

## Treatment of genitourinary syndrome of menopause with a new radiofrequency device

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To the Editor,

The set of symptoms that can occur in women during and after menopause, and involving genital, sexual and urinary fields, is described as Genitourinary Syndrome of Menopause (GSM). (1) The GSM, previously named as Vulvovaginal Atrophy (VVA), affects about 70% of the postmenopausal women in Western countries (1-4). It is a direct consequence of the lowering of the sexual hormones that occurs during the menopause. Estrogens, indeed, regulate trophism of the vaginal epithelium, its secretions, and Ph. It is also responsible of the trophism of external genitalia (5). Vaginal dryness, irritation, burning and itching, bleeding, dyspareunia, urgency, dysuria and recurrent urinary tract infections are symptoms that make up the GSM (2, 6). The most reported complaint by patients affected by the GSM is vaginal dryness. This symptom, associated with mucosal pallor, rugae thinning, and vaginal Ph>5, is the most important one for diagnosing GSM (4, 7). This syndrome causes a worsening of women's quality of life (2, 3). A wide possibility of therapy exists; recently the treatment of GCM became very simple and is based on general or topical supply of estrogen. The treatments include selective estrogen receptor modulators, lubricants and local moisturizers, including hyaluronic acid for injective use, laser and radio-frequency devices.

Hormone therapy has been regarded as the gold standard for decades, with general administration to patients suffering mainly from systemic menopausal symptoms, and local administration, instead, when vaginal disorders are predominant (8). The success of hormone therapy, however, is connected with adherence and compliance of the women. Furthermore, it is commonly believed that this therapy increases the risk of estrogen-dependent tumors. Vaginal lubricants and moisturizers are useful to treat vaginal dryness from mild to moderate. They can, however, cause inflammation of the mucosa, vulvar irritation, contact dermatitis and alterations in the microbiota, for the frequent use and the excipients present in the various formulations (4). The injective use of hyaluronic acid, which has entered clinical practice in recent years, is not always well accepted. There is no unanimous agreement on the use of laser devices, despite several studies showing an improvement of GSM symptoms after laser therapy (4, 7). Short follow-up, small cohorts and lack of a control group, are the most common limits affecting the medical trials on this topic. Radio-frequency devices are employed for their ability to induce internal thermogenesis. Increased internal temperature, in turn, determines vasodilation and increases microcirculation, and new collagen formation (9). Data exists on improvement of GSM

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vaginal symptoms by radio-frequency treatments (4, 5, 7). More recently a new radiofrequency device by GMV, Italy, has been introduced. To date, improvement of GSM vaginal symptoms by radio-frequency treatments has been reported. However, the current devices are monopolar or bipolar, and thus able to work only on a single depth. Furthermore, most of them do not include accurate temperature and

contact controls, which are crucial for the efficacy and safety of the treatment. Recently, a new Italian radio-frequency device has been demonstrated to work both in monopolar and in bipolar mode, and supplies controlled concatenate double waves with the handpiece used to treat external genitalia. In this cross-sectional study, 10 women aged between 45 and 62, all affected by GSM were treated with

**Table I.** Questionnaire to be completed by each patient

Symptoms	None	Very Mild	Mild	Moderate	Sever	Very Sever
Vaginal itching						
Vaginal dryness						
Spontaneous vaginal pain						
Urinary incontinence						
Urine loss when evacuating						
Urine loss when coughing						
Pain during sexual intercourse						



**Fig. 1.** *A) Before treatment; B) After treatment*

this radiofrequency device. The diagnosis of GSM was made by collecting personal history, clinical examination, and according to Vaginal Health Index (VHI). Photographs were taken of each patient before and after the treatment (Fig. 1 A, B), in a single projection showing the appearance of external genitalia. A questionnaire was also completed by each patient, before and after the treatment (Table I), to evaluate the perception of the symptoms constituting the GSM.

Each patient underwent 10 sessions of application of radiofrequency energy, by the radiofrequency device (GMV, Rome, Italy). Ten sessions formed a cycle. Each session was performed using two handpieces, one for the vaginal channel and another for the external genitalia. In the vaginal channel, the working time was 10 minutes for monopolar mode, and 10 minutes for bipolar mode; on the labia the time was 5 minutes per side.

All patients completed the treatment cycle. Photographs showed an improvement of appearance of the external genitalia. VHI also demonstrated improvement. All patients declared a high degree of satisfaction as well as improvement of symptoms, particularly vaginal dryness, as shown by a completed questionnaire. As a result, sexually active patients also reported an improvement in their relationship with their partner. Patients also reported the sensation of better protection of the vaginal entrance, due to the enlargement of the labia majora, as visible on the photographs (Fig. 1B). The patients also reported an improvement in the intensity and frequency of urinary symptoms

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