

## Scientific Abstracts

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### Visual Loss after Prostatectomy

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**Background:** The increased number of robotic-assisted prostatectomies being performed in the steep Trendelenburg position for prolonged durations has raised concern that this procedure may be at high risk of developing ION with elevated venous pressure in the head. We reviewed the ASA Postoperative Visual Loss (POVL) Registry to identify cases of ION associated with prostatectomy.

**Methods:** From a database of 175 POVL cases occurring between 1987 and 2010, we identified all cases of ION after prostatectomy surgery. Perioperative factors were compared between the prostatectomy ION cases and 83 ION cases after spine surgery from the same database.<sup>1</sup> Statistical analysis was performed using Fisher's exact test for proportions, and t test and Mann Whitney U Test with exact p-values by permutation test for continuous variables.

**Results:** Six cases of POVL after prostatectomy were identified and diagnosed with ION. Three open prostatectomy cases occurred between 1997 – 2003 with an anesthetic duration of 3.2 – 4.4 hrs and onset of symptoms on postop day 2 or later. Three robotic-assisted prostatectomy cases occurred between 2006 – 2010 with an anesthetic duration of 7.9 – 9.9 hrs and onset of symptoms was within 24 hrs postop. The range of Trendelenburg for 5 of 6 prostatectomy cases was estimated between 10 to 30 degrees (n = 4) or "steep Trendelenburg (n=1). [start\_en]201D;

There were no significant differences in ASA status or co-existing diseases between prostatectomy and spine cases. Anesthetic duration was shorter in the prostatectomy vs. spine group (mean 6.6 ± 2.9 hrs vs. 9.8 ± 3.1 hrs, respectively, p = 0.018, Table 1), but estimated blood loss, lowest hematocrit, and intraoperative blood pressure ranges were not clinically or significantly different. The type of ION was not significantly different between prostatectomy and spine cases (50% vs. 23% anterior ION respectively, p = 0.138), and there was no difference in number of eyes affected between groups (67% vs. 66% bilateral, respectively). Onset of symptoms did not significantly differ between groups. [table1]Reference: 1. Lee LA et al., Anesthesiology 2006;105:652-9.

**Conclusions:** Both open and laparoscopic prostatectomy cases are emerging as another type of procedure that may be associated with perioperative ION. Perioperative factors are similar to prone spine surgery patients with ION, though the number of prostatectomy cases remains small.

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Perioperative Characteristics of ION cases after Prostatectomy and Spine Surgery		
FACTOR	PROSTATECTOMY (n = 6)	SPINE CASES (n = 83)
TYPE OF ION		
PION	2 (33%)	56 (67%)
AION	3 (50%)	19 (23%)
Unspecified ION	1 (17%)	8 (10%)
BILATERAL ION	4 (67%)	55 (66%)
AGE in YRS Mean (SD)**	57.2 (6.0)	50.3 (14.1)
ASA 1-2	5 (83%)	53 (67%)
Anesthesia Duration (hrs) MEAN (SD)**	6.6 (2.9)	9.8 (3.1)
EBL Median (range)	1.4 (1.2-3)	2.0 (0.1-25)
Lowest HCT: Mean (SD)	28 (3.8)	26 (4.9)
BP Decrease n% or more below baseline for 15 min or more (missing data excluded)		
20% (n=5/n=79)	3 (60%)	74 (94%)
40% (n=5/n=78)	1 (20%)	28 (36%)
50% (n = 77/4)	0	7 (9%)

\*\*p < 0.05. ION, ischemic optic neuropathy; AION, anterior ION; PION, posterior ION