Safety of Total Paracentesis of Malignant Ascites from Ovarian Cancer: Results from the Prospective, Randomised ATLANTIS-Trial


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Introduction/Background Despite the very common occurrence, no guidelines exist on the management of malignant ascites. It remains unclear if total drainage of the intraperitoneal volume is safe. Due to concerns for paracentesis-induced circulatory dysfunction, hemodynamic shock and kidney failure, many centers limit the drained volume and do not perform total paracentesis.

Methodology The ATLANTIS-trial is a prospective, randomized pilot study, designed to address the question on the safety of total paracentesis of malignant ascites in patients with ovarian cancer. Patients were randomized one-to-one into a limited-paracentesis group where only 3000 ml of ascites were drained, and a total-paracentesis group with free drainage of all intraperitoneal fluid. Extensive peri- and postinterventional hemodynamic monitoring was performed for 24-hours and the kidney function was assessed before and after paracentesis.

Results Of 93 patients screened, 61 patients with histologically or cytologically confirmed ovarian, peritoneal, or fallopian tube cancer were eligible for randomization. No significant difference could be found between both groups for the hemodynamic parameters of heart rate, estimated stroke volume and estimated continuous cardiac output. The comparison of systolic and diastolic blood pressure profile showed no significant differences between the full drainage and limited drainage group. At baseline both groups showed similar results for creatinine: 0.7 mg/dl (IQR 0.7–0.8) in the free drainage versus 0.7 mg/dl (IQR 0.6–0.9) in the limited drainage group (p=0.81). Re-evaluation 24-h post paracentesis showed no differences in median values between both groups (0.7 mg/dl [IQR 0.6–0.8].

Conclusion This first randomized trial to evaluate the safety of total paracentesis in patients with malignant ascites from ovarian cancer was not able to detect a negative impact of total paracentesis on hemodynamics or kidney function. Considering the limitations of this trial as a pilot study, we conclude that total paracentesis seems to be a safe procedure in this population.