



Utility of Tranexamic Acid in Reduction Mammoplasty: A Systematic Review and Meta-Analysis

Mount
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1. BACKGROUND

- Tranexamic acid (TXA) is an antifibrinolytic, aiding in hemostasis
- Increasing use in multiple surgical settings, including breast surgery
- Recent studies have reported on its in a variety of breast surgical procedures – however, none have focused on reduction mammoplasty

2. OBJECTIVE

To critically analyze literature on TXA use in patients undergoing reduction mammoplasty

3. METHODS

- 5 databases queried for articles involving TXA in breast surgery, narrowed down to patients undergoing reduction mammoplasty
- Outcomes assessed: hematoma, seroma, surgical site infections, drain output, drain duration, NAC necrosis, and thromboembolic events
- Meta-analysis reported odds ratios (OR) and mean differences (MD) via Review Manager

4. RESULTS

- 7 studies included (1,396 pts) (Fig. 1)
TXA cohort = 53.1% (741)
No TXA (control) = 46.9% (655)
- Types of study:
 - RCT = 3
 - Retrospective studies = 4
- Intraoperative TXA administration:
 - Topical TXA = 27.5% (203)
 - IV TXA = 10.0% (74)
 - Mixed IV and Topical TXA = 62.6% (464)
- No thromboembolic events were identified

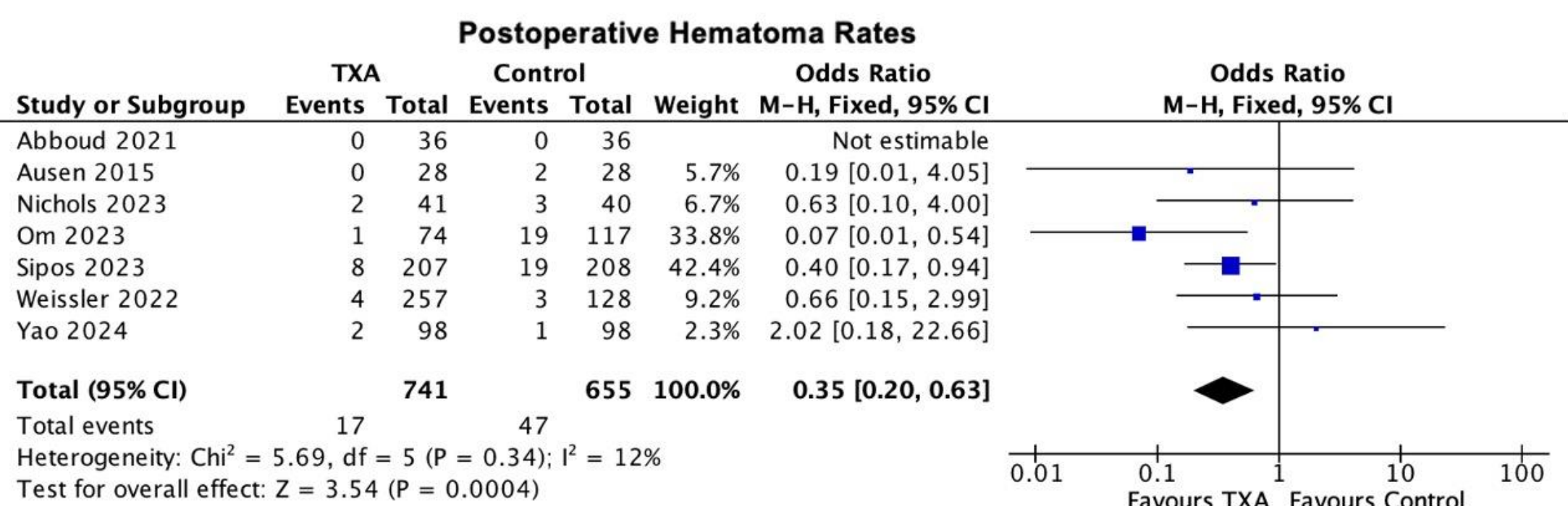


Figure 2: Pooled analysis for postoperative hematoma

- TXA cohort had 65% decreased odds of postoperative hematoma formation (Fig. 2) (OR: 0.35; 95% CI [0.20-0.63], P < .01)**

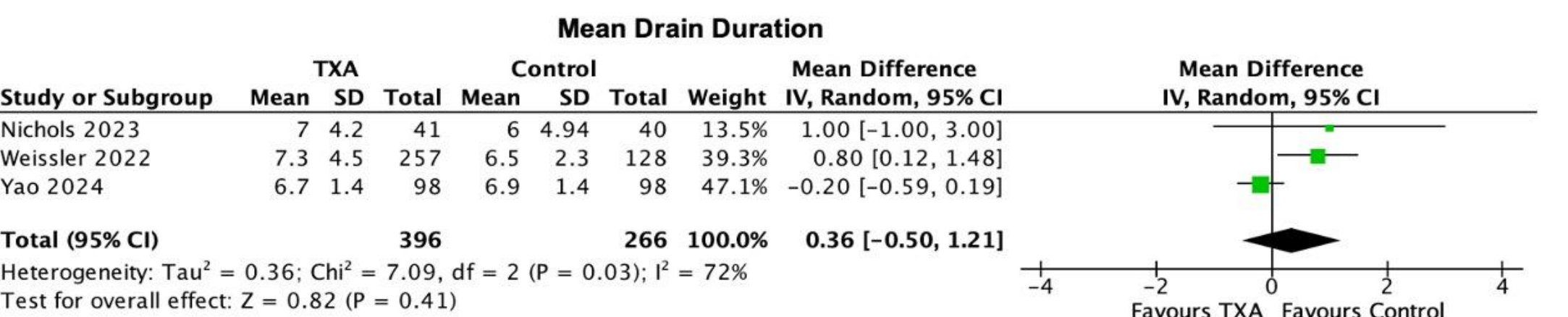


Figure 4: Pooled analysis for mean drain duration

Identification Of Studies

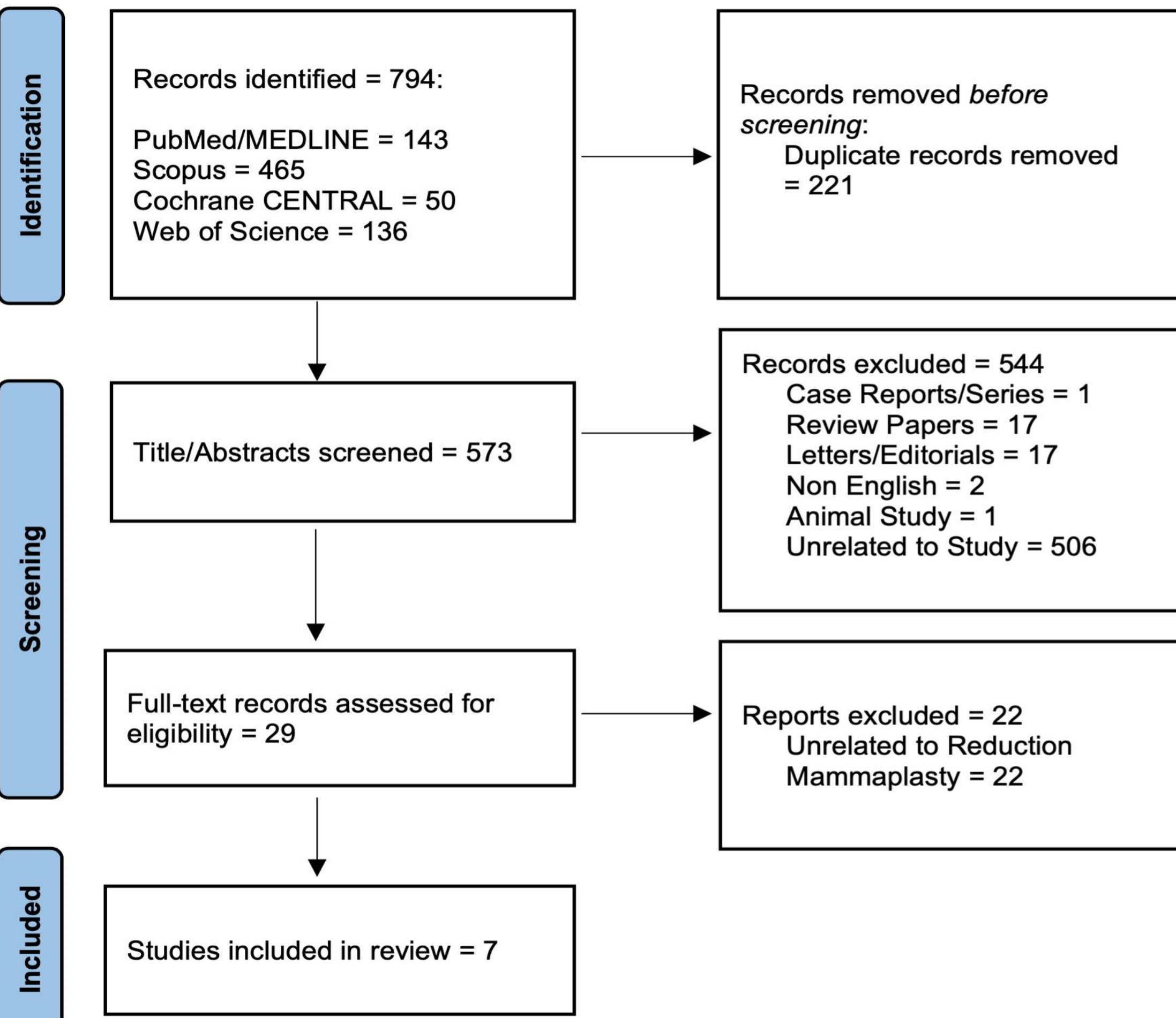


Figure 1: PRISMA identification of studies

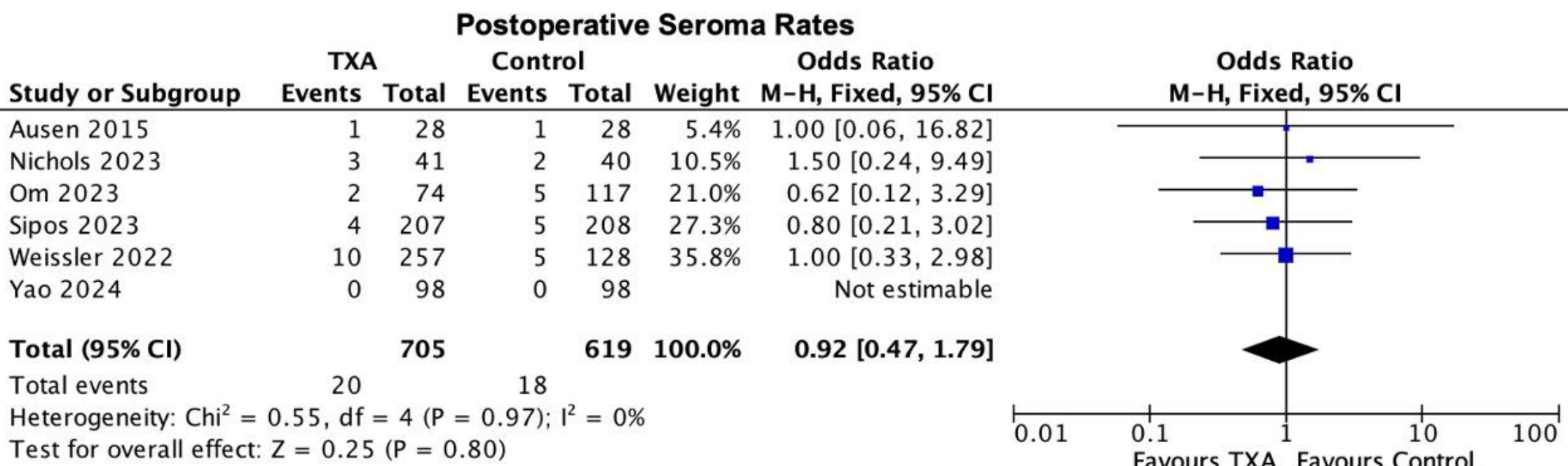


Figure 3: Pooled analysis for postoperative seroma

- TXA cohort did not have significantly different mean drain duration (Fig. 4), seroma (Fig. 3), SSI, or NAC necrosis compared to control group**

5. CONCLUSION

TXA safely reduces postoperative hematoma formation, without affecting drain duration, seroma rates, SSI, or NAC necrosis in reduction mammoplasty

6. CLINICAL RELEVANCE

- Largest study to date reviewing the role of TXA in reduction mammoplasty
- No differences between study type, or route of TXA administration
 - Potential for future studies
- Limitations:
 - Heterogenous data
 - Lack of drain duration/drain output data
 - Variation in primary outcome definitions, and variation in TXA dosing
 - Moderate bias seen in MINORS criteria and ROB tool