Epidemiology and Current Treatment of Neuromyelitis Optica: A Systematic Review

INTRODUCTION
Neuromyelitis Optica (NMO), also known as Devic’s disease, is a rare autoimmune condition characterised by:
- Acute relapsing optic neuritis
- Extensive transverse myelitis

Historically, NMO was viewed as a subtype of Multiple Sclerosis (MS)

OBJECTIVES
- To determine the epidemiology of NMO
- To provide an algorithm of treatment of NMO

MATERIALS AND METHODS
- A systematic search was conducted of the relevant published evidence from Embase, MEDLINE, and Cochrane
- Search limits were articles in English and human
- Retrieved citations were screened by two independent reviewers according to inclusion criteria
- Population: NMO patients with any age
- Interventions: Any interventions for treatment for NMO
- Outcomes: Incidence and prevalence

The analyses of comparable outcomes were carried out as per appropriate statistics along with critical appraisal of the studies

RESULTS
- Total records identified through database searching N=849
- Records after duplicates removed N=713
- Articles assessed for full-text eligibility N=61
- Articles included for final review N=10
  - Studies about NMO epidemiology: N=6
  - Studies about NMO treatment algorithm: N=10

EPIDEMIOLOGY

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<th>Incidence</th>
<th>Prevalence</th>
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<td>0.05 per 1,00,000 (United Kingdom)</td>
<td>0.4 per 1,00,000 (Southern Denmark)</td>
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<td>Peak prevalence of NMO occurs among the people at 40-49 years of age</td>
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CURRENT TREATMENT
- Low level evidence recommended methylprednisolone 1g/day for 3 to 5 days or 2 to 3 sessions of plasmapheresis per week, up to 7 sessions for acute attacks of NMO
- Nine studies observed the improvements in the reduction of mean annualized relapse rate

DISCUSSION
- NMO is an unpredictable, often disabling disease of the central nervous system and resulting in permanent disability
- It is more prevalent in female than males
- The worldwide incidence and prevalence of NMO remains poorly characterized
- NMO represents less than 1.5% of individuals with demyelinating disorders
- The highest reported incidence is in Denmark: 4 new cases per 1,000,000 people per year

CONCLUSIONS
- There is currently no cure for NMO
- NMO is managed with a variety of medications:
  - Acute NMO attacks: High dose intravenous corticosteroid and plasmapheresis
  - Maintenance therapy: Low-dose oral corticosteroids and non-specific immunosuppressant drugs
  - Most treatment recommendations are mainly based on case reports and retrospective case series

REFERENCE