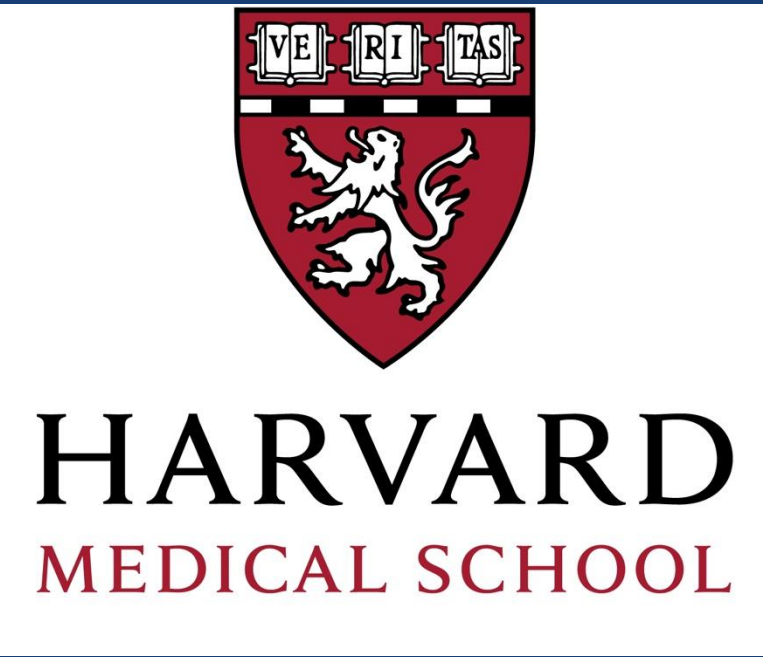




Implications of CDK4/6 Inhibitors on Outcomes After Autologous Breast Reconstruction

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BACKGROUND

Abemaciclib is a CDK4/6 inhibitor increasingly prescribed for hormone receptor–positive (HR+) breast cancer, and it causes **hematologic and immunosuppressive side effects**, raising concern for postoperative complications. Despite growing use of abemaciclib in the neoadjuvant and adjuvant settings, no data currently exist on its implications after autologous breast reconstruction, a procedure with significant wound healing demands.

OBJECTIVE

To evaluate postoperative complications, particularly surgical site infections, in patients with a history of receiving abemaciclib before their autologous breast reconstruction.

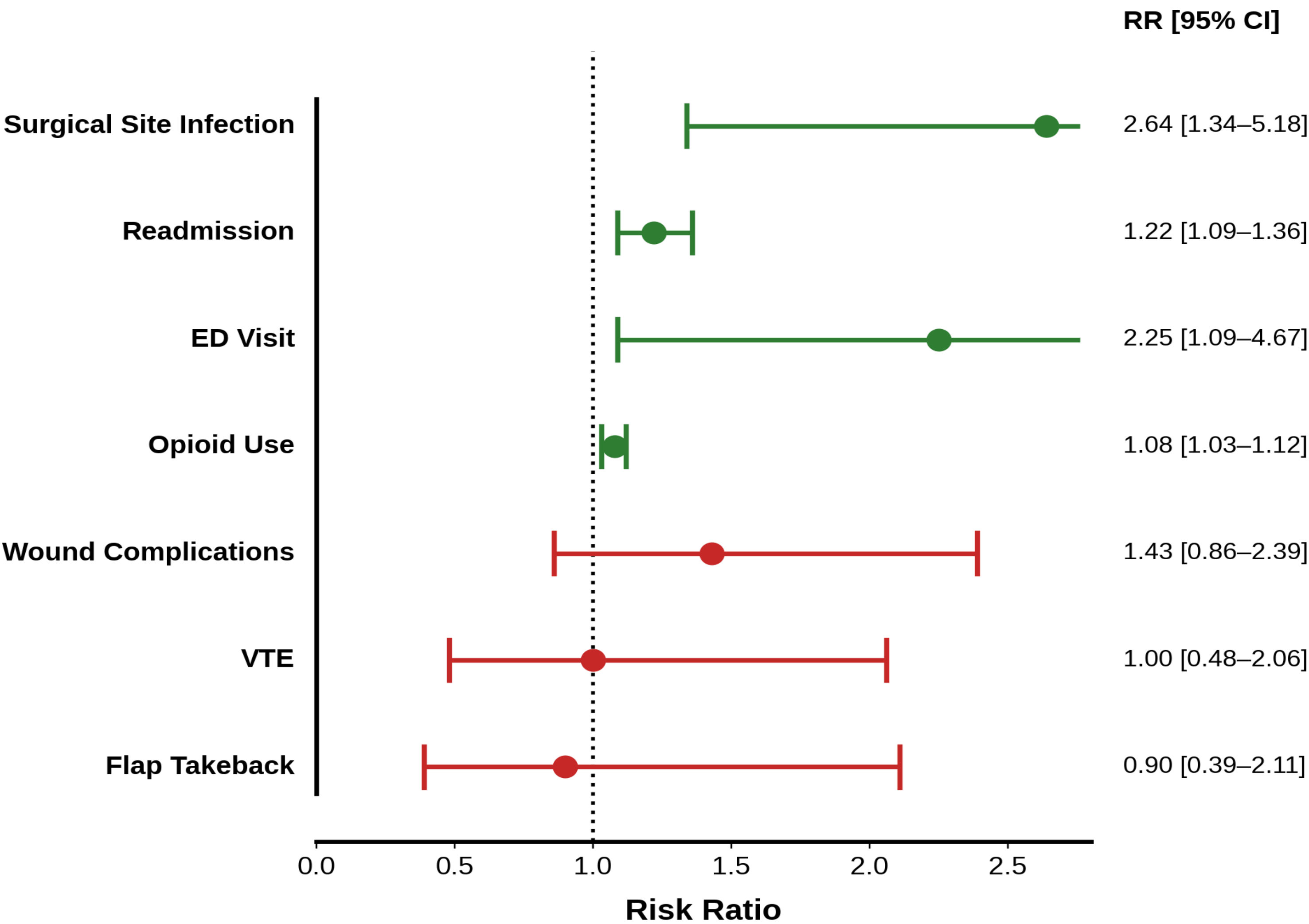
METHODS

- **We used the** TriNetX Global Research Network to query a population of women with breast cancer undergoing autologous breast reconstruction
- **Exposure group:** Documented history of abemaciclib use
- **Control group:** No abemaciclib exposure
- **Matching:** Propensity score matching (PSM) adjusted for age, BMI, diabetes, radiation therapy, HR+ status, cancer stage, and smoking
- **Primary outcome (≤90 days):** Surgical site infections (SSI)
- **Secondary outcomes:** Delayed wound healing, flap takeback, VTE, postoperative opioid use, readmissions, and ED visits

RESULTS

90 Day Postoperative Outcomes

Surgical Site Infection RR 2.64 p = 0.003	Hospital Readmission RR 1.22 p < 0.001
ED Visits RR 2.25 p = 0.024	Postop Opioid Use RR 1.08 p = 0.001



COHORT SUMMARY

Cohort	Before PSM	After PSM
Abemaciclib	371	309
Control	4,218	309

CONCLUSIONS

Abemaciclib use at the time of autologous breast reconstruction was associated with a significantly increased risk of surgical site infections (RR 2.64), highlighting the immunosuppressive burden of CDK4/6 inhibitors in the perioperative period. Modestly higher postoperative opioid use (RR 1.08) was also observed, possibly reflecting increased pain burden or surgery related complications. These findings highlight the importance of perioperative risk stratification in patients receiving CDK4/6 inhibitors. The timing of reconstruction in patients on abemaciclib may warrant reconsideration to optimize surgical outcomes.

Clinical Implication

Surgeons and oncologists should consider the timing of autologous breast reconstruction relative to CDK4/6 inhibitor therapy. A perioperative drug holiday or enhanced infectious prophylaxis may help mitigate complication risk in this growing patient population.

