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Bulking agents for urinary incontinence: what, when and where?

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Stress urinary incontinence is a major problem at the field of female urology and urogynecology. Symptomatically, this is a losing of the urine on physical efforts, coughing or sneezing. Incompetency of the urethral closing mechanisms are causing urine loss. Mid-urethral synthetic slings are the gold standard of the treatment of the stress urinary incontinence. At the same time, different urethral bulking injections are creating an artificial cushioning at the area around the urethra [1]. Bulking agents may work by increasing the central filler volume and thereby increasing the power of sphincter. The timing of the procedures are rarely evidence approved, and mainly they are empirical, based on personal experience, availability of the injections and dedicated patients.

So called "Bad urethra" patients are the main candidates for the injectables. While women with mixed incontinence, patients in childbearing age who are warned about uncertain outcome of synthetic slings during delivery or the patients with concomitant severe somatic pathology could get benefit from the bulking agents. According to the Cochrane Review "the available evidence base remains insufficient to guide practice" [2]. Comparative studies found that the placebo saline injection was followed by a similar symptomatic improvement to bulking agent injection. This fact pointed questions about the possibility of any beneficial effects. One multicenter, prospective, randomized, double-blind trial of the composed of pyrolytic carbon-coated beads suspended in a water-based gel showed 80.3% improvement within 1 year [3]. Indeed some treatments caused high levels of the retention and discomfort [4].

The place and the volume of the injections are tremendously different – from the bladder neck the urethra. There is no evidence to prove the superiority of mid-urethral or bladder neck techniques. There is no plain conclusions from the trials comparing alternative agents, although dextranomer hyaluronic acid was associated with more local side effects [5]. It is obvious that the ideal injectable materials are something still to be developed. In spite of the different characteristics of the bulking agents there is a modest difference in duration of effects between agents. We could summarize that paraurethral injections of the bulking agents might be an option for the limited number of patients [6].

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