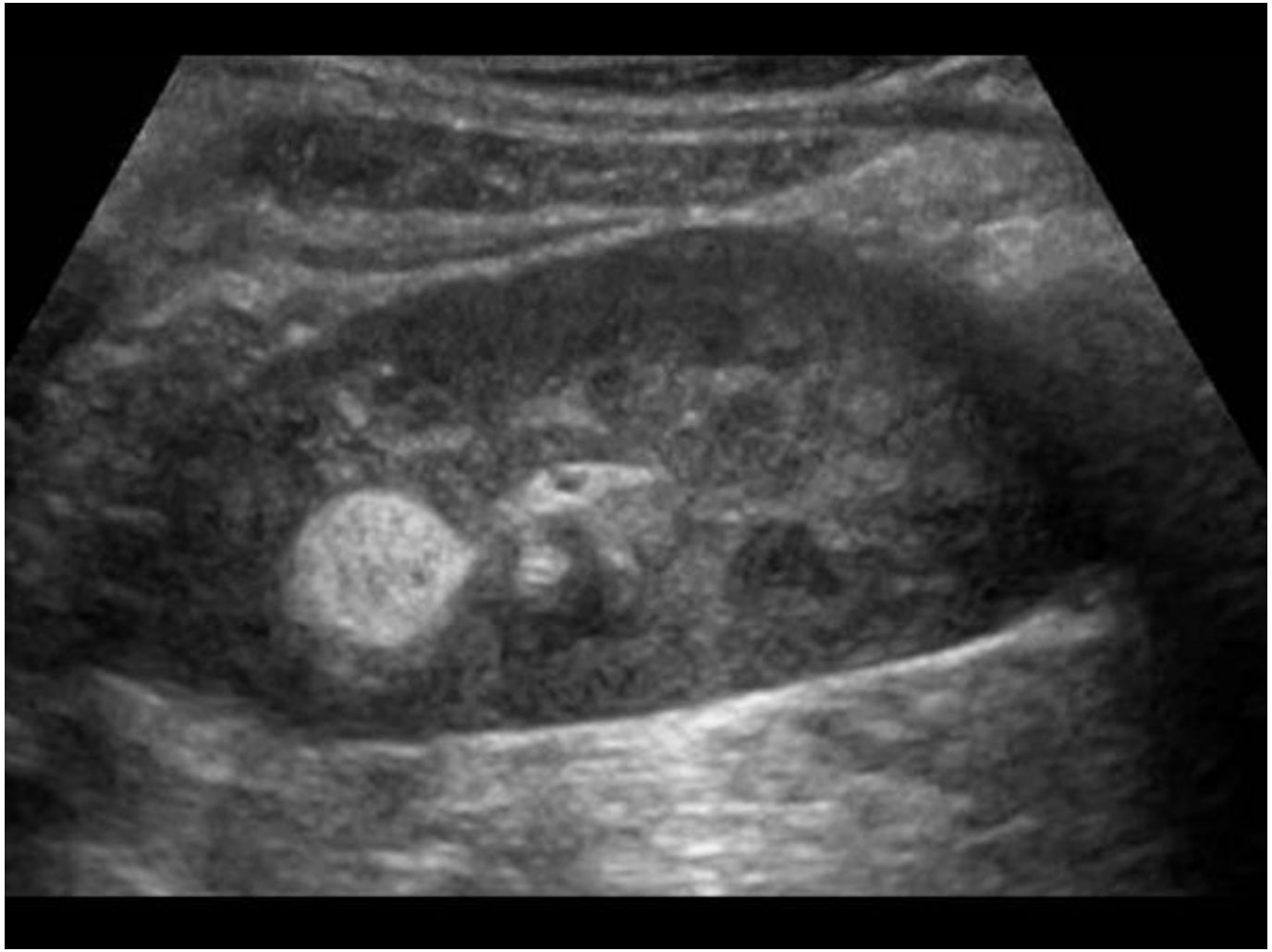
Case 1



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Case 1

- “A 14mm well-defined non-shadowing hyperechoic focal lesion is seen in the lower pole of the right kidney – appearances are suggestive of an angiomyolipoma”

- “Impression: Normal renal ultrasound except hyperechogenic focal lesion suggestive of angiomyolipoma”

Case 1

- What would you do?

a. Fast track referral to Urology
b. Urology / Radiology Advice and Guidance
c. Reassure patient, no further action
d. Repeat scan in 12 months

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Angiomyolipoma

- Benign mesenchymal tumours
- Usually arise sporadically – occasionally hereditary (tuberous sclerosis)
- Incidence 0.44% - usually incidental finding (incidence rising – more imaging)
- Rarely can cause spontaneous haemorrhage – size most important risk factor
- Majority are small & do not grow
- Treatment options – selective embolisation, partial nephrectomy

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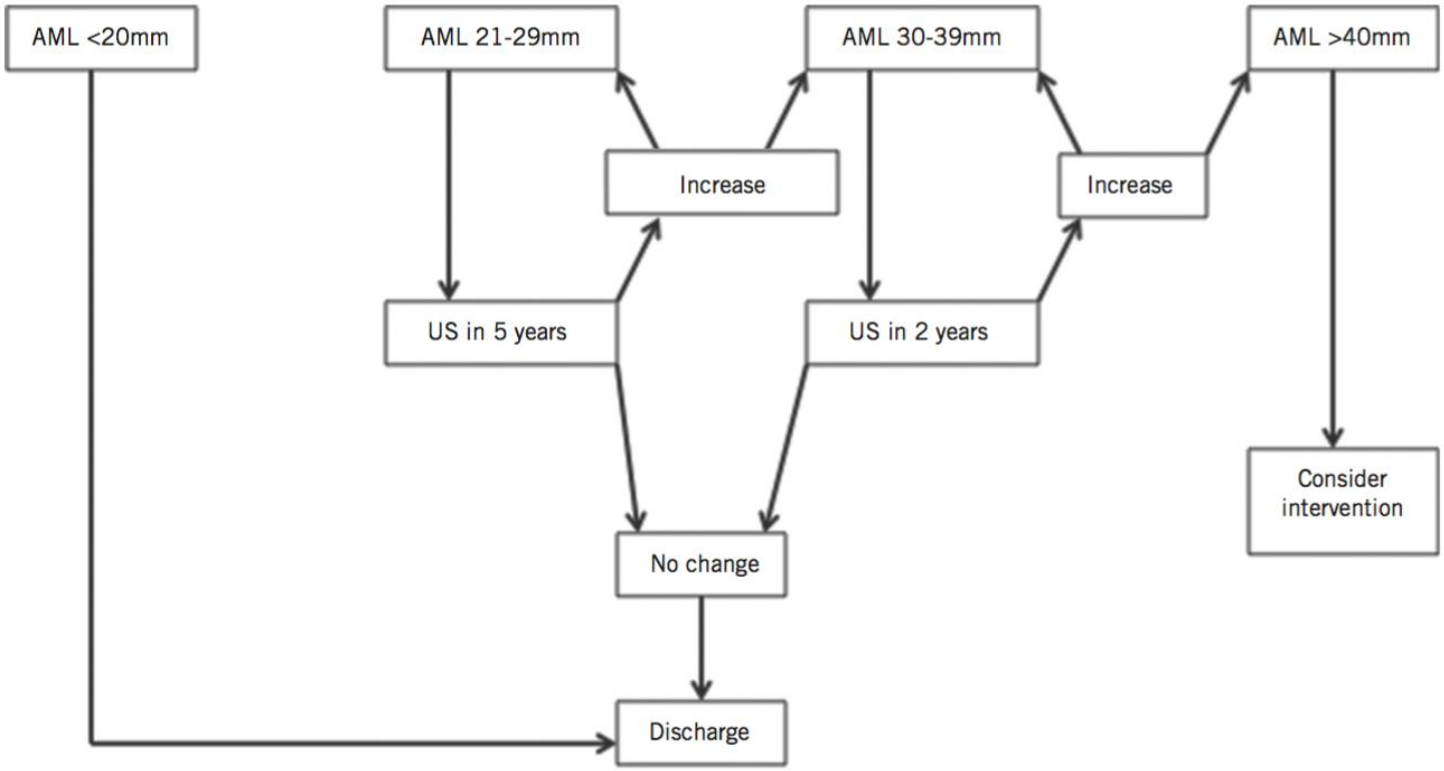
Angiomyolipoma



Abbreviations: US = Ultrasound scan, AML = Angiomyolipoma

Surveillance imaging for sporadic renal angiomyolipoma - Chan KE et al. Ann R Coll Surg Eng 2018

Case 1

- What would you do?

a. Fast track referral to Urology
b. Urology / Radiology Advice and Guidance
c. Reassure patient, no further action
d. Repeat scan in 12 months

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Case 2

- 30 year old male
- Sent for testicular ultrasound to investigate lump
- Scan shows lump to be an epididymal cyst
- BUT:

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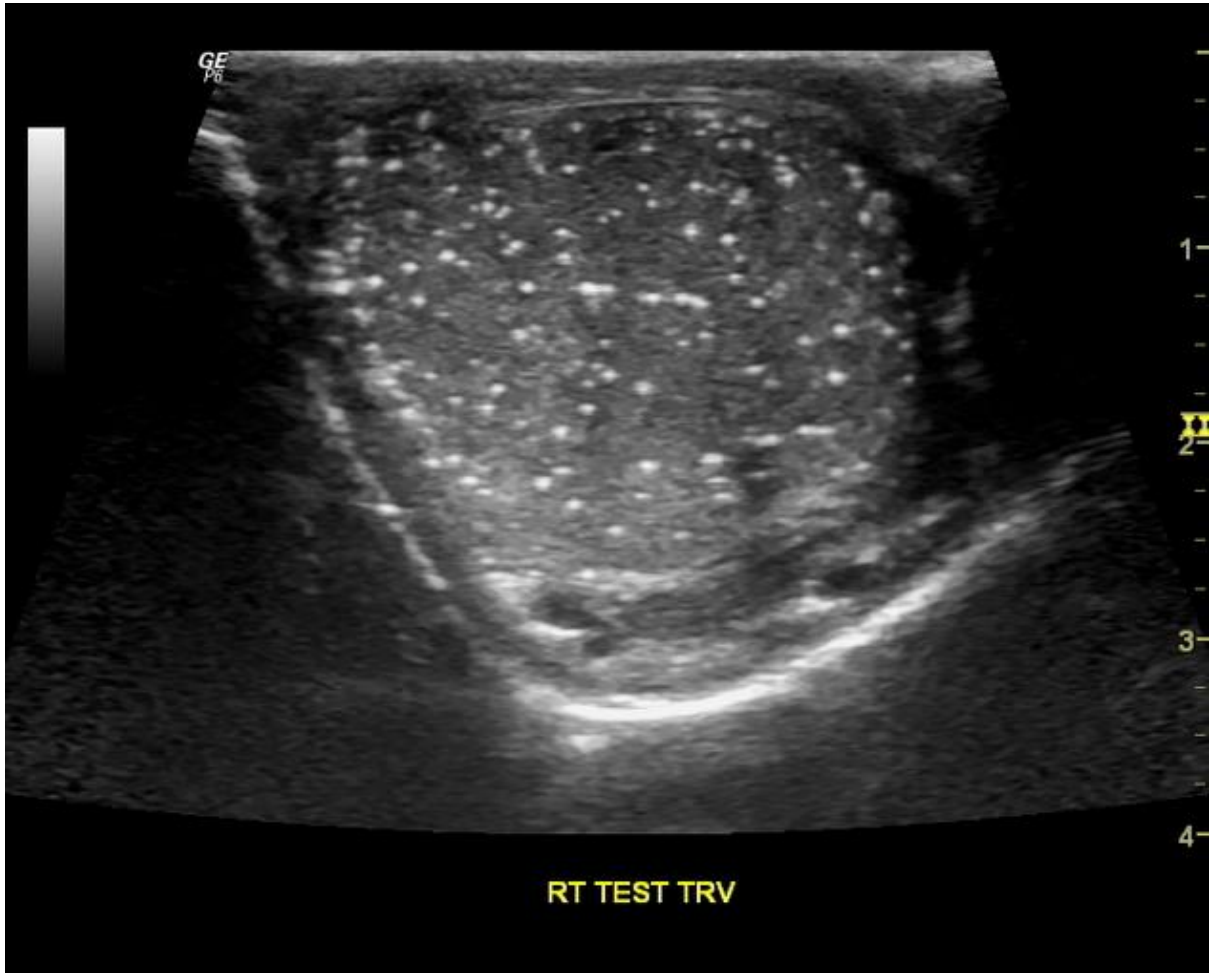
Case 2



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Case 2

- What would you do?

a. Fast track referral to Urology
b. Urology / Radiology Advice and Guidance
c. Reassure patient, no further action
d. Repeat scan in 12 months

Testicular Microlithiasis

‘Consensus opinion of the scrotal subcommitee of the ESUR is that the presence of TML alone in the absence of other risk factors is not an indication for regular scrotal US. US is recommended in the follow up of patients at risk…’

Eur Radiol 2015; 25 (2): 323-30

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TML – who is ‘at risk’?

I don't think we have fixed guidelines per se but this is how I handle them now (it has changed over the years)

1) Assess degree of microlithiasis. If low - moderate, ignore. This is roughly <25 microliths per testis.
2) If high volume, check for high-risk conditions (FH, PMH testis tumour, Klinefelters, Downs, previous orchidopexy)
3) If high volume and high risk, refer to urology for opinion.

I would only accede to annual ultrasound (which has no evidence as a preventative strategy, BTW), if a consultant urologist very deliberately and consciously recommended this in a high risk patient with high volume microliths.

I say this as we don't ultrasound people at higher risk (e.g. previous orchidopexy, Klinefelters etc) and just recommend self-examination.

Case 2

- What would you do?

a. Fast track referral to Urology
b. Urology / Radiology Advice and Guidance
c. **Reassure patient, no further action**
d. Repeat scan in 12 months

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Case 3

- 61 year old female sent for renal ultrasound to assess for recurrent UTI

- Normal ultrasound except 3cm cyst in mid pole left kidney with visible septations. 2 x smaller simple cysts elsewhere in kidneys.

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Case 3

- What would you do?

a. Fast track referral to Urology
b. Urology / Radiology Advice and Guidance
c. Reassure patient, no further action
d. Arrange CT renal
e. Repeat USS in 12 months

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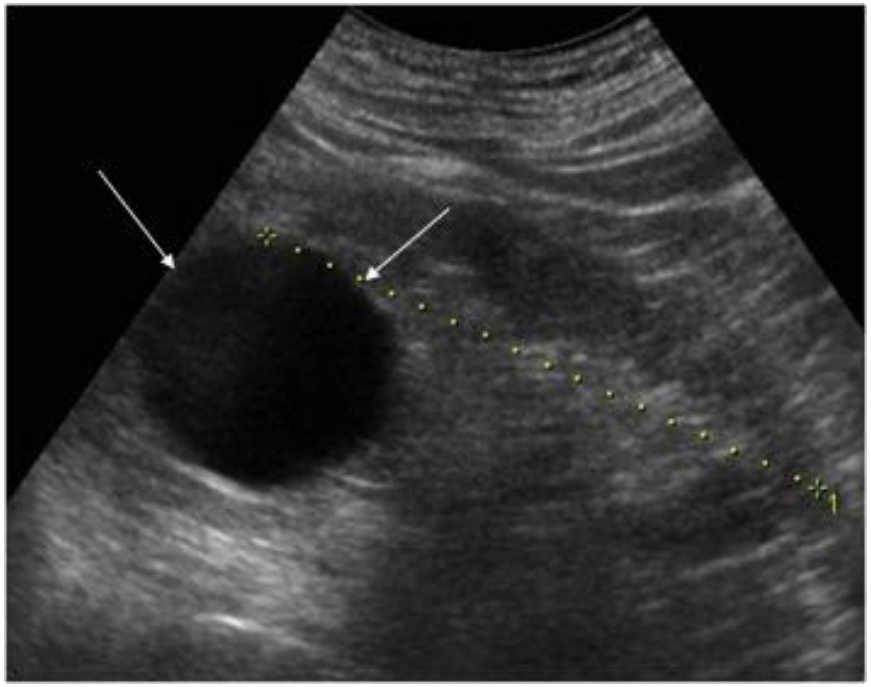
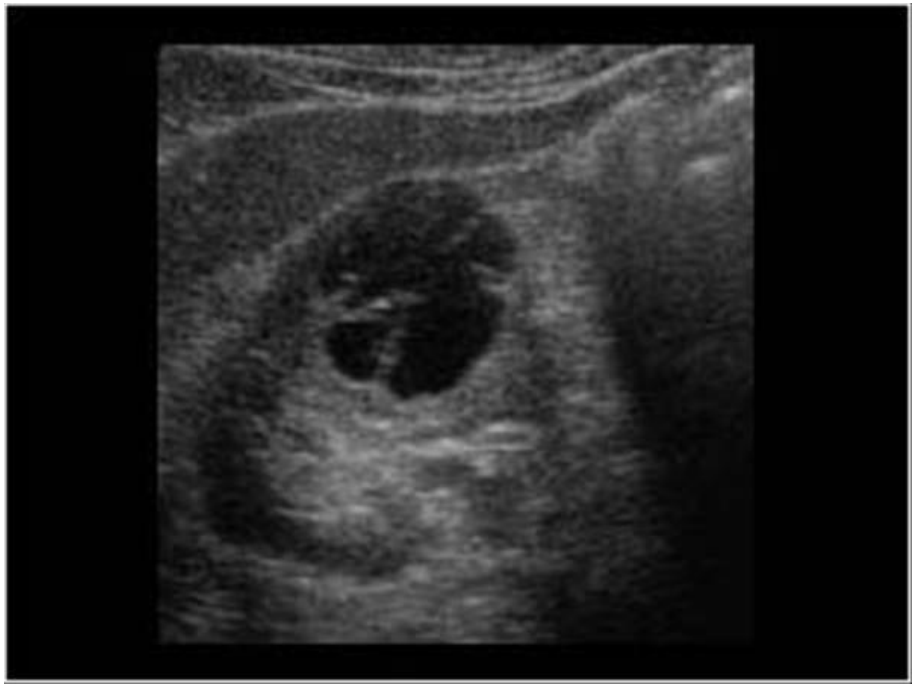
Renal Cysts





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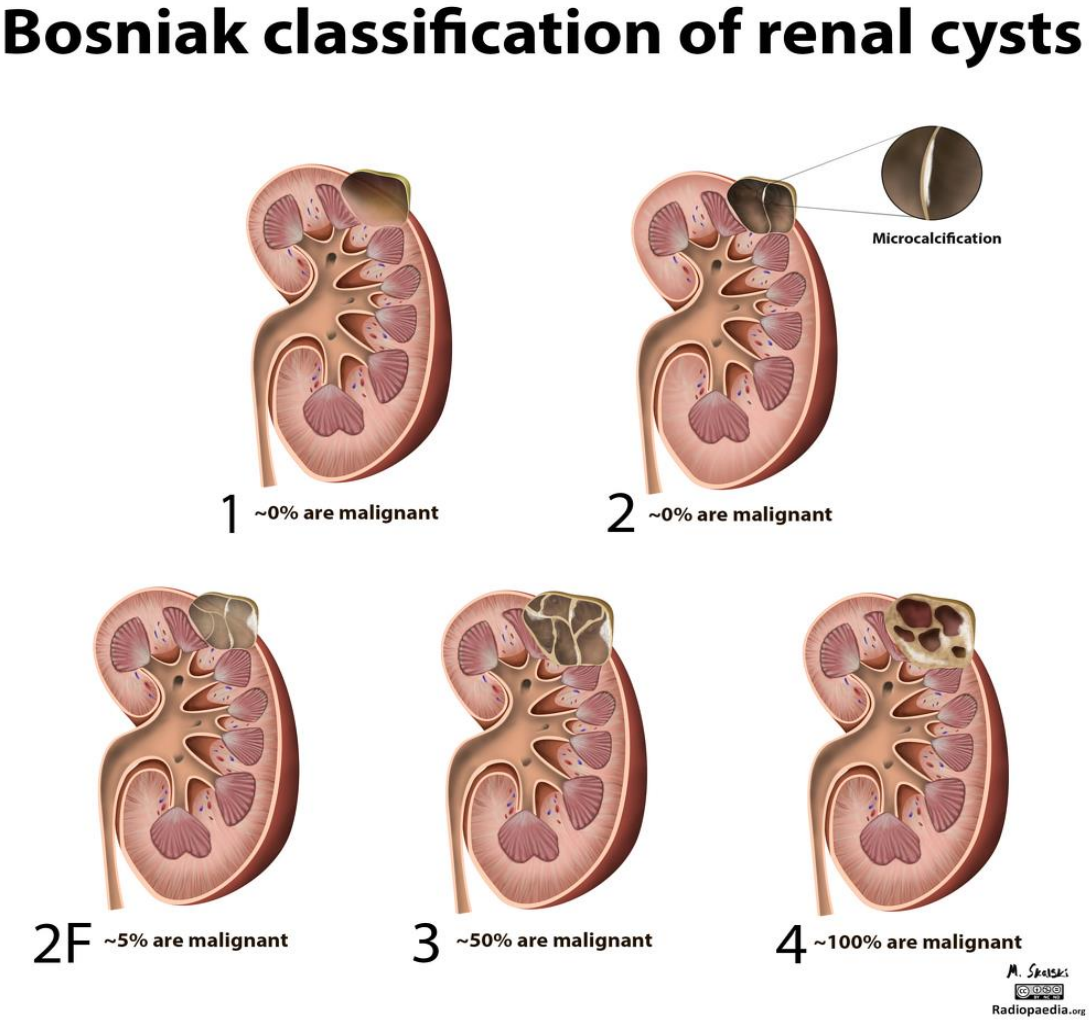
Renal Cysts



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Case 3

- What would you do?

a. Fast track referral to Urology
b. Urology / Radiology Advice and Guidance
c. Reassure patient, no further action
d. Arrange CT renal
e. Repeat USS in 12 months

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Case 4

41 year old male is sent for abdominal CT to investigate abdominal pain.

The CT is normal except for a ‘duplex collecting system’ in the left kidney

Case 4

- What would you do?

a. Routine referral to Urology
b. Urology / Radiology Advice and Guidance
c. Reassure patient, no further action
d. Repeat scan in 12 months

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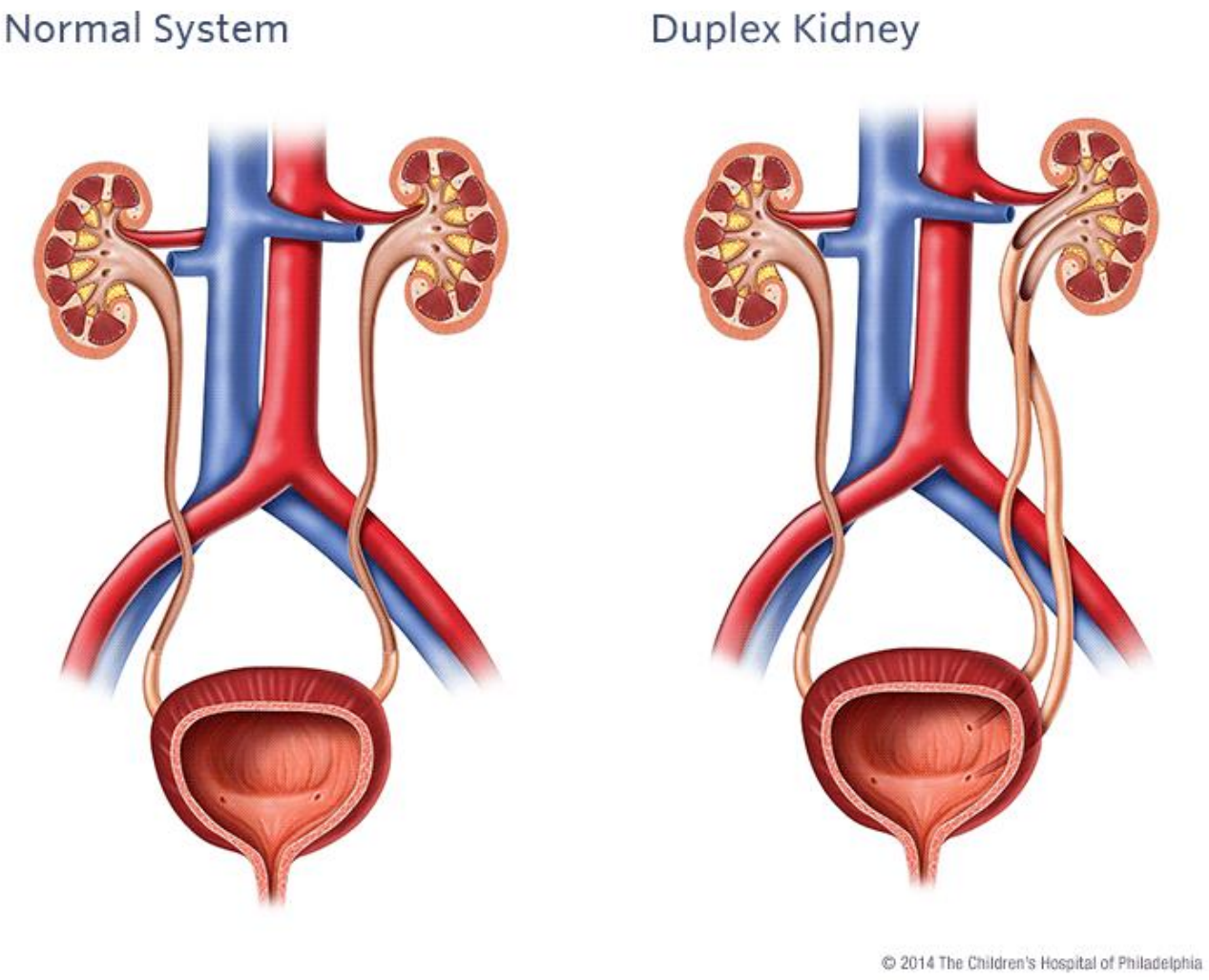
Duplex kidney



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Duplex Kidney

- Most common congenital abnormality of the urinary tract – 2% incidence
- Usually completely insignificant
- Can cause vesico-ureteric reflux (recurrent infection), stones

Case 4

- What would you do?

a. Routine referral to Urology
b. Urology / Radiology Advice and Guidance
c. Reassure patient, no further action
d. Repeat scan in 12 months

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Case 5

- 63 year old female – referred for renal ultrasound to investigate recurrent UTI.

- Normal scan except radiographer comments that the post void residual volume was 140mls

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Case 5

- What would you do?

a. Routine referral to Urology
b. Urology / Radiology Advice and Guidance
c. Reassure patient, no further action
d. Repeat scan in 12 months

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Case 6

- A 68 year old man presents with LUTS. He has a sensation of incomplete emptying as well as voiding LUTS. He has not had a UTI. He is not on any treatment. You wonder if you can feel a palpable bladder, so arrange a renal ultrasound.

- The scan is normal except for a post void residual of 180mls – the sonographer comments that this is significantly elevated.

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Case 6

- What would you do?

a. Routine referral to Urology
b. Urology Advice and Guidance
c. Commence medication in primary care
d. Repeat scan in 12 months

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Case 7

- A 31 year old man with chronic testicular pain is sent for a testicular ultrasound.
- The scan is normal except for a small varicocele and 3 small epididymal cyts.
- What would you do?

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Case 7

- What would you do?

a. Routine referral to Urology
b. Urology Advice and Guidance
c. Reassure patient
d. Repeat scan in 12 months