INPLASY PROTOCOL

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Transperitoneal versus Extraperitoneal approach for laparoscopic and robot assisted radical prostatectomy: a systematic review and meta analysis

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Review question / Objective: This study aims to compare the outcomes parameter of transperitoneal radical prostatectomy (TP-RP) vs extraperitoneal radical prostatectomy (EP-RP) approach used in Laparoscopy radical prostatectomy (LRP) or Robot-assisted radical prostatectomy (RARP).

Condition being studied: Patients with history of Radical Prostatectomy using Transperitoneal Radical Prostatectomy or Extraperitoneal Radical Prostatectomy approach with Laparoscopy or Robot-Asssited surgery methods.

Eligibility criteria: Studies were included if: (a) Patients have a history of Radical Prostatectomy using Laparoscopy or Robot Assisted Laparoscopy; (b) Study comparing transperitoneal vs extraperitoneal approach; (c) Original research articles (d) Outcome (Hospital stay, estimated blood loss, surgical complication, operative duration and positive surgical margin) as outcome were reported. Studies were excluded if: (a) Non comparative studies; (b) Full text not available; (c) Outcomes were not separately reported. (d) Studies before 2002.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 10 November 2022 and was last updated on 10 November 2022 (registration number INPLASY2022110042).

INTRODUCTION

Review question / Objective: This study aims to compare the outcomes parameter of transperitoneal radical prostatectomy (TP-RP) vs extraperitoneal radical prostatectomy (EP-RP) approach used in Laparoscopy radical prostatectomy (LRP) or Robot-assisted radical prostatectomy (RARP).

Rationale: This systematic review and meta-analysis was planned aimed to enlighten the statistical value from each approach by comparing outcomes in TP-RP vs EP-RP approach used in LRP and RARP methods.

Condition being studied: Patients with history of Radical Prostatectomy using Transperitoneal Radical Prostatectomy or Extraperitoneal Radical Prostatectomy approach with Laparoscopy or Robot-Asssited surgery methods.

METHODS

Search strategy: A comprehensive search was conducted from five databases (PubMed, Cochrane, Scopus, EMBASE, Science Direct) up to September 2022. The search queries used were: ("Radical Prostatectomy") AND ("Transperitoneal" OR "Extraperitoneal") AND ("Laparoscopic" OR "robot-assisted").

Participant or population: XMen with history of Radical Prostatectomy.

Intervention: Extraperitoneal Radical Prostatectomy.

Comparator: Transperitoneal Radical Prostatectomy.

Study designs to be included: Any comparative study will be included (randomized controlled trial, prospective/ retrospective cohort, etc).

Eligibility criteria: Studies were included if: (a) Patients have a history of Radical Prostatectomy using Laparoscopy or Robot Assisted Laparoscopy; (b) Study comparing transperitoneal vs extraperitoneal approach; (c) Original research articles (d) Outcome (Hospital stay, estimated blood loss, surgical complication, operative duration and positive surgical margin) as outcome were reported. Studies were excluded if: (a) Non comparative studies; (b) Full text not available; (c) Outcomes were not separately reported. (d) Studies before 2002.

Information sources: A comprehensive search was conducted from five databases (PubMed, Cochrane, Scopus, EMBASE, Science Direct).

Main outcome(s): Peri operative variables: Operative time (min) , estimated blood loss (ml), and hospital stay (Days) Operative Complications Oncological: Positive Surgical Margin.

Data management: All studies that included were extracted for demographic data and outcome data. Demographic data included were clinical variables [Age, Body Mass Index (BMI), Prostate Specific Antigen (PSA)], Peri operative variables [Operative time, estimated blood loss, and hospital stay], complications and positive surgical margin. All data extracted will be separated in subgroup analytical studies. Study with reported medians value, will use a validated means and estimation of standard deviation was used for missing standard deviation data.

Quality assessment / Risk of bias analysis: The Cochrane Risk of Bias tool was used to assess bias for RCT studies, while for the cohort studies, Newcastle-Ottawa Scale tool was used. Three factors were assessed for the risk of bias based on the Newcastle–Ottawa scale:(1) selection, (2) comparability, and (3) outcome of the study. Studies with a score of 7 or higher are categorized as good studies with a low risk of bias.

Strategy of data synthesis: Studies included in the meta-analysis was conducted using the Cochrane Collaboration Review Manager (Rev-Man version 5.4). Dichotomous variables were expressed as Risk-Ratio (RR) with 95% confidence interval (CI). Continuous variables use mean difference (MD) with a 95% confidence interval. Operative time, estimated blood loss, and hospital stay was included in continuous variables outcome. Operative complications and positive surgical margin were included in dichotomous variables outcome. In all cases, p values less than 0.05 were considered statistically significant. To

identify the heterogeneity between studies I2 were used. The study considers being heterogenous if the I2 >50%. When significant heterogeneity was observed, the random-effects model was used; otherwise, the fixed-effects model was implemented for meta-analysis.

Subgroup analysis: All data extracted will be separated in subgroup analytical studies. Separated data of subgroup analysis between Laparoscopy Radical Prostatectomy and Robot-Assisted Radical Prostatectomy.

Sensitivity analysis: None reported.

Language restriction: No.

Country(ies) involved: Indonesia.

Other relevant information: Supplementary files available for database search queries and risk of bias with study quality assessment.

Keywords: Transperitoneal, Extra-peritoneal, Laparoscopic, Robot-Assisted, Radical prostatectomy.

Contributions of each author:
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