Case report

Peritonitis with bilateral thigh abscess in Nephrotic syndrome:
An unusual infection

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Abstract
Abscesses in nephrotic syndrome have been reported e.g.- subphrenic, perinephric, submandibular, retroperitoneal, brain & lung. Rarely if ever has thigh abscess been reported. Herewith we reported a case of 9 year girl child presented as surgical emergency in casualty with acute retention of urine. Decreased urinary output with progressive retention & severe abdominal pain over pubic area since 2 days prior to admission. H/O Fever since 5 days, Swelling over face, abdomen and limbs since 3 days, Swelling of both thighs since 2 days. o/e: Anxious, puffy face, febrile, tachycardia, BP: 120/80 mm of Hg. Per Abdomen: Distended, flank fullness, skin stretched, free fluid present—shifting dullness +ve, Fluid thrill +ve L/E: B/L thigh diffuse swelling with redness, warm to touch, exquisitely tender & movements resented. Emergency bladder catheterization, IV fluids, IV antibiotics- inj. cefoperazone & salbactum, inj. Metronidazole, inj. vancomycin. B/L Incision & drainage of thigh on 5th day allowing cellulitis to localize & procedure done under aggressive antibiotic coverage for 2 weeks. Case of spontaneous bacterial peritonitis presented with fever, abdomen pain, peritoneal signs & B/L thigh abscess, commonly due to pneumococcus & less commonly due to gram negative. Podocyte injury leads to increased protein leakiness across glomerular capillary wall. Hypoglobulinemia as a result of urinary losses of immunoglobulin G together with loss of complement (C3 & C5) & factor (B&D) of alternate pathway lead to impaired opsonization of microorganisms.

Introduction:
Infections are common in idiopathic nephrotic syndrome often responsible for relapse. Abscesses in nephrotic syndrome have been reported e.g.- subphrenic, perinephric, submandibular, retroperitoneal, brain & lung. Rarely if ever has thigh abscess been reported. Here we present a child of idiopathic nephrotic syndrome in relapse complicated by peritonitis with bilateral thigh abscess.

Case report:
A 9 year girl child presented as surgical emergency in casualty with acute retention of urine. Urgent catheterization by surgery resident on call provided temporary relief by evacuating the bladder. Persistent abdominal pain prompted urgent pediatric opinion.

Clinical features:
C/O- Decreased urinary output with progressive retention & severe abdominal pain over pubic area since 2 days prior to admission.
H/O Boils over both thighs since 10 days
H/O Itching since 7 days
H/O Fever since 5 days
H/O Swelling over face, abdomen and limbs since 3 days
H/O Swelling of both thighs since 2 days

EXAMINATION:
General examination:
Facial puffiness, anxious look
Temperature: 101° F
Pulse: 82 / min
Respirations: 20 / min
Blood Pressure: 120/80 mm of hg
SpO2: 98%
Corrected Thyroid Time: < 3 sec
Pallor +ve, Icterus –ve, cyanosis –ve, clubbing –ve, B/L pedal edema +ve
Weight: 25 kg
Height: 120 cm
Body surface area: 17.8 kg/m²

Body Surface Area: 0.911 m²

Systemic Examinations:
1) Per Abdomen:
   Distension +ve, with flank fullness, skin stretched & shiny.
   Movement of abdomen with respiration limited.
   Palpation resented, tenderness marked over suprapubic region.
   No renal angle tenderness.
   Girth: 62 cm
   Free fluid present: shifting dullness +ve, Fluid thrill +ve.
   Bowel sound faint in upper quadrant.

2) Respiratory System:
   Air entry bilateral equal.
   No added sounds.

3) Cardiovascular System:
   S1 S2 heard.
   No murmur.

4) Central Nervous System:
   Conscious, oriented, higher function normal.
   Cranial nerve – normal.
   Tone, power, reflex - normal.

Local examinations:
B/L thigh diffuse swelling with redness, warm to touch, exquisitively tender & movements resented.

Urine culture – Pseudomonas(sample 1) – sensitive to norfloxacin.
Staph aureus (sample 2) – sensitive to vancomycin.
Pus culture – Klebsiella – sensitive to cefoperazone.
Blood culture – sterile.
Urine sugar – nil.
CRP – Positive.
Mantoux test – neg.
HIV, HBsAg, VDRL, Widal, PS & ICT for MP – Neg.
USG A/P – B/L Medical renal disease, moderate ascites.
Management:
PICU management: Emergency bladder catheterization, urine output record, IV fluids, IV antibiotics - injcefoperazone & salbactum, inj. Metronidazole, inj vancomycin. Surgical management - Under GA, B/L Incision & drainage of thigh abscesses on 5th day allowing cellulitis to localize till then. Procedure done under aggressive antibiotic coverage for 2 weeks. Discharged: On steroids as per regime; Follow up: Urine protein free, no edema.

Discussion:
- The underlying abnormality in nephrotic syndrome is an increased permeability of glomerular capillary wall which leads to massive proteinuria & hypoalbuminemia.
- Podocyte injury leads to increased protein leakiness across glomerulocapillary wall. Hypoglobulinemia as a result of urinary losses of immunoglobulin G together with loss of complement (C3 & C5) & factor (B&D) of alternate pathway lead to impaired opsonization of microorganisms.
- Case of spontaneous bacterial peritonitis presented with fever, abd pain, peritoneal signs & B/L thigh abscess, commonly due to pneumococcus & less commonly due to gram negative. 
- Aggressive evaluation & prompt management with empirical antibiotics was the key to successful outcome.

Photo showing abdominal distension with increased abdominal girth with peritonitis
Photo showing B/L thigh abscess with catheterization due to dysurea

X ray chest showing pleural effusion with ascites
X ray chest improved taken after 7 days without pleural tapping
X ray thigh showing no signs of osteomyelitis

Photo taken after drainage of abscess

Photo taken after 14 days from discharge on follow up showing full recovery

References:
4) Feldoff C, Kleine L, Peritonitis and infection in children with idiopathic Nephrotic Syndrome: Kliniopediatri/1988/200(1), 40-44