MP56-16 - EFFICACY AND SAFETY OF TRANSDERMAL OXYBUTYNIN VERSUS ORAL OXYBUTYNIN IN MANAGEMENT OF PEDIATRIC NEUROGENIC BLADDER

1. University of Western Australia, School of Medicine, Dentistry and Health Science. 2. Department of Urology, Princess Margaret Hospital. 3. Clinical Nurse Specialist, Multidisciplinary Spinal Clinic, Princess Margaret Hospital. 4. Department of Rehabilitation Medicine, Princess Margaret Hospital.

BACKGROUND
Neurogenic bladder is a complex condition which can have a significant impact on quality of life. Bladder dysfunction, when not managed early, can lead to renal impairment and subsequent medical complications. Children and their families report significant social and psychological impact of poor bladder function.

Anticholinergic medications are the gold standard in pharmacotherapy for neurogenic bladder. The first line agent in Australia is oxybutynin due to cost and accessibility. Oxybutynin is available in both oral and transdermal forms. Oral oxybutynin can be associated with a significant side effect profile in some children. Additionally, compliance may be poor with oral medication due to difficulty in taking tablets in addition to inability to tolerate associated side effects. Transdermal formulations have the potential advantage of ease of use resulting in increased compliance and reduced systemic side effects.

OBJECTIVE
To compare the patient experience of transdermal versus oral oxybutynin in pediatric patients with neurogenic bladder.

METHODS
• Retrospective study assessing patient experience of transdermal and oral oxybutynin.
• Patients with neurogenic bladder were identified via the multidisciplinary spinal rehabilitation. Children under the age of 18 who had trialled transdermal and/or oxybutynin for greater than 6 weeks were included.
• A questionnaire and rating scale was developed to collect patient demographics and report outcomes. Efficacy, compliance and side effects were self reported on a 5-point scale. Data was collected through phone or face-to-face interview.
• Data from patients who had trialled both oral and transdermal formulations was used to directly compare their experience with efficacy and compliance. Patients who had only trialled transdermal oxybutynin were included in the assessment of side effects.

RESULTS

Patient Demographics:
- 27 patients met the inclusion criteria: 18 of had trialled both oral and transdermal formulations. 9 patients trialled only transdermal oxybutynin.
- Corticosteroid use varied (30% males, 48% females).
- The mean patient age was 10 years with a range of 4 to 18.
- The majority of patients suffered from spina bifida. Other causes of neurogenic bladder included spinal dysraphism, injury, sacral agenesis and transverse myelitis.
- Nearly all included patients used regular catheters (96%). Over 40% of the patients also used adjunctive therapy such as botox and surgical interventions to manage their bladder symptoms.
- At the time of study, most patients were using transdermal oxybutynin: 83% of those that had trialled both formulations were currently using oxybutynin patches and 78% of those that had only trialled patches had ongoing use.

Efficacy:
Our questionnaires asked patients and carers to report their impression of symptom control with use of both oral and transdermal formulations on a scale of 1-5, with 5 being optimal control. Transdermal oxybutynin appeared to have equal or improved efficacy compared to oral medication (3.85 compared to 3.41, p < 0.1).

Patient Compliance:
Compliance was reported in terms of ease of use and frequency of missed doses. Transdermal medication was missed less frequently than oral (1.19 compared to 2.58, p <0.05) and was easier to use (4.33 compared to 3.7, p <0.1).

Patient Preference:
Two thirds of patients preferred use of transdermal patches, reasons cited included ease of use and fewer side effects. Of the cohort of patients that preferred oral medication, this was due to the patch falling off in addition to skin irritation.

SIDE EFFECTS
Systemic side effects:
- Oral medication was associated with increased rates and severity of systemic side effects when compared to transdermal patches.
- 38.9% of those taking oral medication reported systemic side effects as at least somewhat bothersome, whereas 12.8% of those using patches reported systemic side effects of the same severity.
- For those using oral medication, the most commonly reported side effects were dry mouth, headaches and drowsiness.

Local side effects:
The most commonly reported side effects of transdermal oxybutynin were local side effects such as redness and itch at the application site. Just over a quarter of patients reported local side effects that were at least somewhat bothersome.

CONCLUSIONS
• The majority of pediatric patients in our cohort preferred transdermal patches when compared to oral formulations of oxybutynin.
• Patches were preferred due to ease of use and reduced systemic side effects.
• Transdermal oxybutynin had improved patient/carer-reported efficacy and compliance.
• Systemic side effects are common with oral formulations, in particular dry mouth, drowsiness and headaches.
• The most significant limiting factors for oxybutynin patches are local side effects such as skin irritation and the patch falling off.
• The data suggests that transdermal oxybutynin is a good alternative to oral medication in children with neurogenic bladder.

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REFERENCES