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ADMINISTRATIVE INFORMATION**Support** - Authors receive no financial support.**Review Stage at time of this submission** - Completed but not published.**Conflicts of interest** - None declared.**INPLASY registration number:** INPLASY202470078**Amendments** - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 20 July 2024 and was last updated on 20 July 2024.**INTRODUCTION**

Review question / Objective This systematic review and meta-analysis aims to provide a comprehensive evaluation of surgical complications of orchidopexy in the management of cryptorchidism in pediatric urology.

Rationale By synthesizing the available evidence from published studies, we sought to elucidate the incidence, nature, and impact of orchidopexy complications on testicular function. The findings will provide insight into potential strategies to prevent and manage complications to optimize the safety and efficacy of the orchidopexy procedure.

Condition being studied Pediatric patients with cryptorchidism undergoing orchidopexy surgery.

METHODS

Search strategy We performed an electronic data search in PubMed, Google Scholar and Science

Direct for relevant studies published up to April, 6 2024. The search terms were ("Orchidopexy Surgery") OR ("Orchidopexy Procedures") OR ("Orchidopexy Complications") AND ("Cryptorchidism") OR ("Cryptorchidism on Pedatric") OR ("Cryptorchidism Complications").

Participant or population Pediatric patients below 18 years old with a diagnosis of cryptorchidism.

Intervention Orchidopexy surgery.

Comparator Other techniques of orchidopexy surgery.

Study designs to be included Randomized controlled trial, case series, retrospective studies, prospective studies.

Eligibility criteria The inclusion criteria were studies investigating pediatric patients with cryptorchidism who underwent orchidopexy surgery. The exclusion criteria were: (1) irrelevant title or abstract; (2) irretrievable full texts; (3) review

articles, letter to the editors, or conference abstracts; (4) non-English studies; (5) adult (>18 years old); or (6) insufficient data to calculate the effect sizes for the outcomes.

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Information sources Databases such as PubMed, Google Scholar and Science Direct.

Main outcome(s) The presence of complications of orchidopexy surgery in pediatric patients with cryptorchidism.

Data management Data extraction was independently conducted by three authors and subsequently checked for certainty. Disagreements were resolved through a discussion. For each included study, the following relevant data were collected: study related data (first author, year of publication, study location, study design, study period), demographic data (age, sample size), and outcome data.

Quality assessment / Risk of bias analysis Quality assessment was done using the RoB2 tool, and the Newcastle-Ottawa scale (NOS).

Strategy of data synthesis Mean differences were calculated for continuous variables using the inverse variance method. Risk ratios (RRs) were calculated for dichotomous variables using the Mantel – Haenszel method. Meta-analyses were performed using Review Manager (RevMan) version 5.3.

Subgroup analysis Where studies reported continuous outcomes using mean (s.d.) value for subgroups of the intervention and control groups used in the present review, data from these subgroups were combined into one summary measure using Microsoft Excel for MacOS Monterey version.

Sensitivity analysis Not applicable.

Language restriction Only English articles were included.

Country(ies) involved Indonesia.

Keywords Cryptorchidism, orchidopexy, testis.

Dissemination plans This research will be published in a Scopus-accredited journal.

Contributions of each author

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