



# Western Surgical Association 2020 Annual Meeting

Monday, November 9, 2020  
4:00pm – 6:15pm Pacific Time  
– Virtual Meeting --

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## 14. DIURESIS DOES MAKE A DIFFERENCE IN MAJOR HEPATECTOMY

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**Background:** Although the judicious use of intravenous fluids after hepatectomy is recommended by the society of enhanced recovery after surgery (ERAS), the role of routine diuretic use after major hepatectomy (MH) is controversial, and the effect on outcomes has not been studied before. The study presents the effect of diuretics administration on outcomes after major hepatectomy (MH).

**Methods:** We used a prospective database in identifying major hepatectomy performed from 2013-2018. The databased was then augmented using extensive review of medical records. MH was defined by the conventional right or left hemihepatectomy, extended hepatectomy, right posterior sectionectomy, or any consecutive three-segment resection. A total of 287 cases met the inclusion criteria, and were performed by one of five operating surgeons. Patients were nearly equally distributed between the two groups. Diuretics used (DU) (n=145, 50.05%), and no diuretics use (NDU) (n=142, 49.50%). 31 patients (22% of diuretics group) were diuretics dependent preoperatively. For each patient we examined diuretic agents, dosage, intravenous fluids, urine output, as well as total body fluid volume. Regression-based techniques were used to assess the effect of diuretics on outcomes, adjusting for variables was performed where applicable.

**Results:** The variables at baseline were comparable as follow: Intra-operative colloid volume (0.8 vs 0.9 L; p= 0.15), intra-op crystalloid (2.5 vs 2.9 L; p=0.58), intra-op blood transfusion (20 vs 20%; p=0.88), total crystalloids administered within 24 hours after surgery (3.4 vs 3.9; p=0.26). The administration of diuretics resulted in an elimination of an average of (1.7) liter of excess body fluid; p<0.001. The average net body fluid balance by the end of the hospitalization course was (+1 and -1) liter, for NDU & DR; respectively; p<0.001. On univariable analysis the two groups demonstrated comparable outcomes: superficial SSI (6 vs. 2%; p=0.08), deep organ infection (10 vs. 12 %, p=0.7), LOS (9 vs. 8;p=0.24), readmission (9 vs. 16%; p=0.07), biliary fistula (10 vs. 11%, p=0.84), liver failure (11 vs. 17%, p=0.17), mortality (2 vs. 2 %, p=1.0). Multivariate analysis revealed that patients who received diuretics were three times less likely to develop superficial SSI (OR 0.27; p=0.045) and found to have a reduction in length of stay (LOS) (OR 0.87, p<0.001).

**Conclusion:** Administration of diuretics following MH in this dataset was safe and was associated with a decreased rate of superficial SSI and shortened LOS. Specific assessment of routine vs. no diuretic use following MH should be studied in prospective fashion to validate these findings.