



Pediatric Solid Tumors

Case 01

A 4-year-old girl is presented to the emergency department with complaints of an increasing abdominal mass and intermittent abdominal pain for one month. Her mother reports occasional episodes of blood in the urine. On examination, a large, smooth, firm mass is palpated in the right flank. There is no evidence of lymphadenopathy or systemic illness.

Lab. Results:

Serum creatinine: Normal

Urinalysis: Hematuria

Liver function tests: Normal

Cytogenetic studies: WT1 gene mutation detected

Imaging Reports:

Ultrasound (US): A well-defined, solid, intrarenal mass without cystic changes.

CT scan: Confirms a large right renal mass with extension into the renal vein but no involvement of the inferior vena cava or metastases.

DMSA Scan: Normal left kidney function.

1. What's the most likely provisional diagnosis?

- A- Clear cell sarcoma
- B- Rhabdoid tumor
- C- Wilms' tumor
- D- Renal cell carcinoma

2. What is the most appropriate treatment plan?

- A- Immediate surgical resection (nephrectomy)
- B- Neoadjuvant chemotherapy followed by surgery
- C- Observation with serial imaging
- D- Radiation therapy alone

3. Which of the following is the most significant prognostic factor in this case?

- A- Presence of hematuria
- B- WT1 gene mutation
- C- Tumor staging
- D- Age at diagnosis

Case 02

A 2-year-old boy is brought to the clinic by his parents, concerned about a progressively enlarging abdominal mass.

They note that he has been increasingly lethargic and irritable over the past two weeks. His appetite has diminished, and he has experienced intermittent low-grade fevers. On physical examination, a firm, irregular, non-tender mass is palpated in the left abdomen. Additionally, periorbital ecchymosis is noted.

Lab. Results:

Urine catecholamines: Elevated vanillylmandelic acid (VMA) and homovanillic acid (HVA)

Lactate dehydrogenase (LDH): Elevated

Imaging Reports:

Ultrasound (US): Solid mass in the adrenal region with no evidence of cystic components.

CT Scan: Large heterogeneous mass arising from the adrenal gland with calcifications; no significant intraspinal extension.

MIBG Scan: Positive for uptake in the primary mass and skeletal metastases.

4. What is the most likely provisional diagnosis?

- A- Wilms' tumor
- B- Neuroblastoma
- C- Hepatoblastoma
- D- Rhabdomyosarcoma

5. What is the next step in management for this patient?

- A- Dinutuximab
- B- Induction therapy followed by local control
- C- Observation and repeat imaging in 6 months
- D- Hematopoietic stem cell transplantation

6. Which of the following factors most negatively impact the prognosis in this case?

- A- Elevated serum catecholamines
- B- Lack of intraspinal extension
- C- Age below 5 years
- D- MYCN gene amplification

Answers;; 4- B 5- B 6- D



Foreign Body Aspiration

1. Most common site where esophageal FBs usually stuck is?

- A- Cricopharyngeal sling
- B- Level of the aortic arch in the mid-esophagus
- C- Lower esophageal sphincter (GE junction)

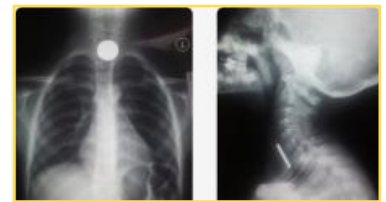


2. Sharp FBs do always penetrate the mucosa and cause complications.

- A- True
- B- False

3. This coin is most probably in:

- A- Upper esophagus
- B- Mid-esophagus
- C- Trachea



4. In general, FBs that pass into the stomach:

- A- Usually passes through the remainder of GI tract uneventfully.
- B- Usually stay in the stomach until being extracted by endoscopy.
- C- Usually penetrate anywhere in the GIT and mandate surgical removal.

5. Double contour rim is a sign on ray that differentiates ingested button batteries.

- A- True
- B- False



6. Which of the following mandates immediate removal in an asymptomatic child?

- A- Ingested button battery that appeared on CXR.
- B- Ingested button battery that appeared on AX.
- C- Both of the above scenarios.
- D- None of the above scenarios.

7. Chronic FB aspiration is an existing entity.

- A- Yes
- B- No



8. In this case, a child ingested two small magnets asynchronously (each part in a deferent ileal loop). If not operated, and stayed asymptomatic, what will be the final fate most probably?

- A- ileo-ileal fistula
- B- ileal perforation with peritonitis
- C- mechanical bowel obstruction
- D- ileal volvulus

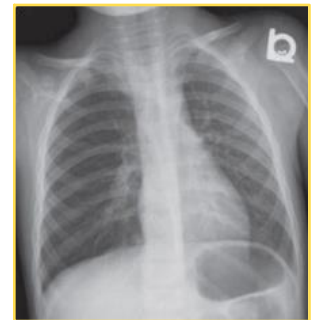


9. This bezoar has been removed surgically from inside the stomach. This bezoar is a:

- A- Lactobezoar
- B- Trichobezoar
- C- Phytobezoar



10. This normal CXR is for a 4-yr-old child who was unwitnessed but heard by his parents to have excessive coughing (chocking!). He denied any FB aspiration. He's in minor respiratory distress, O2 sat is 100% there's no evidence of any radio-opaque FB on ray, and no hyperinflation of any hemithorax.



Which of the following is/are acceptable next step(s): (Please select 2 options)

- A- Reassurance, and observation at home
- B- Repeat CXR while in expiratory phase
- C- Admit for in-hospital observation
- D- Admit for diagnostic bronchoscopy

Answers::

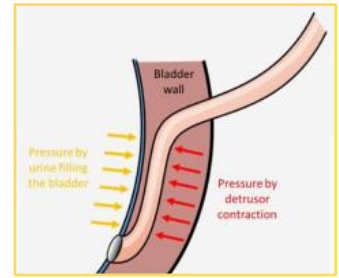
- 1- A
- 2- B
- 3- C
- 4- A
- 5- A
- 6- A
- 7- A
- 8- A
- 9- B
- 10- (Watch The Lecture)



Principles of Pediatric Urology

1. A patient with the shown uretero-vesical junction anatomy will:

- A- Have low grade VUR
- B- Be normal
- C- Have intermittent flank pain
- D- Have recurrent upper UTIs



2. Almost all male newborns have:

- A- A normally retractable foreskin
- B- Phimosis
- C- Dorsal hooded foreskin
- D- Paraphimosis

3. One year after surgical treatment of a unilateral VUR with 30% split function of the affected kidney will (in >95% of cases) show improvement of that kidney function to 40% or even greater.

- A- False
- B- True

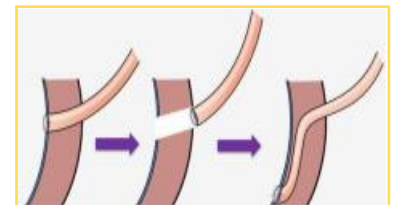
4. This _____ is showing grade V _____.

- A- MCUG / VUR
- B- Renal scan / reflux
- C- Fluoroscopy / UPJO
- D- IU / nephropathy



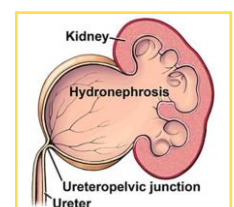
5. This surgery is called:

- A- Ureteral transplantation
- B- Pyeloplasty
- C- Vesicoplasty
- D- Ureteral reimplantation



6. HN is a diagnosis.

- A- True
- B- False

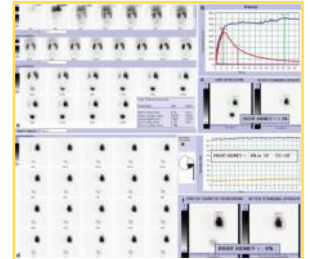


7. Tube urethroplasty for Hypospadias repair means:

- A- To insert a tube (stent) in the urethra through the abnormal external urethral meatus.
- B- To surgically change the configuration of the open urethral plate into a tube-like structure.
- C- To change the function of foreskin from foreskin to a tubularized urethra.
- D- To fold the detected glans on the open urethral plate to close it.

8. This imaging study is:

- A- Dynamic renal nuclear scan
- B- Static renal nuclear scan
- C- Micturating Cysto-Urethro-Graphy (MCUG)
- D- Renal fluoroscopy



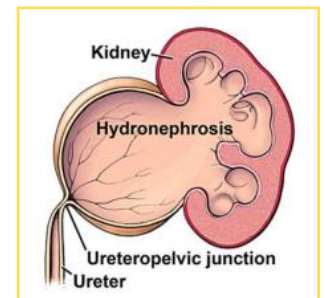
9. This surgery is called _____ and indicated for _____ cases.

- A- Pyeloplasty / UPJO
- B- Ureteral reimplantation / UPJO
- C- Ureteral reimplantation / VUR
- D- Pyeloplasty / VUR



10. All are possible causes of UPJ obstruction, EXCEPT:

- A- Intrinsic narrowing
- B- Low-grade VUR
- C- High-grade VUR
- D- Aberrant renal vessel



Answers;

- 1- B
- 2- B
- 3- A
- 4- A
- 5- D
- 6- B
- 7- B
- 8- A
- 9- A
- 10- B

