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The use of a novel thermosensitive polymer to prevent ureteral stone retropulsion during intracorporeal lithotripsy: an initial experience

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Introduction and Objectives: Use of "BackStop" was evaluated in 12 patients between March 2013-April 2014. Eligible subjects were consenting adults with a single, radiopaque stone in the proximal ureter (defined as the upper two-thirds, above the iliac vessels crossing) for which ureteroscopic lithotripsy was indicated.

Methods: The primary efficacy end point was the presence or absence of retropulsion. A secondary efficacy end point was the stone-free rate at follow-up. An additional secondary efficacy end point was the need for additional procedures to treat any residual stones resulting from migration. The ease of deployment and any specific difficulty encountered in the use of Backstop gel was observed and documented etc.

Results: In all the patients after gel deployment, stone fragmentation with holmium laser was easy with no added difficulty. None of the patients required any additional instrumentation such as basket deployment or graspers for stone retrieval intra-op.

No difficulty encountered in dissolution of gel after the laser lithotripsy and intra-op retrograde pyelogram (RPG) did not show any evidence of extravasation.

None of the patients were stented post-op.

Conclusions: Backstop appears to be feasible, safe and easy to deploy and use and definitely aids in ureteroscopy for proximal ureteric stones. The gel does not interfere with any energy modality as it has no mechanical elements.

Larger series with longer follow-up are required to truly understand the nuances of this useful device.

An area of research is to see if it's possible to better delineate the column of contrast intra-op and delay its disintegration to allow longer operative times

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