Objective
To identify, whether complications and blood loss depends on risk factors and/or type of hypogastric artery ligation (HAL).

Methods
Retrospective cohort study of 113 patients between January 2005 and December 2017. Low, medium and high-risk group of patients were described. Complications were specified as early and late postoperative morbidity. HAL was performed prophylactically (1st step) or as an acute procedure (in 2nd step). We used chi-squared test to compare complications occurrence with risk groups and with type of artery ligation. The blood loss comparison for risk groups was done by parametric ANOVA and for artery ligation by parametric t-test. All reported P values were two-tailed.

Results
A cohort of 113 women who were managed by the HAL to control postpartum hemorrhage: 25 % (28/113) were antenatally suspected to have morbidly adherent placenta (MAP), 33 % had another risk factor (placenta praevia, previous c-section etc. ) and 42 % had no risk factor antenatally. The antenatal diagnosis of any risk factor was associated with lower level of early postoperative complications (large volume of blood transfusion, coagulopathy, ureteral injury, or early re-operation) – no complications in 71 %, 70 % and 35 % in high, medium and low risk group (P value < 0.001). Late morbidity, which was represented by the need for late reoperation or infection, occurred only in 10/113, 9 % cases (unable to make any risk groups comparison). Hypogastric arteries were prophylactically ligated (as a first step of devascularization of the pelvis) in 95/113 (84 %) cases. In high-risk group even in 96 %. More complications (72%) occur when HAL was performed as a 2nd step (to control intractable hemorrhage) then as a 1st step of devascularization (39%) – statistically significant (P value = 0.021). There were no statistically significant differences in mean blood loss in the individual risk groups (P = 0.288) or depending on the type of HAL (P = 0.2772).

Conclusion
Prophylactic hypogastric arteries ligation in high-risk group of women with antenatal diagnosis of MAP have led to reduction of early post-operative complications. No case of soft tissue necrosis or ischemic complications occurred.