

Does Pregnancy after Abdominally-Based Autologous Breast Reconstruction Predict Incisional Hernia Repair? A National Claims Analysis

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Background

- Breast cancer incidence and genetic testing are rising, prompting reconstruction at younger ages.
- More patients are choosing pregnancy after autologous breast reconstruction (ABR).
- Limited data exist on postoperative risks in this population.
- Our study investigates whether pregnancy after ABR increases incisional hernia repair (IHR) rates.

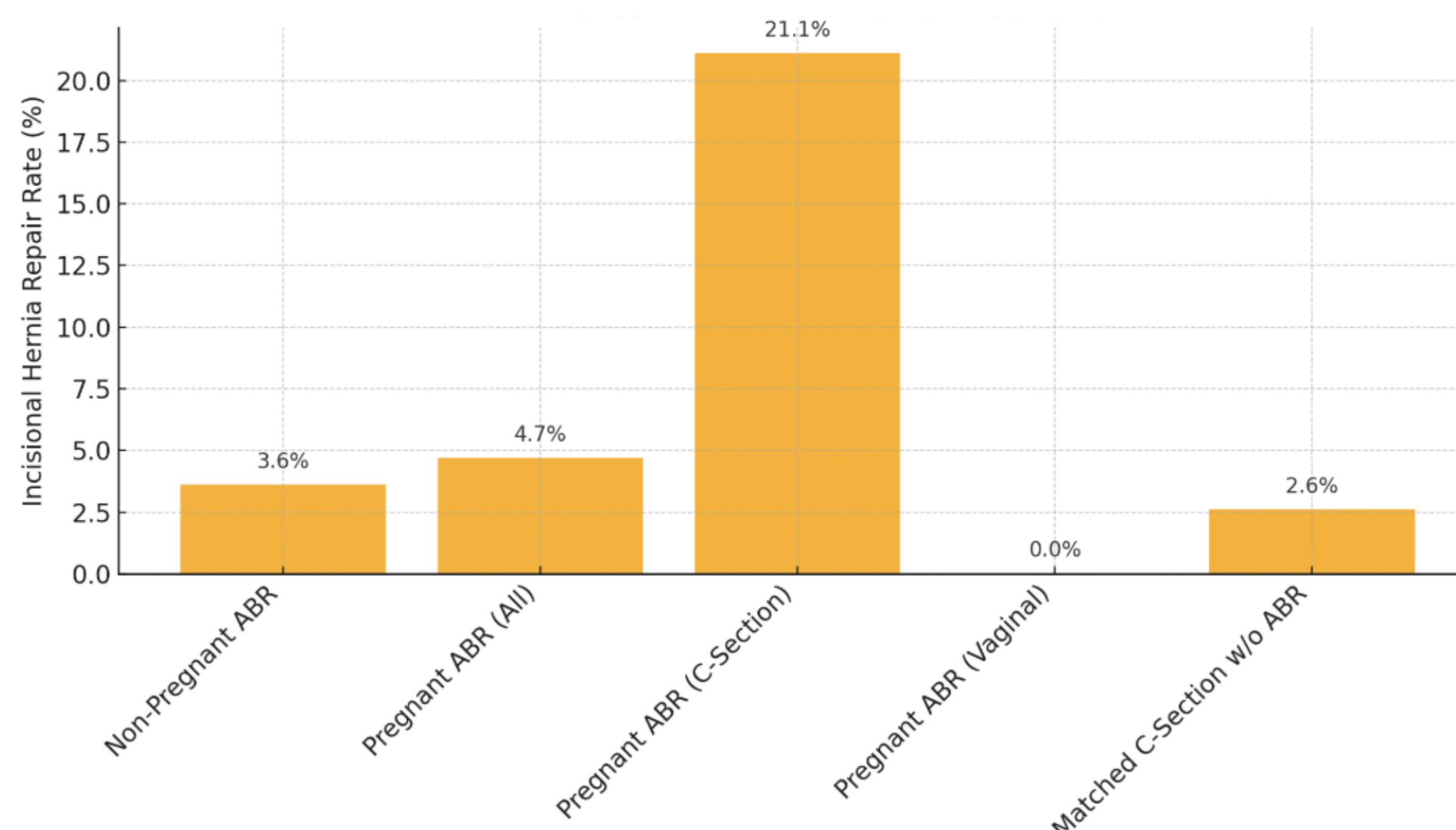
Methods and Materials

- Design:** Propensity-matched, retrospective cohort study using PearlDiver Mariner claims database.
- Population:** 2,534 women <40 years old who underwent abdominally-based ABR from 2012–2020.
- Cohorts:**
 - Control:** No pregnancy after ABR.
 - Experimental:** Pregnancy after ABR (stratified by c-section vs. vaginal delivery).
- Data Collected:** Comorbidities (Elixhauser index), surgical history, and postoperative complications.
- Analysis:**
 - Descriptive stats, t-tests, multivariate logistic regression.
 - Fisher's test applied to c-section cohorts with 2:1 propensity matching.

Conclusions

- This is the first national claims-based study of pregnancy after ABR.
- Pregnancy alone does not significantly raise IHR risk.
- Cesarean delivery after ABR is a significant risk factor for IHR.**
- These findings can guide patient's planning future pregnancy on timing of autologous reconstruction.

IHR Rates by Cohort



Results

Patient Characteristics

- Pregnancy After ABR:** 85 patients (3.4%).
- Mean Age at ABR:**
 - Non-pregnant: 34.6 ± 4.5 years.
 - Pregnant: 32.2 ± 4.5 years ($p < 0.001$).
- Mean Elixhauser Index (ECI):** No significant difference.
- Obesity:** ~50% in both groups.
- Mode of Delivery (n=85):**
 - Vaginal: 77.6%.
 - Cesarean: 22.4%.
- Mean Time to Birth Post-ABR:** 32.1 ± 19.8 months.

Hernia Repair Outcomes

- IHR Rate:**
 - Non-pregnant: 3.6%.
 - Pregnant (all): 4.7% ($p = 0.901$).
 - Pregnant + C-section: 21.1%.
 - Pregnant + Vaginal: 0% ($p = 0.010$ vs c-section).
 - Matched c-section (no ABR): 2.6% ($p = 0.037$ vs c-section with ABR).
 - Odds Ratio for IHR after c-section with ABR: OR 9.86 ($p = 0.037$).
- **No significant time-dependent difference in IHR rates post-ABR and c-section interval.**