Objective: This study was undertaken to evaluate the safety, feasibility and the long-term effectiveness of laparoscopy in endometrial cancer (EC) patients aged >= 80 years.

Methods: Data of consecutive patients aged 80 years and over undergoing laparoscopic open abdominal and vaginal approaches were compared. Postoperative complications were graded per the Accordion severity classification. Survival outcomes within the first 5 years were analyzed using Kaplan-Meier method.

Results: Among 709 patients, 63 (9%) were aged >= 80 years. Laparoscopic, open abdominal and vaginal surgery were performed in 22 (35%), 25 (40%) and 16 (25%) cases, respectively. All laparoscopic procedures were completed laparoscopically, while a conversion from vaginal to open procedure occurred (0 vs. 6%; p=0.42). Patients undergoing laparoscopy experienced similar operative time (p>0.05), lower blood loss (p<0.05) and shorter hospital stay (p<0.05) than patients undergoing open abdominal and vaginal surgery. No intraoperative complications were recorded. Laparoscopy is related to a lower rate of grade >=2 postoperative complications in comparison with vaginal surgery (0 vs. 25%; p=0.02); while no differences in grade >=2 postoperative complication rate were observed between laparoscopy and open surgery (0% vs. 12%; p=0.23) and between vaginal and open surgery (25% vs. 12%; p=0.4). Route of surgical approaches did not influence 5-year disease-free (p=0.47, log-rank test) and overall (p=0.61, log-rank test) survivals.

Conclusion: Our findings suggest that laparoscopy represents a safe and effective treatment of EC in women aged >= 80 years. Laparoscopy overcomes open and vaginal surgery in terms of peri-operative outcomes, without neglecting long-term survival.