Approach to a case of GUTB

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1. Is the patient having GUTB?
   - Clinical Dx
   - Laboratory Dx

2. What sites in genitourinary tract are involved?
   - Urinary
   - LUT
   - Genital

3. What is Severity of involvement?
   - Early, non-caseous
   - Caseous
   - Late, calcified
   - Primary
   - Recurrent/Resistant

4. What is Degree of functional impairment?
   - Urinary tract
   - LUT
   - Genital tract
1. Does pt need only Medical treatment.
   - ATT
   - Supportive Treatment

2. When to consider Endourologic intervention
   - DJ stenting
   - Abscess Aspiration
   - Percutaneous Nephrostomy

3. When to consider Surgical intervention
   - UUT
   - LUT
   - Genital

PART -1
Progression of GUTB

Kidneys | Ureters
---------|---------
GUTB     | GUTB
Bladder  | Epididymis

Granuloma | Caseation
-----------|-----------
Fibrosis   | Calcification
Cortical Lesion
- Cortical Granuloma
- Cortical abscess
  - Heal with Cortical scar ± calcification
  - Progressive destruction
  - Cavernoma
  - Small, Fibrosed kidney
  - Perinephric abscess

Modularly lesion
- Papillary Granuloma
- Papillary ulceration
  - Microscopic Haematuria + Pyuria
  - Tuberculous bacilluria
  - Infundibular lesion
  - PUJ lesion
  - Ureteric lesion, HUN, Shortening
  - Bladder lesion

PART -2
 Diagnosis
 Making of a case suspected to be having GUTB

When to Suspect?
Typical Presentations
- UUT
  - Haematuria
  - Flank discomfort
- LUT
  - Frequency
  - Haematuria
  - Dysuria
- Genital
  - Haematospermia
  - Infertility
- Constitutional
  - Fever
  - Anorexia
  - Malaise

When to Suspect?
Atypical Presentations
- UUT
  - Renal Failure
  - HT
- LUT
  - Persistent UTI
  - Incontinence
- Genital
  - Persistent Prostatitis
  - Calcified Mass lesions
  - Menstrual irregularities
- Other Systems
  - Incidental detection of GU involvement while investigating the other

The Classical Triad
- Painless mild, gross Haematuria
- Fixed volume frequency
- Low grade fever

When to Suspect?
**The Laboratory Diagnosis**

**Blood Tests**

**Urinary Tests**

**Haematologic Tests**
- Lymphocytosis
- ESR
- Anaemia

**Biochemical Tests**
- Liver Functions
- Renal Functions

**Urinary Tests**
- Microscopic haematuria, pyuria
- Early morning Sample x 3 → AFB in smear
- Early morning Sample → AFB C/s
- Early morning Sample → Bactac Test
- Early morning Sample → PCR Test

**Luciferase Test** to identify Tuberculous bacilli by Bioluminescence

**Identification of TB** by Fluorescent Labeling by Auramine, Rhodamine

**Highspeed liquid poly chromatography** for studying mycolic acid type: pathogenic vs nonpathogenic strains

**What SITES in genitourinary tract are involved?**

<table>
<thead>
<tr>
<th>Urinary Tract</th>
<th>Genital Tract</th>
</tr>
</thead>
<tbody>
<tr>
<td>UUT</td>
<td>K</td>
</tr>
<tr>
<td>LUT</td>
<td>B</td>
</tr>
<tr>
<td>Prostate</td>
<td>Uterus</td>
</tr>
<tr>
<td>Epidydis Vas</td>
<td>Testis</td>
</tr>
</tbody>
</table>

**What is the SEVERITY of involvement?**

**Pathologically**
- Early, noncaseous
- Caseous
- Fibrotic
- Calcified

**Clinically**
- Primary
- Resistant
- Relapse
**Sites/Extent of involvement**

- USG
- IVU
- CECT
- MRI
- MCU
- RGP

**Severity of involvement**

- Radiomaging

**USG**

- Renal Signs
- Bladder Signs
- Epididymal Signs

**IVU**

- Dilated Calix
- Lost calix
- Hydro calix
- Moth eaten calix
- Shortened Ureter
- Thimble Bladder
- UPJ obs.

**Phantom calyces**

Decreased nephrographic opacity and nonfilling of the collecting system at the lower pole of left kidney — phantom calyces (ghost : exist, but not visualised, the same are visualized on RGP).

**Putty kidney**

- Diffuse, uniform, extensive calcifications forming a cast of the kidney with autonephrectomy.
- Calcified caseous tissue characteristically appears homogeneous looking like ground glass (putty).

**Saw tooth appearance**

- Ulcerations causing mucosal irregularity of ureter.
Fusion of multiple strictures may create a long, irregular narrowing. Several nonconfluent strictures can produce a “beaded” or “corkscrew” ureter.

**Beaded / Corkscrew ureter**

- Fusion of multiple strictures may create a long, irregular narrowing. Several nonconfluent strictures can produce a “beaded” or “corkscrew” ureter.

**Pipe stem ureter**

- Rigid ureter: irregular and lacks normal anatomical curves and the peristaltic movement, fibrotic strictures noted.
- Note the distortion, amputation and irregularity of the upper pole calices.

**Thimble bladder**

Diminutive and irregular urinary bladder – simulating a thimble.

**Hour Glass Bladder**

- Diminutive and irregular urinary bladder – simulating a thimble.

**What is the degree of functional impairment?**
**Philosophy of Treatment**

- Early
  - Small Granuloma
  - Large Granuloma
  - Small Volume
  - Stricture Ureter
  - Small bladder
  - Kidney
  - Epididymis

- Caseous
  - Large Granuloma
  - Large Volume

- Fibrotic
  - Aspirate/drain
  - Dilate/Stent

- Calcified
  - Augmentation
  - Nephrectomy
  - Epididymectomy

**MEDICAL TREATMENT**

- ATT + Supportive Rx

**SUPPORTIVE**

- All medication given daily
  - 4 drugs x 2 month
  - 2 drugs x 4 month

- Response Good
  - 4 drugs x 1 month

- Response Poor
  - 2 drugs x 4 month

**Endourological Treatment**

- Aspiration/ Pigtail drainage
- Endo dilatation + DJ stenting

**Surgical Treatment**

- **KIDNEY**
  - Partial Nephrectomy
  - Total Nephrectomy (Nephroureterectomy)

- **URETER**
  - Strictured Ureter
  - Ileal Ureter

- **BLADDER**
  - Small Capacity
  - Augmentation Cystoplasty
Surgical Treatment
EPIDIDYMIS

Unresolved cold abscess  Epididymectomy