Supplementary material 2. Risk of Bias

Ure (1993)

| | |
|---|---|
| D1 | No information on sequence concealment. Baseline imbalance suggesting a randomization problem. |
| D2 | Personnel and patients were not aware of intervention. Appropriate analysis to estimate the effect of assignment. |
| D3 | Outcome data for all participants |
| D4 | Outcome assessor blinded to the intervention |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | High risk of bias |

Elkahim M (2000)

| | |
|---|---|
| D1 | A random component was used in the sequence generation process. Envelopes containing drugs were used appropriately. No imbalances are apparent. |
| D2 | Personnel and patients were not aware of intervention. Appropriate analysis to estimate the effect of assignment. |
| D3 | Outcome data for all participants |
| D4 | Outcome assessor blinded to the intervention |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | Some concerns |

Hernandez Palazon J (2003)

| | |
|---|---|
| D1 | A random component was used in the sequence generation process. No imbalances are apparent. |
| D2 | Personnel and patients were not aware of intervention. Appropriate analysis to estimate the effect of assignment. |
| D3 | Outcome data for all participants |
| D4 | Outcome assessor blinded to the intervention |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | Some concerns |

Raetzell M. (1995)

| | |
|---|---|
| D1 | A random component was used in the sequence generation process. Drug containers were used appropriately.No imbalances are apparent. |
| D2 | Personnel and patients were not aware of intervention. Appropriate analysis to estimate the effect of assignment. |
| D3 | Outcome data for all participants |
| D4 | Outcome assessor (here: study participant i.e. patient) blinded to the intervention |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | Some concerns |

Ergin A (2021)

| | |
|---|---|
| D1 | A random component was used in the sequence generation process. Closed envelopes were used appropriately.No imbalances are apparent. |
| D2 | Personnel and patients were not aware of intervention. Appropriate analysis to estimate the effect of assignment. |
| D3 | Outcome data for all participants |
| D4 | Outcome assessor blinded to the intervention |
| D5 | Trial analysis was performed according to a prespecified plan |
| Overall | Low risk of bias |

Pasqualucci A. (1996)

| | |
|---|---|
| D1 | A random component was used in the sequence generation process. No imbalances are apparent. |
| D2 | Personnel and patients were not aware of intervention. Appropriate analysis to estimate the effect of assignment. |
| D3 | Outcome data missing for a few participants (max 4 per group n=30) but there was evidence that the result was not biased by missing outcome data |
| D4 | Outcome assessor blinded to the intervention |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | Some concerns |

Elfberg B. (2000)

| | |
|---|---|
| D1 | A random component was used in the sequence generation process.No imbalances are apparent. |
| D2 | No information on patient/personnel awareness of the intervention.Appropriate analysis to estimate the effect of assignment. |
| D3 | Outcome data for all participants (minus 1 ) |
| D4 | No information on whether the outcome assessor was blinded to the intervention |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | Some concerns |

Vrsajkov V. (2021)

| | |
|---|---|
| D1 | A random component was used in the sequence generation process. No imbalances are apparent. |
| D2 | Patients were not aware of intervention (single blinded). Appropriate analysis to estimate the effect of assignment. |
| D3 | Outcome data for all participants |
| D4 | Outcome assessor blinded to the intervention |
| D5 | Trial analysis was performed according to a prespecified plan |
| Overall | Some concerns |

Zajaczkowska R (2004)

| | |
|---|---|
| D1 | A random component was used in the sequence generation process.No imbalances are apparent. |
| D2 | Personnel and patients were not aware of intervention. Appropriate analysis to estimate the effect of assignment. |
| D3 | Outcome data for all participants |
| D4 | Outcome assessor blinded to the intervention |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | Some concerns |

Lepner U. (2003)

| | |
|---|---|
| D1 | A random component was used in the sequence generation process.No imbalances are apparent. |
| D2 | Personnel and patients were not aware of intervention. Appropriate analysis to estimate the effect of assignment. |
| D3 | Outcome data for all participants |
| D4 | Outcome assessor blinded to the intervention |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | Some concerns |

Altipamark (2019)

| | Single blinded |
|---|---|
| D1 | A random component was used in the sequence generation process.Sealed envelopes were used appropriately. No imbalances are apparent. |
| D2 | Patients were not aware of intervention. Personell were aware of the intervention because of the context (TAP vs ESP block) Appropriate analysis to estimate the effect of assignment. |
| D3 | Outcome data for all participants |
| D4 | Outcome assessor blinded to the intervention |
| D5 | Trial analysis was performed according to a prespecified plan |
| Overall | Some concerns |

Oksar (2016)

| | |
|---|---|
| D1 | A random component was used in the sequence generation process.No imbalances are apparent. |
| D2 | Personnel and patients were not aware of intervention. Appropriate analysis to estimate the effect of assignment. |
| D3 | Outcome data for all participants |
| D4 | Outcome assessor blinded to the intervention |
| D5 | Trial analysis was not performed according to a prespecified plan |

| | |
|---|---|
| Overall | Some concerns |

Rahimzadeh (2017)

| | |
|---|---|
| D1 | A random component was used in the sequence generation process.Sealed envelopes were used appropriately. No imbalances are apparent. |
| D2 | Patients were not aware of intervention, no information on whether the personnel was aware of the intervention (bupi vs acetazolamide vs placebo). Appropriate analysis to estimate the effect of assignment. |
| D3 | Outcome data for all participants |
| D4 | Outcome assessor blinded to the intervention |
| D5 | Trial analysis was performed according to a prespecified plan |
| Overall | Some concerns |

Scheinin B. (1995)

| | |
|---|---|
| D1 | A random component was used in the sequence generation process.No imbalances are apparent. |
| D2 | Personnel and patients were not aware of intervention. Appropriate analysis to estimate the effect of assignment. |
| D3 | Outcome data for all participants |
| D4 | Outcome assessor (patient) blinded to the intervention. |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | Some concerns |

Ali S. (2018)

| | |
|---|---|
| D1 | A random component was used in the sequence generation process.No imbalances are apparent. |
| D2 | Patients were not aware of intervention but the personnel was. Appropriate analysis to estimate the effect of assignment. |
| D3 | Outcome data for all participants |
| D4 | No information on whether the outcome assessor was blinded to the intervention. |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | Some concerns |

Yildiz (2021)

| | |
|---|---|
| D1 | A random component was used in the sequence generation process.Sealed envelopes were used appropriately. No imbalances are apparent. |
| D2 | Personnel and patients were not aware of intervention. Appropriate analysis to estimate the effect of assignment. |
| D3 | Outcome data for all participants |
| D4 | Outcome assessor blinded to the intervention |
| D5 | Trial analysis was performed according to a prespecified plan |
| Overall | Low risk of bias |

Verma R (2020)

| | |
|---|---|
| D1 | A random component was used in the sequence generation process.Sealed envelopes were used appropriately. No imbalances are apparent. |
| D2 | Personnel and patients were not aware of intervention. Appropriate analysis to estimate the effect of assignment. |
| D3 | Outcome data for all participants |
| D4 | Outcome assessor blinded to the intervention |
| D5 | Trial analysis was performed according to a prespecified plan |
| Overall | Low risk |

Papagiannopoulou P(2003)

| | |
|---|---|
| D1 | A random component was used in the sequence generation process.No imbalances are apparent. |
| D2 | Patients were not aware of intervention, no information on personnel awareness. Appropriate analysis to estimate the effect of assignment. |
| D3 | Outcome data for 57 out of 60 participants but there was evidence that the result was not biased by missing outcome data. |
| D4 | No information on whether the outcome assessor was blinded to the intervention. |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | Some concerns |

Hasaniya NW(2001)

| | |
|---|---|
| D1 | A random component was used in the sequence generation process.No imbalances are apparent. |
| D2 | Patients were not aware of intervention but the personnel was. Appropriate analysis to estimate the effect of assignment. |
| D3 | Outcome data for all participants |
| D4 | No information on whether the outcome assessor was blinded to the intervention. |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | Some concerns |

Suseela I. (2018)

| | |
|---|---|
| D1 | A random component was used in the sequence generation process.No imbalances are apparent. |
| D2 | Patients were not aware of intervention, personnel was aware but was not involved in post operative follow up of the patients.Appropriate analysis to estimate the effect of assignment. |
| D3 | Outcome data for all participants |
| D4 | Outcome assessor blinded to the intervention |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | Some concerns |

Beder El Baz M. (2018)

| | |
|---|---|
| D1 | A random component (randomization table) was used in the sequence generation process.No imbalances are apparent. |
| D2 | Personnel and patients were not aware of intervention. Appropriate analysis to estimate the effect of assignment. |
| D3 | Outcome data for all participants |
| D4 | Outcome assessor blinded to the intervention |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | Some concerns |

Ramkiran S(2018)

| | |
|---|---|
| D1 | A random component (block randomization technique) was used in the sequence generation process. Sealed opaque envelopes were used appropriately. No imbalances are apparent. |
| D2 | Patients were not aware of intervention,personnel were aware because of the trial context (different LA techniques) . Appropriate analysis to estimate the effect of assignment. |
| D3 | Outcome data for all participants |
| D4 | Outcome assessor blinded to the intervention |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | Some concerns |

Khan KK (2018)

| | |
|---|---|
| D1 | A random component was used in the sequence generation process. No imbalances are apparent. |
| D2 | Patients were not aware of intervention,investigator and personnel were aware because of the trial context (subcostal vs posterior TAP block) . Appropriate analysis to estimate the effect of assignment. |
| D3 | Outcome data for all participants |
| D4 | Outcome assessor blinded to the intervention |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | Some concerns |

Dost B. (2018)

| | |
|---|---|
| D1 | A random component was used in the sequence generation process. No imbalances are apparent. |
| D2 | No information on whether the participants and the personnel were aware of intervention. |
| D3 | Outcome data for all participants |
| D4 | No information on whether the outcome assessor was blinded to the intervention. |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | Some concerns |

Petersen PL(2012)

| | |
|---|---|
| D1 | A random component was used in the sequence generation process. No imbalances are apparent. |
| D2 | Personnel and patients were not aware of intervention. Appropriate analysis to estimate the effect of assignment. |
| D3 | Outcome data for all participants |
| D4 | Outcome assessor was not blinded to the intervention, knowledge of intervention could have influenced outcome assessment but there is no reason to believe that it did |
| D5 | Trial analysis was performed according to a prespecified plan |
| Overall | Some concerns |

Mraovic B. (1997)

| | |
|---|---|
| D1 | A random component was used in the sequence generation process. No imbalances are apparent. |
| D2 | Personnel and patients were not aware of intervention. Appropriate analysis to estimate the effect of assignment. |
| D3 | Outcome data missing for a few participants (2 out of 82) but there was evidence that the result was not biased by missing outcome data. |
| D4 | Outcome assessor blinded to the intervention |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | Some concerns |

Kolsi K. (2000)

| | |
|---|---|
| D1 | A random component was used in the sequence generation process. No imbalances are apparent . |
| D2 | Personnel and patients were not aware of intervention. Appropriate analysis to estimate the effect of assignment. |
| D3 | Outcome data missing for a few participants (2 out of 42) but there was evidence that the result was not biased by missing outcome data. |
| D4 | Outcome assessor blinded to the intervention |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | Some concerns |

El- Labban GM(2011)

| | Single blind |
|---|---|
| D1 | A random component was used in blind envelope system.No imbalances are apparent. |
| D2 | Patients were not aware of intervention, personnel were aware because of the trial context (different types of LA). There was not an appropriate analysis. Deviations couldn't affect outcome and were balanced between the groups (same type anaesthesia) |
| D3 | Outcome data for all participants |
| D4 | Outcome assessor was blinded to the intervention. |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | Some concerns |

Elhakim M(2000)

| | |
|---|---|
| D1 | A random component was used but is not specified. No imbalances are apparent. |
| D2 | Patients and personnel were not aware of intervention. |
| D3 | Outcome data for all participants |
| D4 | Outcome assessor was blinded to the intervention. |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | Some concerns |

Gupta(2016)

| | |
|---|---|
| D1 | A random component was performed using opaque sealed envelope technique. No imbalances are apparent. |
| D2 | Don’t know if patients were not aware of intervention, personnel were aware because of the trial context (different types of LA). There was not an appropriate analysis. Deviations couldn’t affect outcome and were balanced between the groups (same type anaesthesia) |
| D3 | Outcome data for all participants |
| D4 | Author doesn’t specify if the outcome assessor was blinded to the intervention. |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | Some concerns |

Dath D(1999)

| | |
|---|---|
| D1 | A random component was performed using envelope technique. No imbalances are apparent. |
| D2 | Patients were not aware of intervention, personnel were aware because of the trial context (instill or not LA). There was not an appropriate analysis. Deviations couldn’t affect outcome and were balanced between the groups (same type anaesthesia) |
| D3 | Outcome data for all participants |
| D4 | Outcome assessor was blinded to the intervention. |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | Some concerns |

Refaey (2016)

| | |
|---|---|
| D1 | A random component was performed using closed envelope technique in blocks of 18. No imbalances are apparent. |
| D2 | Patients were probably not aware of intervention, personnel were aware because of the trial context (instill or not LA). There was not an appropriate analysis. Deviations couldn't affect outcome and were balanced between the groups (same type anaesthesia) |
| D3 | Outcome data for all participants |
| D4 | Don't know if outcome assessor was blinded to the intervention. |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | High risk of bias |

Brezau (2016)

| | |
|---|---|
| D1 | A random component was performed using a computer generated program. No imbalances are apparent. |
| D2 | Patients were probably not aware of intervention, personnel were aware. There was not an appropriate analysis. Deviations couldn't affect outcome and were balanced between the groups (same type anaesthesia and this personnel was not included in collecting data) |
| D3 | Outcome data for 60 / 66 participants but probably doesn't affect results (A post-hoc analysis with alpha set at 0.05 showed a power of 90% for this study. 46 patients are required to have a 90% chance of detecting, as significant at the 5% level) |
| D4 | Assessor was blinded to the intervention. |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | Some concerns |

Khurana (2021)

| | |
|---|---|
| D1 | A random component was used computer generated random numbers. No imbalances are apparent. |
| D2 | Patients and personnel were not aware of intervention. |
| D3 | Outcome data for all participants |
| D4 | The author doesn’t specify if outcome assessor blinded to the intervention |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | Some concerns |

Dan-Shu Liu (2015)

| | |
|---|---|
| D1 | A random component was used computer generated random numbers. No imbalances are apparent. |
| D2 | Patients and personnel were not aware of intervention. |
| D3 | Outcome for 152/160 participants (all excluded participants were converted to open surgery). Probably the result was not biased by missing outcome data. |
| D4 | Outcome assessor blinded to the intervention |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | Some concerns |

Lin (2015)

| | |
|---|---|
| D1 | A random component was used computer generated random numbers. No imbalances are apparent. |
| D2 | Patients were probably not aware of intervention. Personnel were aware because of the context. There was an appropriate analysis. |
| D3 | Outcome for 167/180 participants (all excluded participants were converted to open surgery or put one extra drenage). Probably the result was not biased by missing outcome data. |
| D4 | The author doesn't specify if outcome assessor blinded to the intervention |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | Some concerns |

Ahmad 2015

| | |
|---|---|
| D1 | The author doesn’t specify which random component was used. No imbalances are apparent. |
| D2 | Patients were probably not aware of intervention. Personnel were aware because of the context. There was an appropriate analysis. |
| D3 | Outcome for  all participants. |
| D4 | Outcome assessor wasn’t blind to the intervention |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | Some concerns |

Salimina (2015)

| | |
|---|---|
| D1 | A random component was used computer generated random numbers. No imbalances are apparent. |
| D2 | Patients and personnel were not aware of intervention. |
| D3 | Outcome for  all participants. |
| D4 | Outcome assessor was blind to the intervention |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | Some concerns |

Chavarria (2014)

| | |
|---|---|
| D1 | A random component was used aleatory table. No imbalances are apparent. |
| D2 | Patients and personnel were not aware of intervention. |
| D3 | Outcome for  all participants. |
| D4 | Outcome assessor was blind to the intervention |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | Some concerns |

Basaran (2015)

| | |
|---|---|
| D1 | A random component was used (permutated block randomization and sealed envelopes). No imbalances are apparent. |
| D2 | Patients were not aware of intervention. Personnel were aware because of the trial context (OSTAP vs no intervention). Deviations couldn't affect outcome and were balanced between the groups (personnel was not included in collecting data) |
| D3 | Outcome data for 76/81 participants (all excluded participants were converted to open surgery). Probably the result was not biased by missing outcome data. |
| D4 | Outcome assessor blinded to the intervention |
| D5 | Trial analysis was performed according to a prespecified plan (protocol B.30.2.SEL.0.28.00.00/130) |
| Overall | Some concerns |

Tulgar S. (2018)

| | |
|---|---|
| D1 | A random component was used with closed envelope method. No imbalances are apparent. |
| D2 | Patients were not aware of intervention. Personnel were aware because of the trial context (ESP vs no intervention). Deviations couldn't affect outcome (anesthesiologist performing block did not play any role for collecting data) |
| D3 | Outcome data for all participant.(15/16) |
| D4 | Outcome assessor blinded to the intervention. |
| D5 | Trial analysis was performed according to a prespecified plan<br>( Registration N: NCT 003391167) |
| Overall | Some concerns |

Vijayaraghavalu (2020)

| | |
|---|---|
| D1 | A random component was used with sequentially random envelope. No imbalances are apparent. |
| D2 | Patients and personnel were not aware of intervention. |
| D3 | Outcome data for all participant. |
| D4 | Outcome assessor blinded to the intervention. |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | Some concerns |

Baytar C. (2019)

| | |
|---|---|
| D1 | A random component was used in the sequence generation process. Sealed envelopes were used appropriately. No imbalances are apparent. |
| D2 | Patients were not aware of intervention. Personnel were aware because of trial context (TAP block vs QL) Appropriate analysis to estimate the effect of assignment. |
| D3 | Outcome data not available for all participants but there was evidence that the result was not biased by missing outcome data |
| D4 | No information on whether the outcome assessor was blinded to the intervention. |
| D5 | Trial analysis was performed according to a prespecified plan |
| Overall | Some concerns |

Aygun H (2019)

| | |
|---|---|
| D1 | A random component was used with sequentially numbered opaque envelopes. No imbalances are apparent. |
| D2 | Patients were not aware of intervention. Personnel were aware because of the trial context (ESP vs QLB). Deviations couldn’t affect outcome (anesthesiologist performing block did not play any role for collecting data) |
| D3 | Outcome data for all participant |
| D4 | Outcome assessor blinded to the intervention. |
| D5 | Trial analysis was performed according to a prespecified plan (NCT03869801) |
| Overall | Some concerns |

Wamnes (2021)

| | |
|---|---|
| D1 | A random component was used with computer random sequence. No imbalances are apparent. |
| D2 | Patients were not aware of intervention. Personnel were aware because of the trial context (ESP vs QLB vs). Deviations couldn't affect outcome (anesthesiologist performing block did not play any role for collecting data) |
| D3 | Outcome data for all participant |
| D4 | Outcome assessor blinded to the intervention. |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | Some concerns |

Ozdemir (2021)

| | |
|---|---|
| D1 | A random component was used with computer random sequence. No imbalances are apparent. |
| D2 | Patients were not aware of intervention, personnel were aware because of the trial context (ESPB vs STAPB). There was not an appropriate analysis. Deviations couldn't affect outcome and were balanced between the groups (same type anaesthesia) |
| D3 | Outcome data for all participant |
| D4 | The author doesn't specify if outcome assessor blinded to the intervention. |
| D5 | Trial analysis was performed according to a prespecified plan (NCT 04116008) |
| Overall | Some concerns |

116- Szem (1996)

| | |
|---|---|
| D1 | The author doesn’t specify which random component was used. Imbalances are apparent (surgery duration significantly longer in the control group). |
| D2 | Patients and personel were not aware of intervention. |
| D3 | Outcome data for 55/75 participants ( 17 procedures were converted to an open cholecystec-tomy, 1 patient experienced a postoperative stroke, 1 patient experienced a suspected intraoperative pulmonary embolism and received 36 mg morphine postoperatively, and 1 patient did not receive the study drug.) This missingness depend on a true value. |
| D4 | Outcome assessor blinded to the intervention. |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | High risk of bias |

Kamei (2015)

| | |
|---|---|
| D1 | The author doesn’t specify which random component was used. No imbalances are apparent. |
| D2 | Patients were probably not aware of intervention. Personnel were aware because of the context (TAP vs control). There was an appropriate analysis. |
| D3 | Outcome data for all participant |
| D4 | The author doesn’t specify if outcome assessor blinded to the intervention. |
| D5 | Trial analysis was not performed according to a prespecified plan. |
| Overall | Some concerns |

Honca (2014)

| | |
|---|---|
| D1 | A random component was used with computer- generated random numbers. No imbalances are apparent. |
| D2 | Patients and personel were not aware of intervention. |
| D3 | Outcome data for all participant |
| D4 | Outcome assessor blinded to the intervention. |
| D5 | Trial analysis was not performed according to a prespecified plan. |
| Overall | Some concerns |

Kaushal (2018)

| | |
|---|---|
| D1 | A random component was used with envelope method. No imbalances are apparent. |
| D2 | Patients and personel were not aware of intervention. |
| D3 | Outcome data for all participant |
| D4 | Outcome assessor blinded to the intervention. |
| D5 | Trial analysis was not performed according to a prespecified plan. |
| Overall | Some concerns |

Swati(2021)

| | |
|---|---|
| D1 | A random component was used computer-generated block randomization. No imbalances are apparent. |
| D2 | Patients were not aware of intervention. Personnel were aware because of the context (different types of LA). There was not an appropriate analysis. Deviations couldn't affect outcome and were balanced between the groups (same type anaesthesia, LA done after general anaesthesia, anesthesiologist not involved in collecting data) . |
| D3 | Outcome data for 114/ 140 participants (5 did not meet the inclusion criteria; 12 declined to participate. A total of 9 patients were excluded from the final analysis because 5 of them were not wholly observed during 30 min and four had failed blockade). This missingness could affect the outcome. |
| D4 | Outcome assessor blinded to the intervention. |
| D5 | Trial analysis was performed according to a prespecified plan (CTRI/2018/08/015303) |
| Overall | High risk of bias |

Kitamura (2021)

| | |
|---|---|
| D1 | A random component was used the minimization method that assumed age and sex as assignment factors. No imbalances are apparent. |
| D2 | Patients were not aware of intervention. Personnel were aware because of the context (different types of LA). There was not an appropriate analysis. Deviations couldn't affect outcome (questionnaire for evaluation) |
| D3 | Outcome for all paricipant. |
| D4 | Outcome assessor blinded to the intervention. |
| D5 | Trial analysis was performed according to a prespecified plan (UMIN000024815) |
| Overall | Some concerns |

Sandhya (2021)

| | |
|---|---|
| D1 | The author doesn’t specify which random component was used. No imbalances are apparent. |
| D2 | Patients and personel were not aware of intervention. |
| D3 | Outcome data for all participant |
| D4 | Outcome assessor blinded to the intervention. |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | Some concerns |

Gundost (2021)

| | |
|---|---|
| D1 | A random component was used. No imbalances are apparent. |
| D2 | Patients were probably not aware of intervention. Personnel were aware because of the context (TAP vs control). There was an appropriate analysis. |
| D3 | Outcome for all paricipant (78/80) |
| D4 | The authore doesn’t specify if outcome assessor blinded to the intervention. |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | Some concerns |

Ali (2018)

| | |
|---|---|
| D1 | A random component was used computer-generated method. No imbalances are apparent (only significant different in weight). |
| D2 | Patients were probably not aware of intervention. Personnel were aware because of the context (TAP vs control). There was an appropriate analysis. |
| D3 | Outcome data for all participant. |
| D4 | The author doesn't specify if outcome assessor blinded to the intervention. |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | Some concerns |

Ng (2004)

| | |
|---|---|
| D1 | A random component was used with computer generation block of six sealed envelopes method. No imbalances are apparent |
| D2 | Patients and personnel were not aware of the intervention. |
| D3 | Outcome data 43/48 |
| D4 | Outcome assessor blinded to the intervention |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | Some concerns |

Ortiz J. (2012)

| | |
|---|---|
| D1 | Patients were randomized with a randomization program. |
| D2 | Patients and nurses assessing pain scores were blinded with regard to group assignment. Members of the anesthesia and surgical team were not blinded. |
| D3 | Outcome data for almost all participants n 80 (Data were analyzed on 39 patients in group T and 35 patients in group I) |
| D4 | Pain scores were recorded by the PACU and floor nurses taking care of the patient without knowledge of patient group assignment |
| D5 | Trial analysis was performed according to a prespecified plan |
| Overall | Some concerns |

Bhatia N. (2013)

| | |
|---|---|
| D1 | Randomization of patients was done by computer-generated, coded, sealed envelope assignment. Patients were then allocated to one of three groups of 20 patients each |
| D2 | Patients were probably not aware of intervention, personnel were probably aware because of the trial context (GA VS posterior TAP VS Subcostal TAP) |
| D3 | Outcome data for all participant |
| D4 | These assessments were made on admission to the Postanesthesia Care Unit (PACU) and thereafter at 2, 4, 6, 8, 12, and 24-hour intervals by an investigator who was blinded to group allocation. |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | Some concerns |

Arik (2020)

| | |
|---|---|
| D1 | A random component was used with sequentially random envelope. No imbalances are apparent. |
| D2 | Patients and personnel were not aware of intervention. |
| D3 | Outcome data for all participant. |
| D4 | Outcome assessor blinded to the intervention. |
| D5 | Trial analysis was performed according to a prespecified plan |
| Overall | Low risk of bias |

Khandelwal (2019)

| | |
|---|---|
| D1 | No informations on randomization, but no apparent imbalances in groups |
| D2 | Patients were probably not aware of intervention. Personnel were probably aware because of the interventions. No apparent imbalanced intervention between the groups. |
| D3 | Outcome data for all 80 patients |
| D4 | No informations if the outcome assessor is blinded to the intervention |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | High risk of bias |

Zayas-González H (2019)

| | |
|---|---|
| D1 | The patients were assigned by simple random selection to one of three groups |
| D2 | The patients and the surgeon were blinded to the composition of the injected solution. |
| D3 | Outcome data for 30/32 patients |
| D4 | No informations if the outcome assessor is blinded to the intervention |
| D5 | Trial analysis was performed according to a prespecified plan (ISRCTN29008609). |
| Overall | Some concerns |

Pasqualucci A.(1994)

| | |
|---|---|
| D1 | Patients were divided randomly into three groups (14 patients per group). |
| D2 | Patients were probably not aware of intervention. Personnel were probably aware.Deviations couldn’t affect outcome. |
| D3 | 37/42 participants were included |
| D4 | Data collection was carried out by another physician who, as part of the double-blind, was unaware of the contents of the solution received intraoperatively. |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | Some concerns |

Rademaker BM (1994)

| | |
|---|---|
| D1 | patients were allocated randomly to one<br>of three groups, in a double-blind manner |
| D2 | Patients were probably not aware of intervention. Personnel were aware because of the context. No apparent deviations that could have affected outcome. |
| D3 | 45/45 patients included |
| D4 | No informations if the outcome assessor is blinded to the intervention |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | Some concerns |

Houben AM (2019)

| | |
|---|---|
| D1 | Randomisation was determined using a computer-generated list with a 1 : 1 allocation. |
| D2 | The study solutions were prepared by two investigators (A.K. and J.L.J.) who were neither involved in the anaesthetic care nor in data collection. Anaesthesiol ogists responsible for the anaesthetic management and data collection were unaware of group allocation. |
| D3 | 52/60 patients were evaluated ( 8 patients lost to follow-up for Missing data or protocol violation or Conversion to laparotomy) |
| D4 | Anaesthesiol ogists responsible for the anaesthetic management and data collection were unaware of group allocation. |
| D5 | Trial analysis was performed according to a prespecified plan (NCT0339153) |
| Overall | High risk of bias |

Ra YS (2010)

| | |
|---|---|
| D1 | Patients were randomly allocated into three groups |
| D2 | Patients were probably not aware of intervention. Personnel were probably aware because of the interventions. Deviation may have affected outcome. |
| D3 | 54/54 patients evaluated |
| D4 | No informations if the outcome assessor is blinded to the intervention |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | Some Concerns |

Garcia JB (2007)

| | |
|---|---|
| D1 | The study population was randomly divided in two groups using sealed envelopes chosen immediately before the procedure. |
| D2 | The solution for intraperitoneal instillation was prepared by a member of the team who had no other role in the study. |
| D3 | Of 40 patients, 32 were evaluated. One patient in GI and 7 in GII were excluded due to the impossibility of completing the protocol. |
| D4 | Outcome assessor was blinded |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | High risk of bias |

Kucuk C (2007)

| | |
|---|---|
| D1 | The patients were allocated randomly to one of four groups. |
| D2 | Patients were not aware of intervention. Personnel were probably aware. Deviation may have affected outcome. |
| D3 | All 80 patients evaluated |
| D4 | No informations if Outcome assessor was blinded |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | Some Concerns |

Govil N (2017)

| | |
|---|---|
| D1 | the patients were randomized into one of the groups using a computer-generated table of random numbers. |
| D2 | Eligibility, the solution was prepared by an assistant who had not participated in the study. Surgeon and the anesthetist in the postanesthesia care unit were unaware of the treatment to which each patient was randomized. |
| D3 | 75/75 participants evaluated |
| D4 | Data were collected by assistants who were not aware of group allocation of participants |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | Some Concerns |

Altunas (2016)

| | |
|---|---|
| D1 | The patients were randomly divided into three groups with 30 people in each by the closed envelope method. |
| D2 | Patients were probably not aware of intervention. Personnel were aware because of the interventions. Deviation may have affected outcome. |
| D3 | All 90 patients evaluated |
| D4 | No informations if Outcome assessor was blinded |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | Some Concerns |

Karaman (2014)

| | |
|---|---|
| D1 | The patients were randomly assigned to three groups by closed envelope method |
| D2 | The study was a double blind study, and the patients and the observer physician were blinded to the medication used. |
| D3 | All 60 participants were evaluated |
| D4 | Outcome assessor was blinded |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | Some Concerns |

Park J. (2015)

| | |
|---|---|
| D1 | Not adequately randomization process (based on Ultrasound avaliability) |
| D2 | Single-blind study. Deviation doesn't seem to have affected the outcome. |
| D3 | 59/60 patients were evaluated (1 excluded for anastomosis leakage) |
| D4 | Outcome assessor was blinded |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | High risk of bias |

Bava (2016)

| | |
|---|---|
| D1 | Patients were randomly assigned to two groups using a computer generated table of random numbers which was enclosed in a sealed envelope and was opened by an anesthesiologist who was not involved in the study. |
| D2 | Patients and personnel were not aware of intervention. |
| D3 | All participants were evaluated |
| D4 | Postoperative parameters were recorded either by anesthesiologist or by nursing staff who were blinded to the study groups. |
| D5 | The study protocol was approved by the Institutional Ethical Committee and registered at Clinical Trials Registry - India (CTRI) (CTRI/2014/09/004942, September 1, 2014). |
| Overall | Low risk of bias |

Agarwal (2012)

| | |
|---|---|
| D1 | Patients were randomly allocated into  groups |
| D2 | Patients and personnel were probably aware. Deviation may have affected outcome. |
| D3 | All participants were evaluated |
| D4 | No informations if Outcome assessor was blinded |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | Some Concerns |

Ingelmo (2013)

| | |
|---|---|
| D1 | Patients were randomly assigned in groups.An anaesthesia nurse not involved in the study received from the research assistant a sealed opaque envelope containing patient allocation and instructions for the so lution preparation. |
| D2 | Patients and personnel were not aware of intervention. |
| D3 | Outcome data for 85/90 participants (all excluded participants were converted to open surgery). Probably the result was not biased by missing outcome data. |
| D4 | Outcome assessor was blinded |
| D5 | Trial analysis was performed according to a prespecified plan (NCT 01247857). |
| Overall | Low risk of bias |

Castillo Garcia (2012)

| | |
|---|---|
| D1 | Patients randomly assigned in groups by computer-generated randomization |
| D2 | Patients were probably not aware of intervention, personnel were probably aware because of the interventions |
| D3 | Outcome data for all participants |
| D4 | No informations if Outcome assessor was blinded |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | Some Concerns |

Verma GR (2006)

| | |
|---|---|
| D1 | Patients randomly assigned in groups by computer-generated randomization |
| D2 | Patients were probably not aware of intervention, personnel were probably aware because of the interventions |
| D3 | Outcome data for all participants |
| D4 | No informations if Outcome assessor was blinded |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | Some Concerns |

Okmen K ( 2018)

| | |
|---|---|
| D1 | Patients randomized using a random number table |
| D2 | Patients were not aware of intervention, personnel were probably aware because of the trial context |
| D3 | Outcome data for all participants 59/60 (1 excluded because converted to open surgery) |
| D4 | Outcome assessor was blinded |
| D5 | Trial analysis was performed according to a prespecified plan (NCT03308955). |
| Overall | Some Concerns |

Berven (1995)

| | |
|---|---|
| D1 | No informations on randomization, but no apparent imbalances in groups |
| D2 | Patients were probably not aware of intervention. Personnel were aware because of the context. No apparent deviations that could have affected outcome. |
| D3 | Outcome data for all participants |
| D4 | Post-operative analgesics were administered by nurses in the recovery room. The author doesn't specify if outcome assessor blinded to the intervention |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | Some Concerns |

Labaille (2002)

| | |
|---|---|
| D1 | No informations on randomization, but no apparent imbalances in groups |
| D2 | Patients were probably not aware of intervention. The surgeon was not informed of the contents of the solution. |
| D3 | 37/42, Five patients were excluded from the study n 2 because postoperative pain required additional analgesics; 2 patients had conversion to open surgery 1 because of protocol violation). Missing data may have affected outcome |
| D4 | The author doesn't specify if outcome assessor blinded to the intervention |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | High risk of bias |

Vindal A (2021)

| | |
|---|---|
| D1 | Patients randomly assigned in groups by computer-generated randomization |
| D2 | Patients and personnel were not aware of intervention. |
| D3 | Outcome data for all participants |
| D4 | Outcome assessor was blinded |
| D5 | Clinical Trials Registry of India 020227. |
| Overall | Low risk of bias |

Manan A (2020)

| | |
|---|---|
| D1 | Lottery system was used and every patient was asked to pick an enclosed token with his/her study group mentioned on it. |
| D2 | Patients were probably not aware of intervention. Personnel were aware because of the context. Deviations may not have affected outcome. |
| D3 | Outcome data for all participants |
| D4 | The author doesn't specify if outcome assessor blinded to the intervention. The data was collected on preformed proformas. |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | Some Concerns |

Louizos AA (2005)

| | |
|---|---|
| D1 | Patients were randomly assigned to one of four groups according to the protocol of postoperative analgesia. |
| D2 | Patients and personnel were not aware of intervention. |
| D3 | 108 patiets total. Four patients were excluded, two f because of surgical complications and two because of protocol violation. |
| D4 | The anesthetist following up the pain score of the patients was not aware of the kind of solution administered to each patient. |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | Some Concerns |

Jabbour-Khoury SI (2005)

| | |
|---|---|
| D1 | No informations on randomization, but no apparent imbalances in groups |
| D2 | A surgical scrub nurse who had no further involvement in the study prepared the solutions administered intraperitoneally to the study patients. |
| D3 | Outcome data for all participants |
| D4 | The anesthesiologists and nurses in the<br><br>postanesthesia care unit and in the ward were unaware of<br><br>the treatment to which each patient had been random-<br>ized. |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | Some Concerns |

Papaziogas (2000)

| | |
|---|---|
| D1 | Non concealed randomization |
| D2 | Double blind trial. Not specified if personnel were unaware of intervention. |
| D3 | Data for all patients. Of the 55 patients enrolled, two had to be withdrawn from the study because of difficulties in communication between patient and doctor in the post operative period. |
| D4 | Not given if outcome assessor was blinded |
| D5 | Trial analysis was not performed according to a prespecified plan |
| Overall | High risk of bias |