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The effect of mirabegron on female sexual function

Submission date	Recruitment status	[_] Prospectively registered
18/10/2017	No longer recruiting	[_] Protocol
Registration date	**Overall study status**	[_] Statistical analysis plan
20/10/2017	Completed	[X] Results
Last Edited	**Condition category**	[_] Individual participant data
08/08/2018	Urological and Genital Diseases	

Plain English summary of protocol

Background and study aims
Overactive bladder (OAB) is defined as urinary urgency (having to pee frequently) without having any other symptoms such as infections. OAB is usually characterized by frequency and happening at night, but may or may not cause urinary incontinence (involuntary leakage of urine). It has been shown to affect up to 36% of adult women in Europe and US. Although not life threatening, OAB is a debilitating disease which can lower quality of life, resulting in low self-esteem, anxiety, depression, decrease in work productivity and increase in the number of falls and fractures. Women with OAB can experience sexual problems, sometimes with consequent personal distress and sexual partner compatibility issues. The impact of OAB symptoms on sexual function in women has been evaluated in a few studies. Female sexual dysfunction (FSD) is describes disorders of desire, arousal, lubrication, orgasm and pain. Current estimates have up to 43% of women complaining of at least one sexual issue. Women are at risk of developing FSD due to a number of factors. Lower tract urinary tract infections are a further, independent FSD cause. To identify FSD, appropriate assessment guidelines should be applied. So as to determine sexual history and enable assessment, there are a number of self-reporting questionnaires available. The Female Sexual Function Index (FSFI) is a concise, multidimensional 'gold standard' tool. Recently introduced as an oral treatment for OAB, mirabegron (a β3-adrenergic agonist compound) improves storage capacity of bladder without inducing anticholinergic (that inhibits certain nerve impulses) adverse events. In previous studies mirabegron has consistently demonstrated superiority over placebo with respect to reductions in incontinence episodes and urinaion frequency, with a similar incidence of adverse effects as the placebo. The aim of the study is to evaluate the effect of mirabegron as used for OAB treatment on the sexual function of women (employing FSFI-Gr, a validated questionnaire translated into the Greek language).

Who can participate?
Women aged 18 who are in sexually active relationships that suffer from OAB for at least three months.

What does the study involve?
Participants are allocated to one of two groups. Those in the first group consists of participants with OAB wishing to receive no therapy. Those in the second group are treated with mirabegron 50 mg daily for three months. Those in the first group complete a 3 day micturition (urination)

diary prior to and after three month-observation-period. Those in the second group complete a 3 day micturition diary prior to and immediately after the third month of mirabegron treatment. For each episode of urinary symptoms, the patient recorde the date and time, regardless of the presence of urgency and/or incontinence, the volume voided and the influence of the episode (of urinary symptoms) on the patient's sleep. Participants in the second group attend monthly office visits to ensure patients' compliance with the treatment. Participants in the first group attend monthly office visits to ensure that they did not have any treatment or therapy for OAB. Participants are assessed for voiding frequency, nocturia, urgency episodes, incontinent episodes, number of incontinence pads used, and voided volume will be measured post-treatment using the 3 day micturition diary. All participants complete the FSFI questionnaire at the beginning and after the completion of the three month study.

What are the possible benefits and risks of participating?
Participants who receive mirabegron may benefit from improvement in OAB symptoms. Mirabegron is already licenced for overactive bladder with symptoms of urge urinary incontinence, urgency, and urinary frequency and is approved in USA, Europe, Japan, Australia etc. The adverse effects of mirabegron are already known. The most common side effect is Elevated Blood Pressure, occurring predominantly in patients with preexisting hypertension (7-11%). Other side effects(<10%) include dry mouth, nasopharyngitis , UTIs, headache, influenza, constipation, dizziness,
arthralgia, cystitis, back pain, sinusitis, urti, and arthralgia.

Where is the study run from?
Elpis Hospital Greece)

When is the study starting and how long is it expected to run for?
January 2016 to December 2016

Who is funding the study?
Elpis Hospital (Greece)

Who is the main contact?
Dr Athanasios Zachariou

Contact information

Type(s)
Public

Contact name
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Additional identifiers

Protocol serial number

01/2016

Study information

Scientific Title
The effect of mirabegron, used for overactive bladder treatment, on female sexual function

Study objectives
The aim of this study is to evaluate the effect of the β3-adrenoceptor agonist, mirabegron, used for OAB treatment, on the sexual function of women (employing FSFI-Gr, a validated questionnaire translated into the Greek language).

Ethics approval required
Old ethics approval format

Ethics approval(s)
Elpis Hospital, 08/01/2016, ref: 01/2016

Primary study design
Interventional

Study design
Non randomised controlled trial

Study type(s)
Treatment

Health condition(s) or problem(s) studied
Overactive bladder (OAB), female sexual function

Interventions
Participants are allocated to one of two groups. Group A, which is defined as a control group, consists of at least 35 women. None of these females with OAB wishes to receive any therapy. In Group B, at least 35 patients with OAB will receive mirabegron 50 mg per os daily for 3 months.

Patients of Group A (without OAB therapy) complete a three day micturition diary prior to and after three month-observation-period. Participants of Group B complete a 3 day micturition diary prior to and immediately after the third month of mirabegron treatment. For each episode of urinary symptoms, the participant records the date and time, regardless of the presence of urgency and/or incontinence, the volume voided and the influence of the episode (of urinary symptoms) on the patient's sleep. All participants within Group B attend monthly office visits to ensure patients' compliance with the treatment. In Group A, all participants attend monthly office visits to ensure that they do not receive any pharmacotherapy or behavioral therapy for OAB.

Within both groups, voiding frequency, nocturia, urgency episodes, incontinent episodes, number of incontinence pads used, and voided volume are measured pre- and post- 3 month period of observation using the 3 day micturition diary. All women will complete the FSFI

questionnaire which evaluates the four phases of female sexual function and categorizes sexual dysfunction in the domains of (a) desire (b) arousal (c) lubrication (d) orgasm (e) satisfaction and (f) pain. FSFI was translated and validated in the Greek language.

To determine the eligible women all females areasked to answer the question: “Do you have sexual distress associated with sexual dysfunction?” and only women who give a negative answer are finally recruited for analysis, since sexual distress needs special questionnaires to be evaluated.

Intervention Type
Drug

Phase
Not Applicable

Drug/device/biological/vaccine name(s)
mirabegron

Primary outcome(s)
Female sexual function is measured using the FSFI score at baseline and 12 months.

Key secondary outcome(s)
1. Voiding frequency is measured using the 3 day micturition diary at baseline and after three months
2. Nocturia is measured using the 3 day micturition diary at baseline and after three months
3. Urgency episodes measured using the 3 day micturition diary at baseline and after three months
4. Incontinent episodes is measured using the 3 day micturition diary at baseline and after three months
5. Number of incontinence pads is meaured using the 3 day micturition diary at baseline and after three months
6. Voided volume is measured using the 3 day micturition diary at baseline and after three months

Completion date
31/12/2016

Eligibility

Key inclusion criteria
1. Women over the age of 18 being in a sexually active relationship suffering from OAB for a minimal period of 3 months
2. None of the latter women received previously treatment for OAB
3. Willing of women to comply with the protocol and the capability to complete the voiding diaries and the questionnaires without assistance

Participant type(s)
Patient

Healthy volunteers allowed

No

Age group
Adult

Lower age limit
18 Years

Sex
Female

Key exclusion criteria
1. Clinically significant stress urinary incontinence
2. Neurogenic bladder and urinary retention or are at risk for these conditions
3. Women with a history of pelvic muscle training programs will be excluded because it is accepted that pelvic floor muscle exercises improve female sexual function
4. Women who state that they are not sexually active will be excluded from further analysis
5. Women who consider that there is no need for long-term treatment for OAB or are afraid of regimen’s adverse effects are included in control group

Date of first enrolment
20/01/2016

Date of final enrolment
30/09/2016

Locations

Countries of recruitment
Greece

Study participating centre
Elpis Hopsital
118 Gazi Street
Volos
Greece
38221

Sponsor information

Organisation
Elpis Hospital

ROR
https://ror.org/02e7jer75

Funder(s)

Funder type
Hospital/treatment centre

Funder Name
Elpis Hospital

Results and Publications

Individual participant data (IPD) sharing plan
The datasets generated during and/or analysed during the current study are/will be available upon request from ATHANASIOS ZACHARIOU, MD, PhD, FEBU at zahariou@otenet.gr.

IPD sharing plan summary
Available on request

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article	results	25/06/2018		Yes	No