When Your Brain Turns On You: Exploring Anti-NMDA Receptor Encephalitis in the Paediatric Population

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Objectives
- Define Anti-NMDA receptor encephalitis
- Symptoms and Treatment
- Lauren's Story
- Nursing Interventions
- Take home message

What is Anti-NMDA receptor encephalitis?
- Anti N-methyl-D-Aspartate Receptor encephalitis
- Newer type of encephalitis (2007)
- Most common autoimmune disease in children
  - Youngest patient in literature was 2yrs
  - Increasing incidence and diagnosis in pediatric population
- Treatable
  - Reversible symptoms
  - 20-25% relapse
- Cause?
  - Paraneoplastic

Pathophysiology
- Antibody mediated disorder
  - B Cells / Auto-antibodies
  - Antibodies block NR1 glutamate receptors
  - Inflammatory response in healthy tissue
  - Neuronal signaling impacted
  - Symptoms and severity dependent on antibody/receptor ratio
  - Untreated D impairment and damage

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Meet Lauren
### Symptoms

<table>
<thead>
<tr>
<th>Initially viral presentation</th>
<th>Movement Abnormalities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wide Variety of Symptoms</td>
<td></td>
</tr>
<tr>
<td>Autonomic Dysfunction</td>
<td>Neuropsychiatric Symptoms</td>
</tr>
</tbody>
</table>

### July 25th

![Image of a child with a nasogastric tube]

### July 26th

![Image of a child lying in bed]

### Diagnostic Tests

- Bloodwork
- MRI
- EEG
- Lumbar Puncture
- Ultrasound
- Angio

### July 31st

![Image of a child and a healthcare professional]

![Image of a child with a nasogastric tube]
Aug 4th

Aug 5th

Multi-Disciplinary Approach to Care

- Neurologist
- Rheumatologist
- Psychiatrist
- RN
- APN
- SW
- Child Life
- CYC
- PSW
- PT
- OT
- Dietician
- SLP

Treatments

- Pulse steroids
- IVIG therapy
- Rituximab
- Cyclophosphamide
- Plasmapheresis
- Conjunctive meds —

1 step forward, 2 back
Recovery

- “Roller-coaster ride”
- Duration of recovery variable
  - Multifactorial
- Functionality gained back in order
- Often almost-full recovery if treated quickly
- Up to 25% mortality rate
- Requires ongoing rehab
  - Home & HBKR
- Reoccurrence ~ 25%
- Close follow-up

Road to Recovery

Nursing Interventions

- Safety
- Support
- Pharmacological
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Sept 19th

Take Home Message

- Long journey - many ups & downs
- One day at a time
- Still many unknowns
- Information is key
- Power and choice
- Open communication
- Caregiver fatigue and burnout
- Breaks, support and resources

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Lauren Today!

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Acknowledgements

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References


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Questions

- Thank you for your time and focus