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Acucise® endoureterotomy: A forgotten treatment option in ureteral strictures

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Introduction: An increase in endourologic procedures and use of more invasive oncological surgery has resulted in an increase in iatrogenic ureteral strictures. This has led to an increase in the development of minimal invasive treatment options for ureteral strictures to decrease morbidity and long hospital stay. Acucise® (cutting balloon device, Applied Medical Resources, Laguna Hills, CA, USA) is one of the endourologic therapies suitable for ureteral strictures from ureteropelvic (UPJ) to ureterovesical junction (UVJ). We describe our experience with the Acucise® and compare success rates with available literature.

Methods: From 2004 until now, all patients treated with Acucise® in an antegrade or retrograde procedure, for ureteral strictures or UPJ obstruction, were included. We retrospectively retrieved data on perioperative diagnostic imaging, performed Acucise® treatment, complications and success rates. Furthermore, we performed an extensive literature search to compare our results with earlier described success rates.

Results: Twenty-six patients underwent Acucise® ureterotomy for one or more ureteral strictures (mean age: 52.8 yrs). A total of 33 strictures were treated, with the following localisations: 10 UPJ, 9 proximal, 8 mid- and 6 distal ureter. In all procedures the ureterotomy was successfully performed. In all patients a double-J-catheter was placed for at least 6 weeks. Only two intraoperative bleeding complications were seen, treated conservatively. Success rate was 76.9% with a mean follow-up time of 27 months, comparable with success rates of 55-85% in literature. Restenosis was seen in 5 patients, treated with a second Acucise procedure, endoscopic laser vaporization or an open ureterolysis.

Conclusion: Acucise® is a safe, effective and rapid method with low associated morbidity and short hospital stays. In selected patients this is a suitable treatment option, and should always be considered for treating relatively short ureteral strictures between UPJ and UVJ.

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