COMMENTARY

Aquablation and question of hemostasis

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In the first seven cases of Aquablation, performed in 2013,[1] hemostasis for the Aquablation procedure was provided by a low-power (3-5 W) laser (the Aquabeam) integrated into the common handpiece and applied to the prostatic fossa once the water-jet ablation component had been performed. Laser hemostasis was subsequently abandoned in the next eight cases in this initial series, as it was felt to be ineffective, in favor of separate electrocautery using a loop or rollerball. Cautery continued to be employed as required in the initial multicenter series[2] but was supplanted by a period of utilizing 'athermal hemostasis' with catheter traction and irrigation, in an effort to decrease irritative voiding symptoms. For traction, the catheter balloon was deployed both within the prostatic fossa[3] and within the bladder[4] in conjunction with both weighted traction and a bespoke catheter traction device. More recently there has been a distinct move back to electrocautery with standard catheter traction as required.[5] The overall transfusion rate for Aquablation with these various techniques has been 3.9% but has reduced to 1.9% with the return to electrocautery particularly in larger prostates.[6] The plethora of different methods used for achieving hemostasis is testimony to the fact that the perfect combination has yet to be found.

The current study[7] compares Aquablation utilizing electrocautery for hemostasis with HoLEP, an established size-independent endoscopic technique, which was developed over 20 years ago.[8] The study compared factors, which are surrogates for blood loss, between the two treatment groups – Hb drop, transfusions and surgical revisions for bleeding. Other parameters such as catheter time and hospital stay were also compared. As it was a retrospective review the groups were not that well matched, the HoLEP group were older and had significantly larger prostates. Nevertheless, the two patient groups were similar for each of the parameters measured with only one transfusion required in the study.

Comparative studies like this may be able to detect most large differences in important parameters but to compare these two dissimilar techniques properly a randomized trial is necessary and the ATHLETE study[9] appears to be designed to do just that. A total of 120 patients will be randomized and stratified by both age and prostate size with improvement in symptoms, as measured by the IPSS at 6 months, the primary endpoint. From our point-of-view HoLEP is an appropriate comparator for Aquablation as both create a significant channel at the time of surgery and both claim to be capable of treating prostates greater than 100 g.[10] The architects of the ATHLETE study wisely chose a volume of < 100 g and 100 g+ upon which to stratify. Studies like this are the key to unraveling the true place of each of these techniques given the plethora of new treatments becoming available for treating BPH. □

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