THROMBOSIS IN CHILDREN
CASE SERIES

Dr. Sirisha Thota, DNB PG
Dr. Janani Sankar’s unit
Kanchi Kamakoti CHILDS Trust Hospital
PATIENT 1

- **10 ½ yr, boy**
- Background history of CSOM Right ear
- Presented with fever, right hip pain and refusal to walk
- Diagnosed to have Osteomyelitis of proximal femur - underwent surgical decompression (MSSA bacteremia)
• Persisting pain and refusal to walk
• USG hip - features of right femoral vein thrombus
• Doppler - thrombus in common femoral, upper and lower superficial femoral
• Treated with LMWH followed by warfarin
• Recovered
PATIENT - 2

- 3yr old male child
- Admitted at Trichy for febrile illness with thrombocytopenia
- Developed vomiting, headache & lethargy
- CT brain showed dural sinus thrombosis, hence referred
• Prothrombotic workup sent, kept under observation (LMWH not started in view of thrombocytopenia)
• Sudden deterioration on 2\textsuperscript{nd} day of hospitalisation
• MRI brain - Right transverse and straight sinus thrombosis extending up to jugular bulb with hemorrhagic infarcts in cerebellar hemispheres with 4\textsuperscript{th} ventricle obstruction leading to hydrocephalus.
• Started on LMWH
• Emergency V/P shunt done (under cover of FFP, platelet transfusions)
• No neurological deficit on follow up
• Prothrombotic workup - negative
• After 6 months of anticoagulation, repeat MRI brain with MRV - complete resolution of thrombus
PATIENT - 3

• 14yr old adolescent boy
• Recurrent autoimmune hemolysis (2 episodes in 1 year) - steroid dependent
• Presented with recurrence of hemolysis & new onset thrombocytopenia
• Sudden onset headache and features of raised ICP
• MRI brain - Thrombosis of sagittal sinus and left transverse sinus
• Transferred to SRMC - further evaluation confirmed antiphospholipid antibody/SLE
• Treated with LMWH followed by warfarin
• Presently he is on steroid and azathioprine
PATIENT-4

- 10 yrs, boy
- Evaluated for abdominal pain and generalized edema elsewhere
- CT and USG abdomen showed thrombus IVC, hence referred
• Labs confirmed Nephrotic syndrome
• USG abdomen showed b/l nephromegaly with right renal vein thrombosis extending into IVC
• Started on steroid and LMWH
• Readmitted with sudden onset dyspnea and chest pain
• CT pulmonary angiogram confirmed pulmonary embolism
• Improved with LMWH followed by warfarin
• In view of steroid resistance - started on cyclosporine - on regular follow up with Nephrologist
PATIENT - 5

- 10yr old boy
- Initially presented with Eosinophilic cellulitis - treated with oral prednisolone
- Developed acute onset pain and discoloration of right index finger and toes
- Doppler confirmed right radial and anterior tibial artery thrombosis
- Diagnosed to have Hypereosinophilic syndrome with thrombotic complication
- Improved with LMWH, low dose aspirin & steroid
PATIENT - 6

- 4yr old, female child
- Severe dengue with shock & encephalopathy
- Discolouration over Right cubital fossa with feeble radial pulse
- Doppler showed Thrombus at brachial artery
- Resolved with LMWH
<table>
<thead>
<tr>
<th>SITE</th>
<th>RISK FACTOR</th>
<th>TREATMENT</th>
<th>DURATION</th>
<th>FOLLOW UP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Femoral vein</td>
<td>Infection</td>
<td>LMWH, VKA</td>
<td>3 months</td>
<td>Resolution</td>
</tr>
<tr>
<td>Cerebral vein</td>
<td>Idiopathic</td>
<td>LMWH, VKA</td>
<td>6 months</td>
<td>Resolution</td>
</tr>
<tr>
<td>Cerebral vein</td>
<td>SLE</td>
<td>LMWH, VKA</td>
<td>3 months</td>
<td>Resolution</td>
</tr>
<tr>
<td>Renal vein</td>
<td>Steroid resistant Nephrotic syndrome</td>
<td>LMWH, VKA</td>
<td>3 months</td>
<td>Resolution</td>
</tr>
<tr>
<td>IVC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radial, Anterior tibial artery</td>
<td>Hypereosinophilia</td>
<td>LMWH, Aspirin</td>
<td>6 weeks</td>
<td>Resolution</td>
</tr>
<tr>
<td>Brachial artery</td>
<td>Severe dengue</td>
<td>LMWH</td>
<td>2 weeks</td>
<td>Resolution</td>
</tr>
</tbody>
</table>
“VIRCHOW’S TRIAD”

Stasis
Endothelial injury
Hypercoagulability

Indwelling Central Venous Lines

Inherited Prothrombotic conditions

Infection
Congenital heart disease
Trauma
Protein losing (Nephrotic, IBD)
Systemic Lupus Erythematosus
Leukemia
DIAGNOSIS

- Contrast angiography
- Doppler Ultrasound
- MR Venography
GOALS OF TREATMENT

- Prevent local extension of the thrombus & embolization
- Aid in resolution of existing thrombus
- Prevent recurrence of thrombus
- Prevent long term complications like PTS
TREATMENT OPTIONS

- Unfractionated Heparin
- LMWH
- Vitamin K antagonist - Warfarin
- Thrombolytic agent
DURATION OF ANTICOAGULATION

- Depends on the underlying etiology
- Up to 3 months - secondary
- Up to 6 months - idiopathic
- Lifelong - recurrent & antiphospholipid syndrome
THANK YOU for listening!