Case report of 2 children with sectioning of filum in occult cord tethering presenting with neurogenic bladder

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Occult Tethered Cord Syndrome (OTCS)

Symptom of tethered cord with normal conus position, predominantly with urological symptom

Current recommendation by The International Children’s Continence Society - Insufficient evidence to support routine use of untethering in OTCS

Picture to the left showed a T1-weighted MRI of a 5-years-old with OTCS
- conus at normal level L2-3
- long segment of fatty filum from upper L3 to S1/2

Objective

- A recent pilot RCT
  - compared outcome between surgical and non surgical treatment to paediatric patients with OTCS,
  - no statistically significant difference

- We hereby present 2 cases from our centre who received cord untethering, demonstrating the efficacy and safety of the surgical option.

# Case summary:

<table>
<thead>
<tr>
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<th>Case 1</th>
<th>Case 2</th>
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<tbody>
<tr>
<td>Age receiving operation / Sex</td>
<td>5 / Female</td>
<td>9 / F</td>
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<tr>
<td>Presentation</td>
<td>• nocturnal enuresis (NE)</td>
<td>• polyuria, daytime urinary urge incontinence</td>
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<td></td>
<td>• Urodynamic studies: neurolarge bladder capacity</td>
<td>• nocturnal enuresis</td>
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<td></td>
<td>• tip-toeing gait</td>
<td>• never achieved continence</td>
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<td>Physical exam finding</td>
<td>• tight Achilles tendon with increased lower limb tone, increased lower limb reflex</td>
<td>• bilateral lower limb tone normal, mildly increased bilateral knee reflex</td>
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<td>MRI conus medullaris level</td>
<td>L2</td>
<td>L2</td>
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<tr>
<td>Outcome</td>
<td>• no more NE</td>
<td>• decrease urinary frequency</td>
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<tr>
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<td>• Achilles tendon less tight, gait normal</td>
<td>• no more incontinence</td>
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</tbody>
</table>
Outcome

Case 1
- no more NE
- improved LL tone, no more tip-toeing gait

Case 2
- decrease urinary frequency
- no more incontinence

Intra-op photo of the fatty filum with stimulation probe applied
Conclusion

- outcome: improvement in symptom, no known complication; consistent with literature review of 12 retrospective studies where 78.3% of paediatric patients showed improvement in symptoms
- no conclusive data for optimal age and timing for surgery
- but our case report demonstrated that early surgery is safe and prevent symptomatic patients with OTCS from irreversible physical and neurological damage