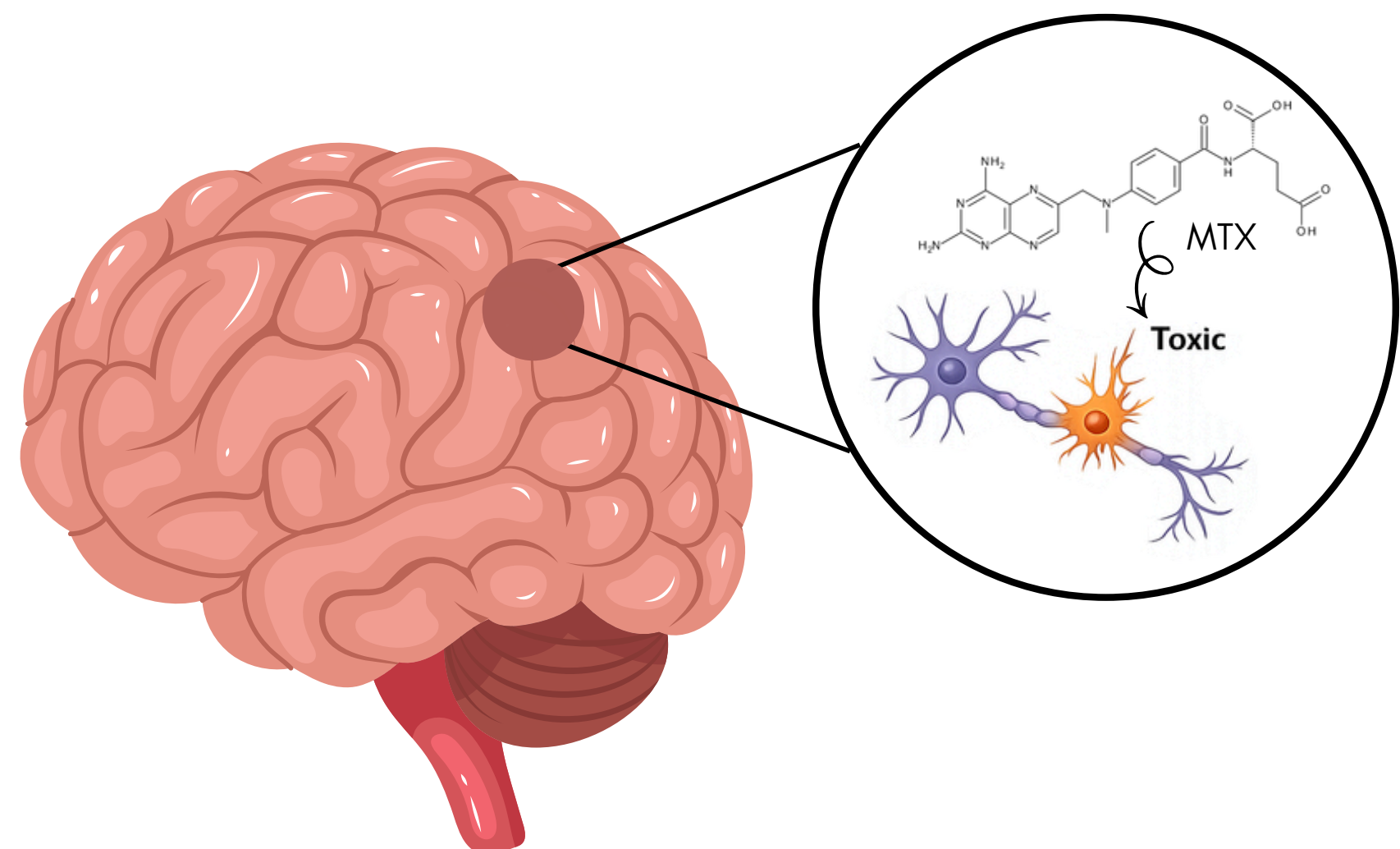


# USE OF DEXTROMETHORPHAN FOR TREATMENT AND PROPHYLAXIS OF METHOTREXATE-RELATED NEUROTOXICITY IN A REAL-WORLD PAEDIATRIC COHORT

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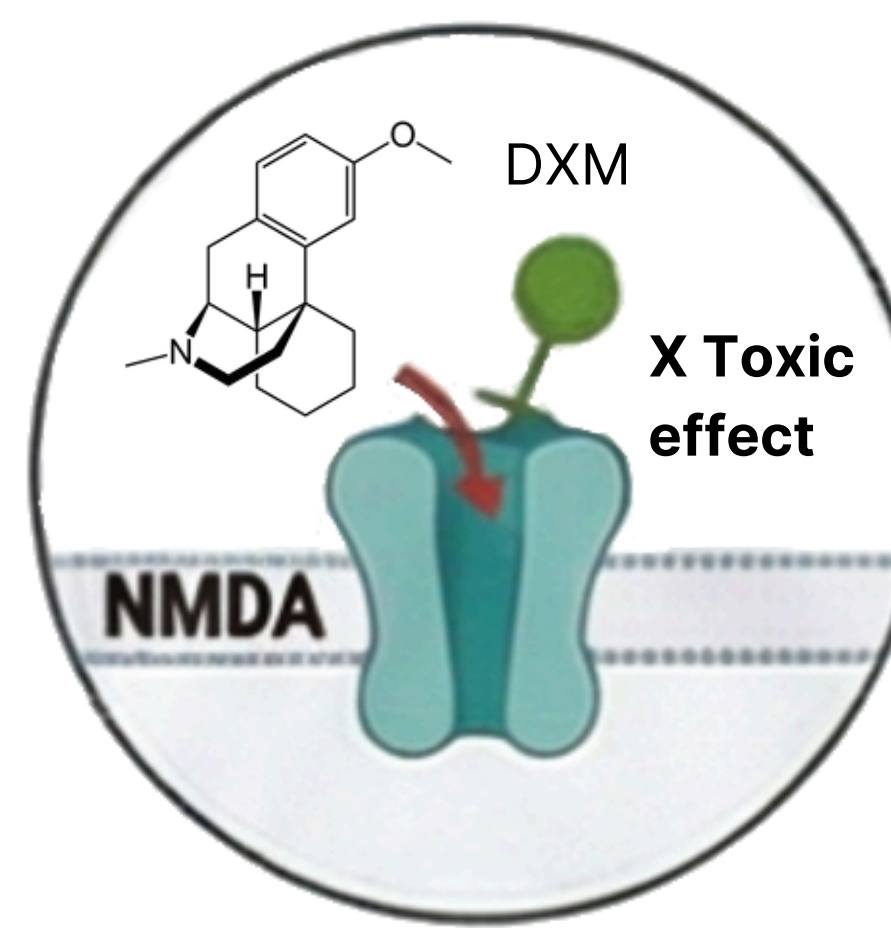
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## BACKGROUND AND IMPORTANCE



### MTX-Related Neurotoxicity

Ranges from transient focal deficits and seizures to toxic leukoencephalopathy in children



### DXM as an NMDA-Receptor Antagonist

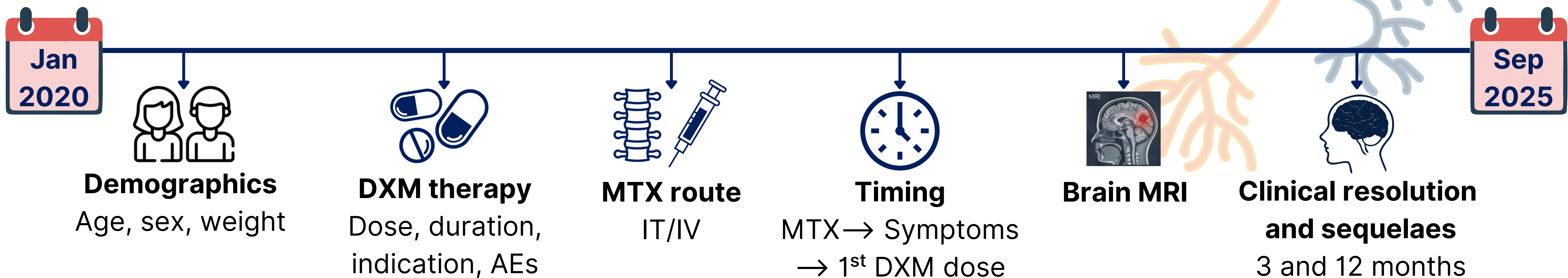
Used during acute episodes and as secondary prophylaxis to prevent recurrence after MTX re-exposure

## AIM AND OBJECTIVES

Describe the real-world **use**, **effectiveness**, and **safety** of **DXM** for treatment and/or prophylaxis of **MTX-related neurotoxicity** in a tertiary paediatric hospital.

## MATERIAL AND METHODS

**Retrospective, observacional** study of paediatric patients treated DXT with MTX



## RESULTS

### Baseline Characteristics

Total Cohort	<b>N = 32</b>
Sex	Female <b>19</b> (59.4%) Male <b>13</b> (40.6%)
Age (Years)	<b>9.23</b> (1.34–18.68)
Weight (kg)	<b>35.3</b> (10.3–71.8)

### MTX Administration Route

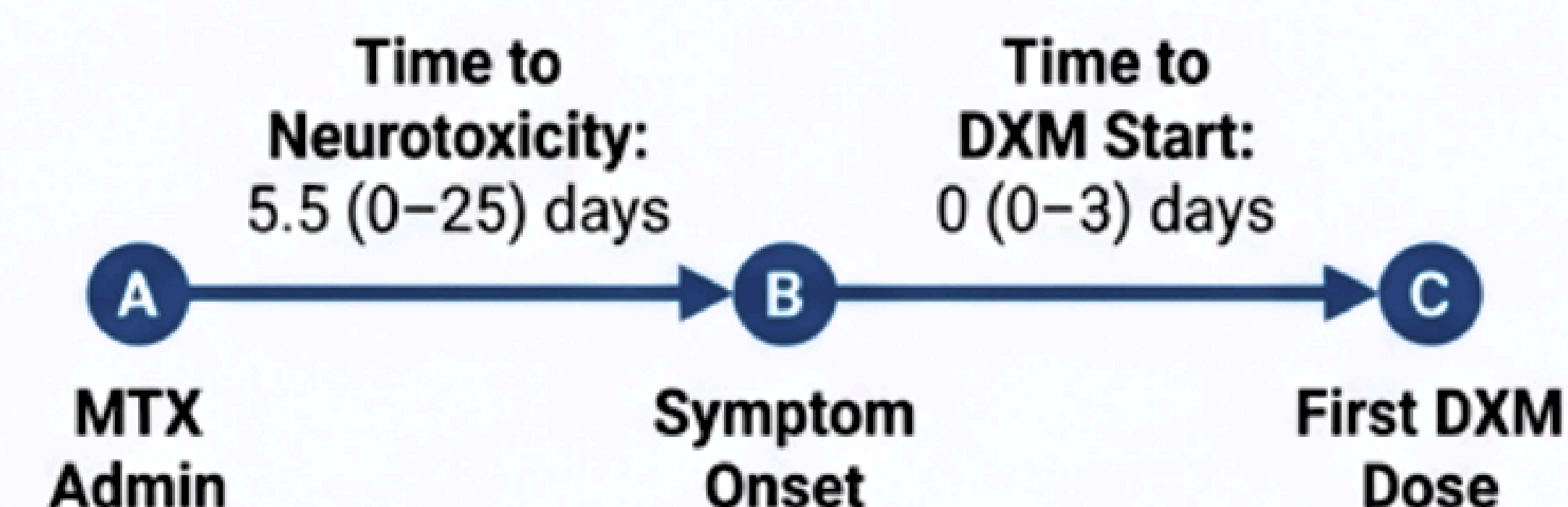
IV (Intravenous)	<b>71.9%</b> (23/32)
IT (Intrathecal)	<b>28.1%</b> (9/32)

### DXM Indication

Treatment	<b>62.5%</b> (20/32)
Prophylaxis	<b>37.5%</b> (12/32)

### Dosing & Administration Metrics

Metric	Overall (n=32)	Treatment (n=20)	Prophylaxis (n=12)
Total Dose (mg)	<b>40</b> (8–75)	<b>41</b> (8–75)	<b>30</b> (25–60)
Weight-based (mg/kg)	<b>1.03</b> (0.33–1.67)	<b>1.01</b> (0.33–1.63)	<b>1.04</b> (0.70–1.67)
Duration (days)	<b>6</b> (1–25)	<b>6.5</b> (1–25)	<b>4</b> (2–10)



### Outcomes & Safety

#### Imaging (MRI)

MRI Performed: n=21  
**Findings compatible with MTX neurotoxicity: 13/21 (61.9%)**

#### Efficacy & Safety (Key Highlights)

**100%**

**Clinical Resolution**  
(20/20 Treatment Patients)

**Adverse Events:**  
1/32 (3.1%) - Non-serious

#### Neurological Sequelae

**At 3 Months:** 6/32 (18.8%) persistent sequelae

**At 12 Months:** 0/29 (0%) persistent sequelae  
(among those with follow-up)

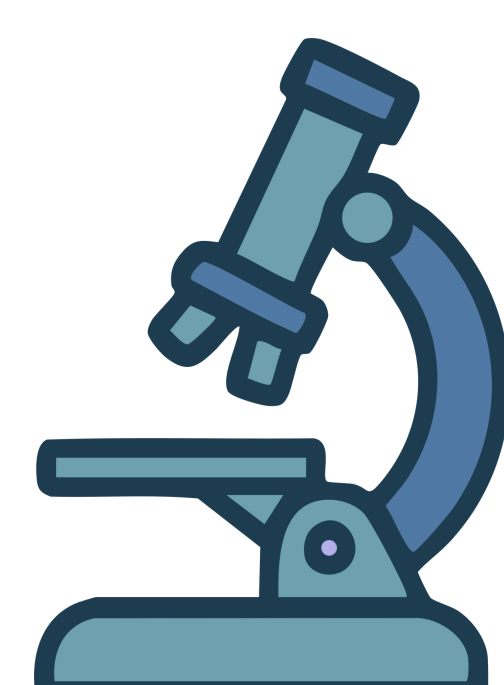
## CONCLUSION AND RELEVANCE

### Dextromethorphan

Feasible and clinically useful in

- Management
- Prevention

MTX-related neurotoxicity in paediatrics.



Further **prospective, controlled studies** are necessary to corroborate and extend these results and to standardise response criteria

ATC code

