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Title (type in CAPITAL LETTERS)	FLUOROSCOPIC CHARACTERIZATION OF INTRINSIC SPHINCTERIC DEFICIENCY (ISD) ASSOCIATED WITH STRESS URINARY INCONTINENCE

Aims of Study: We present a grading system based on fluoroscopic and urodynamic characteristics of ISD which will aid in the diagnosis and management of this condition.

Methods: Thirty-eight female patients with stress urinary incontinence due to ISD underwent a complete history, physical exam, and a standard videofluorourodynamic (VFUD) study. ISD was classified into subtypes according to fluoroscopic characteristics and stress leak pressure (SLP). Patient management was based on an algorithm designed to treat the patients according to the specific grade.

Results: Three types of ISD were identified. *ISD-1* (subtle/urodynamic) was present in 17 patients (45%) and was the most difficult to diagnose because radiographically the bladder neck was not evident. It could only be diagnosed by VFUD. *ISD-2* was present in 14 patients (37%), was characterized by a high-positioned and beak-shaped bladder neck, and was often accompanied by urethral hypermobility with stress incontinence. *ISD-3* was present in 7 patients (18%) and was characterized by an open, fixed, non-functioning urethra (pipe-stem) with high positioning of the bladder neck on fluoroscopy. For patients with *ISD-1*, medical treatment was used initially and collagen injection was used to treat those who did not improve with medical therapy. For *ISD-2* patients, a modified pubovaginal sling was performed, as it would correct the ISD and the urethral hypermobility at the same time. For *ISD-3* patients, urethrolisis and takedown of the previous suspension was required before performing a sling procedure. Collagen injections were used in selected cases with *ISD-3*. Ninety-five percent of the patients treated according to the proposed algorithm reported significant improvement or resolution of their symptoms of stress urinary incontinence.

Conclusions: This fluoroscopic characterization of various subtypes of ISD will improve our understanding of the etiology and pathophysiology of this condition, as well as its diagnosis and management.