Document Title: Methods Summary (for ClinicalTrials.gov): Subcutaneous Tissue Closure Techniques in Elective Cesarean Delivery
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Study Design and Setting

This was a single-center, prospective, parallel-group interventional study conducted in the Department of Obstetrics and Gynecology, Dursun Odabaşı Medical Center, Van Yüzüncü Yıl University, between 30 March 2022 and 20 October 2022. The study compared three predefined subcutaneous tissue closure strategies during elective cesarean delivery.

Participants

Adults scheduled for elective cesarean delivery were screened for eligibility. Written informed consent was obtained prior to participation.

Inclusion Criteria

- Age 18 years or older
- Undergoing elective cesarean delivery
- Subcutaneous adipose tissue thickness ≥ 2 cm
- Provision of written informed consent

Exclusion Criteria

- Conditions associated with impaired wound healing (e.g., diabetes mellitus, autoimmune disease)
- Chorioamnionitis, premature rupture of membranes, or other active infection
- Current systemic steroid use
- Refusal to participate

Surgical Technique and Interventions

All cesarean deliveries were performed via Pfannenstiel incision. The intervention was the method of subcutaneous adipose tissue management performed immediately prior to routine skin closure. The three study groups were:

- Group 1 (No subcutaneous suturing): no approximation of the subcutaneous adipose tissue prior to skin closure.
- Group 2 (Interrupted closure): approximation using three interrupted subcutaneous sutures placed along the incision prior to skin closure.
- Group 3 (Continuous non-locking closure): approximation using a single-layer continuous, non-locking running subcutaneous suture along the incision prior to skin closure.

Allocation

Participants were assigned in a 1:1:1 ratio (n = 100 per group) using a sequential repeating order based on the order of surgery (non-randomized allocation).

Data Collection and Variables

Demographic and obstetric variables were recorded at baseline. Operative variables included:

- Total operative duration (minutes)
- Subcutaneous tissue length (cm)
- If present, size of intraoperative subcutaneous fluid collection (cm)

Postoperative Assessments and Outcomes

Participants were followed through postoperative day 10.

On postoperative day 10, wound outcomes were assessed using:

1. Standardized clinical incision examination for findings consistent with wound infection (e.g., discharge, dehiscence, erythema, warmth).
2. Incision-site ultrasonography to evaluate wound-related findings, including subcutaneous fluid collection and other complications (e.g., abscess, hematoma, cavity formation).

Both assessments were performed using a predefined protocol; participants were blinded to group allocation.

Statistical Analysis

Analyses were performed using SPSS version 23.0 (IBM Corp., Armonk, NY, USA). Continuous variables were summarized as mean ± standard deviation or median (interquartile range), and categorical variables as number (percentage). Normality was assessed using the Kolmogorov–Smirnov test. Between-group comparisons were performed using the Kruskal–Wallis test for continuous variables and Pearson chi-square test for categorical variables. Within-group comparisons across time points were evaluated using the Wilcoxon signed-rank test (two time points) or the Friedman test (three time points). Post-hoc pairwise comparisons were adjusted using Bonferroni correction where applicable. A two-sided p-value < 0.05 was considered statistically significant.

Ethics

Ethics approval was obtained from the Van Yüzüncü Yıl University Academic Ethics Committee on 30 March 2022 (Decision No: 07). All participants provided written informed consent.