

## **Abstract**

**Objective:** To evaluate the prognostic value of pre- and perioperative factors for voiding dysfunction after surgery for deep infiltrating endometriosis.

**Design:** Single-center retrospective cohort study.

Setting: University hospital.

**Patients:** 198 women with deep infiltrating endometriosis in the posterior compartment who underwent surgery and a postoperative bladder scan.

**Intervention:** Surgical resection of DIE nodule from the dorsal compartment.

**Measurements and main results:** After surgery, 41% of patients initially experienced voiding dysfunction (defined as >100ml PVR at second bladder scan). The number decreased to 11% by the time of hospital discharge. Among those with a need for self-catheterization after discharge (n=17), voiding dysfunction lasted for a median of 41 days before a return to normal bladder function, with a residual urine of <100 ml. The preoperative presence of deep infiltrating endometriosis nodules in the ENZIAN compartment B was associated with postoperative voiding dysfunction ( $p = 0.001$ ). The hazard ratio for elevated residual urine was highest when the disease stage was B3 (HR 6.43; CI, 2.3-18.2;  $p < 0.001$ ), describing a nodule diameter of > 3 cm in lateral distension. ROC curve analyses showed that a first residual urine volume > 220 ml has a good predictive value for the risk of intermittent self-catheterization (AUC 0.893,  $p < 0.001$ ).

**Conclusion:** Postoperative voiding dysfunction is frequent; fortunately, in most cases the problem is temporary. When deep infiltrating endometriosis with an ENZIAN classification B is noted intraoperatively and most of all, when the diameter of the lesion is greater than 3 cm, a higher risk of postoperative voiding dysfunction is to be expected.