

Sentinel lymph node biopsy in high-grade endometrial cancer: a systematic review and meta-analysis of performance characteristics

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Objectives:

- The aim of this systematic review and meta-analysis was to evaluate the performance characteristics of SLNB in EC patients with high-grade histology (PROSPERO CRD42020160280)

Methods:

- We systematically searched all major databases from Jan 1, 2000 to Jan 26, 2021
- We included prospective cohort studies evaluating SLNB in clinical stage I high-grade EC patients (grade 3 endometrioid, serous, clear cell, carcinosarcoma, mixed, undifferentiated/dedifferentiated, high-grade not otherwise specified) with cervical injection of indocyanine green for SLN detection, and at least a bilateral pelvic lymphadenectomy as a reference standard

Results:

- 16 eligible studies were identified
- Authors of 9 studies provided data on 429 high-grade patients specifically
- The study-level median age was 66 years (range 44-82.5) and BMI was 28.6 kg/m² (range 19.4-43.7)
- The pooled detection rates were 91% per patient (95% CI 85-95; $I^2=59%$) and 64% bilaterally (95% CI 53-73, $I^2=69%$) (Fig. 1)
- The pooled sensitivity were 92% per patient (95% CI 84-96; $I^2=0%$) and 90% per hemipelvis (95% CI 83-94; $I^2=0%$) (Fig. 2)
- The pooled negative predictive value were 97% (95% CI 95-99; $I^2=0%$) per patient and 98% per hemipelvis (95% CI 96-99; $I^2=8%$) (Fig.3)

Figure 1 Overall (A) and bilateral (B) sentinel lymph node detection rate in patients with high-grade endometrial cancer

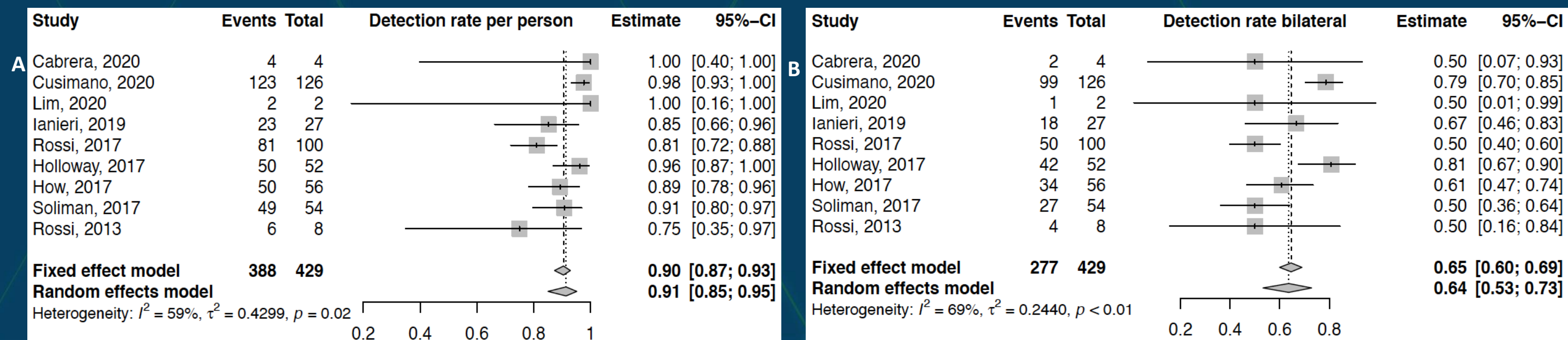


Figure 2 Sensitivity of sentinel lymph node per patient (A) and hemipelvis (B) in patients with high-grade endometrial cancer

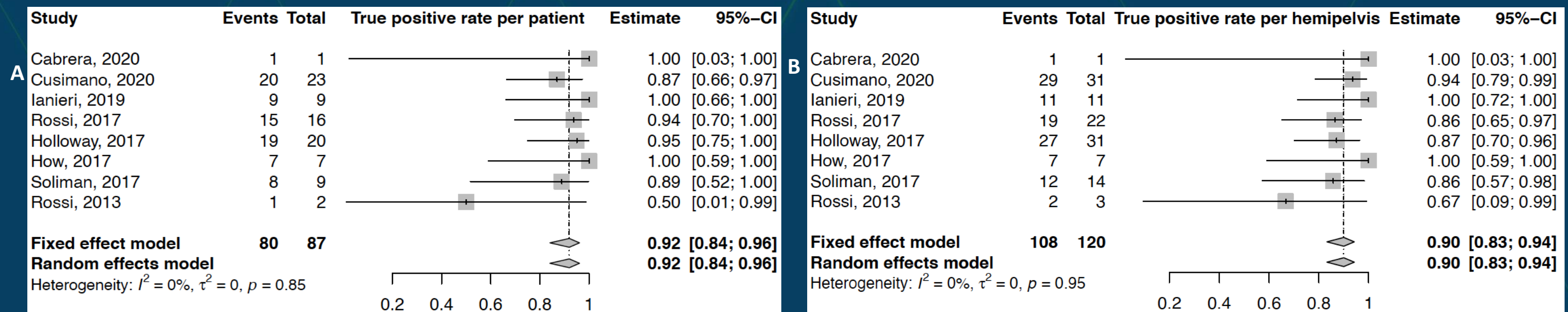
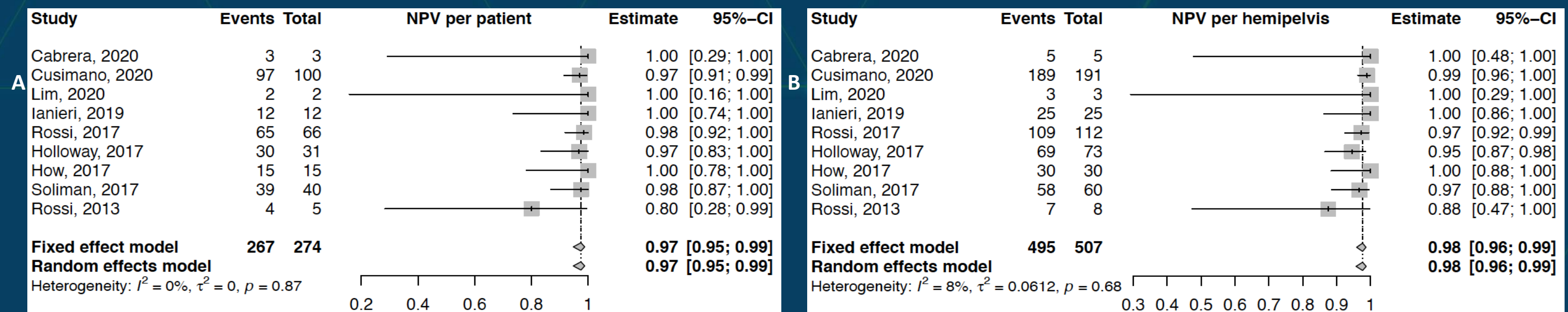


Figure 3 Negative predictive value per patient (A) and hemipelvis (B) in patients with high-grade endometrial cancer



Conclusions:

- SLNB accurately detects lymph node metastases in high-grade EC, with a false negative rate comparable to that observed in melanoma, vulvar cancer, and breast cancer
- These findings suggest that SLNB can replace complete lymphadenectomy as standard of care for surgical staging in patients with high-grade EC