Efficacy of mirabegron for treatment of nocturnal enuresis in children

Introduction

Enuresis is an extremely common condition, which, although somatically benign, poses long-term psychosocial risks if untreated.

Nocturnal enuresis (NE) or bedwetting is defined as the voluntary or involuntary wetting of clothes or bedding with urine for a period of at least 3 consecutive months in children older than 5 years of age. It affects 15% - 20% of children aged 5 years, and 1% - 2% of adolescents[2]. Although spontaneous recovery occurs at a rate of 10–15% per year[3], NE still has a certain impact on the child's social, emotional and psychological development. According to the International Children's Continence Society (ICCS) recommendation, NE can be subclassified into monosymptomatic nocturnal enuresis (MNE) and non-monosymptomatic nocturnal enuresis (NMNE) based on whether accompanied with lower urinary tract symptoms (LUTS) or not[4]. MNE is defined as involuntary urine voiding during sleep without other LUTS, such as daytime urinary frequency, urgency, or incontinence of urine. More than 68.5% of NE patients are MNE[5].

Various interventions including pharmacological, behavioral and other approaches have been used for the treatment of MNE. Alarm therapy, one of the first line treatment, has been proved to be effective for MNE and should be first taken into consideration in children under 8 year age with adequate family support[6]. Desmopressin is the most widely used medical treatment in the management of MNE[7]. Combine therapy of desmopressin plus anticholinergics is often taken

into consideration when the patients are refractory to single treatment, having behavioral problems or frequent nighttime enuresis[8].

Aim

To evaluate the efficacy of B3 agonist mirabegron in the management of nocturnal enuresis in children.

Patients &Methods:

The study will be conducted in urology department, Menoufia University Hospital.

Sample size: 151

Inclusion criteria:

Children from 5-15 years old

Nocturnal enuresis

Exclusion criteria:

Patients with anatomical lower urinary tract abnormalities

Any neurological diseases

Experienced treatment failure

Active urinary tract infection

Preintervention assessment:

Laboratory investigations:

Urine analysis and urine culture & sensitivity

Radiological investigation:

Ultrasound abdomen and pelvis

The main outcomes included complete response rate, success rate, mean number of wet nights per week at the end of treatment, relapse rate at the end of following up, and adverse events during the treatment. According to the definition of ICCS, the outcomes were evaluated as follows: (1) complete response (CR) as a 100 % decrease; (2) response (R) as a ≥90 % decrease; (3) partial response (PR) as a 50–89 % decrease; (4) non-response (NR) as 0–49 % decrease in the number of wet nights. Relapse was defined as reappearance of >1 wet night per week for complete responders or >50% of pretreatment wetting frequency for partial responders. CR, R, and PR were regarded as the success.

Results:

The results will be recorded, tabulated, and statistically analyzed.

Discussion:

The results will be discussed in comparison to those mentioned in the literature.

References:

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