

## **SPA THERAPY: SULPHUROUS MINERAL WATER IN GYNECOLOGICAL DISORDERS**

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The human vaginal microbiota represents a complex and dynamic ecosystem, whose balance largely depends on acid pH, essential to epithelial integrity of vaginal mucosa (Costantino et al., 2006-Losa Dominquez et al., 2014). Indeed, vaginal pH imbalance favors the development of various inflammatory processes, such as vulvovaginitis (gynecological disorders localized to vulva and/or vagina). Vaginitis frequently occurs during menopause, often concomitantly with genital modifications caused by reduction or absence of ovarian hormones' trophic stimulus. Chronic vulvovaginal inflammations and menopausal vulvovaginal atrophy can benefit from the spa (salus per aquam) therapy. Some studies (Barbieri et al., 1992) have suggested that sulphurous mineral waters have an anti-inflammatory, decongestant and trophic effect on external and internal female genital organs, improving locally circulation and stimulation of immunity defenses. The main aim of our study was to evaluate the safety and effectiveness of vaginal irrigation cycle with sulphurous mineral water of Telese Bath – Impresa A. Minieri S.p.A. (Benevento-Italy) in 26 women with gynecological disorders. 77% of these women suffered from vulvovaginal atrophy in pre, peri- and post-menopausal, 15% from recurrent cystitis and 8% from recurrent vulvovaginal candidiasis. A vaginal irrigation cycle with sulphurous mineral water is performed at 37°C and it is usually administered an irrigation per day for 12 days. At the beginning and at the end of the spa treatment, we evaluated the following parameters: vaginal dryness and burning, vulvar itching, leucorrhea and dyspareunia (using Visual Analogue Scale, VAS); and the impact of spa treatment on psychological distress often associated with gynecological disorders (using S.A.S. Zung-test). After irrigations, we observed a significant ( $p<0.05$ ) reduction of all symptoms: -87% leucorrhea, -71% vulvar itching and vaginal burning, -63% vaginal dryness and -37% dyspareunia. Furthermore, sulphurous vaginal irrigation cycle demonstrated a significant improvement of psychological distress as demonstrated by S.A.S. Zung-test. In conclusion, our study confirmed that vaginal irrigation with sulphurous mineral water is a valid therapeutic strategy to improve symptoms and quality of life in women suffering from chronic and recurrent genital tract infections and menopausal vulvovaginal atrophy.

Costantino (2006). Med Clin Term. 60, 16-21.

Losa Dominquez (2014). Acta Bio Medica 85-Quaderno di Ostetricia e Ginecologia 1,2-6.

Barbieri (1992). Med Clin Term. 20,151-159.