



Hemostasis For Robot Assisted Laparoscopic Prostatectomy: Our Experience With Microporous Polysaccharide Hemospheres

Ereth M, Magera Jr J, Nuttall G, Oliver Jr W, Gettman M

Mayo Clinic College of Medicine, Rochester, MN, USA

Introduction and Objective: Microporous polysaccharide hemospheres (MPH) are a novel hemostatic agent made from purified plant starch. MPH absorbs plasma, increasing the concentration of clotting factors and platelets and acting as a matrix for clot formation. These properties produce clot propagation useful for hemostasis in the surgical setting. We present our experience with this hemostatic agent in the setting of robot assisted laparoscopic prostatectomy (RLP).

Methods: We retrospectively reviewed a consecutive series of 49 patients who underwent RLP by a single surgeon (MTG). Excluded from analysis were 3 patients due to use of an alternative hemostatic agent and 1 patient who underwent open conversion due to adhesions associated with a previous appendectomy. Persistent bleeding after standard RLP neurovascular bundle dissection was noted in 22 patients and MPH was administered. The remaining 23 patients appeared to have adequate hemostasis and did not receive MPH. Preop hemoglobin (Hb), postop Hb, and decrease in Hb were compared using the two-sample t-test. Transfusion, continence, and erectile function (EF) rates were evaluated for both groups. Continence was defined as no pad use, and EF was defined as erections of sufficient rigidity to allow penetration.

Results: Patients receiving MPH had subjective improvement in hemostasis after application to the site of surgical bleeding. Preop, postop, and decline in Hb were similar in both groups. No transfusions were administered in either group. Continence data was available for 18 patients in each group and 14 of 18 were continent in each group during this brief follow-up period. Analysis of EF was restricted to patients undergoing bilateral neurovascular bundle preservation and 10 of 15 patients in each group had EF sufficient for penetration [Table].

Transfusions	MPH® (n=22)	No MPH® (n=23)	p value
Pre-op Hb, Median (g/dL // (range))	15.1 // (13.7-16.4)	15.1 // (13.8-16.9)	0.940
Post-op Hb, Median (g/dL // (range))	11.7 // (9.3-14.9)	12.1 // (10.3-13.7)	0.174
Decrease in Hb, Median (g/dL // (range))	3.4 // (1.3-5.6)	3.3 // (1.5-4.6)	0.446
Transfusions	0	0	--
Follow-up (days), Median // (range)	105 // (90-202)	115 // (92-204)	--
Continent (n=18), number // (%)	14 // (77.8)	14 // (77.8)	--
EF (n=15), number // (%)	10 // (66.7)	10 // (66.7)	--

Conclusions: MPH is a novel hemostatic agent that subjectively improves hemostasis on the neurovascular bundles during RLP. Short term functional results are similar between the MPH and no MPH groups, suggesting that MPH does not have a significant adverse effect on the neurovascular bundles. Additional clinical studies are warranted to establish the efficacy and safety of this promising hemostatic agent.