

Genitourinary Anomalies Outline - Newborn

A&P Variance Overview for the Newborn

- Immature renal system, Low GFR
- Inability to concentrate urine and cope with electrolyte and fluid stress
- NB urine output on day 1-averages at 15ml
- NB urine output increases to about 50-300ml by end of week 1

I. Hydrocele

- A. Definition – painless swelling in the scrotum that occurs when fluid collects in the sheath surrounding a testicle (between the parietal and visceral layers of the tunica vaginalis which comprises the serous layer that covers the testes).
- B. Non-communicating hydrocele – all layers have closed appropriately-fluid just can't drain or doesn't reabsorb like it should and accumulates in the scrotum.
- C. Communicating hydrocele - process vaginalis which formed during embryonic development remains open from scrotum to abdominal cavity allowing abdominal fluid to pass into the sac around testes causing a mass.
- D. therapeutic management
 1. educate and reassure parents
 2. repair hernia if present-sometimes there is risk of developing a inguinal hernia

II. Hypospadias/ Epispadias

- A. Definitions
 1. Hypospadias - urethral defect where the urethral opening is not at the end of the penis but is on the ventral (lower) aspect of the penis
Epispadias – urethral opening is on the dorsal surface
- B. Therapeutic management
 1. no circumcision initially!
 2. surgical correction

III. Polycystic Kidneys

- A. Definition
 1. large fluid filled cysts form in place of normal kidney tissue
 2. Autosomal recessive (inherited) disorder
- B. Diagnosis
 1. kidneys are large and feel soft and spongy
 2. anuria – if bilateral; oliguria if unilateral
 3. Transillumination
 4. Sonogram
- C. Treatment
 1. unilateral
 2. bilateral
 3. genetic counseling

IV. Patent Urachus

- A. When the bladder first forms in utero it is joined to the umbilicus by a narrow tube (urachus). When this fails to close properly during embryonic development a fistula is left between the bladder and umbilicus = patent urachus
- B. Incidence- more common in males
- C. Diagnosis-can be seen on sonogram
- D. Clinical manifestations
 - 1. clear odorless fluid draining from base of the cord
 - 2. Granuloma to umbilicus
- E. Treatment

V. Exstrophy of the Bladder

- A. Overview
 - 1. deficiency in the development of the anterior abdominal wall, symphysis pubis, bladder and urethra during early embryonic development
- B. Incidence- Rare
 - 1. Higher incidence in males
- C. Diagnosis/ Clinical Manifestations
 - 1. fetal sonogram
 - 2. bladder lies open and exposed on the abdomen
 - 3. pelvic bone deficits
 - 4. female
 - 5. male
- D. Treatment
 - 1. Pre-op
 - a. Protect from injury
 - b. Bedclothes and diapers cannot adhere to mucosal surface
 - c. Place on side for free flow of urine
 - d. No tub baths
 - 2. Surgery
 - a. repair abdominal wall & create closed system
 - b. may need to be done in stages or can be primary done in 1 surgery
 - 3. Post-op
 - a. keep area free of infection
 - b. cath care
 - c. pain management
 - d. external fixation device for pubic bones may be used