

Introducing Nerve-Sparing Approach during Minimally Invasive Radical Hysterectomy for Locally-Advanced Cervical Cancer: A multi-Institutional Experience

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Context: Chemo-radiation represents the mainstay of treatment of locally advanced stage cervical cancer (LACC). Accumulating evidence supports neoadjuvant chemotherapy (NACT) followed by radical surgery as valuable option in this setting. In the recent years both minimally invasive surgery and nerve-sparing (NS) approach have been introduced in the management of early stage cervical cancer. However, no data are available on the safety of NS approach in LACC patients undergoing NACT plus minimally invasive surgery.

Objective: To evaluate the impact of NS approach on outcomes in patients undergoing minimally invasive radical hysterectomy (MRH) for LACC

Methods: Retrospective multi-institutional study in four referral Italian centers. Propensity matching algorithm was used to decrease possible allocation bias when comparing outcomes between groups.

Patients: Data of consecutive 83 patients undergoing minimally invasive surgery for LACC were retrieved from 2009 to 2016.

Interventions: Minimally invasive class III radical hysterectomy (MRH or NS-MRH).

Main outcome measure: To assess morbidity and long-term outcomes of patients undergoing MRH and NS-MRH

Results: Overall, 83 patients were included. The prevalence of patients undergoing NS approach increased over the study period (from 7% in the year 2009-2010 to 97% in the year 2015-2016; p -for-trend $<.001$). NS-MRH and MRH were performed in 47 (57%) and 36 (43%) patients, respectively. After the application of the propensity-matching algorithm, we compared 35 patients' pair (total 70 patients). Postoperative complication rate was similar between groups. Patients undergoing NS-MRH experienced shorter hospital stay than patients undergoing MRH (3.6 vs. 5.0 days). 60-day pelvic floor dysfunction rates, including voiding, fecal and sexual alterations, were lower in the NS group in comparison to control group ($p=.02$). Five-year disease-free ($p=.77$) and overall ($p=.36$) survivals were similar comparing NS-MRH with MRH.

Conclusions: The implementation of NS approach in the setting of LACC improves patients' outcomes, minimizing pelvic dysfunction rates. NS approach has no detrimental effects on survival outcomes.

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