INPLASY PROTOCOL

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The authors have no conflicts of interest to disclose.

Safety of locating the tip of a medium-long catheter at the axillary front and clavicle midline: a protocol for systematic review and meta-analysis

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Review question / Objective: **Safety of locating the tip of a medium-long catheter at the axillary front and clavicle midline.**
Condition being studied: **Medium-long catheters are being used more and more widely in clinical practice, but we still don't know the impact of different placements, but this is an important clinical issue that cannot be ignored.**
Information sources: **PubMed, Embase, Cochrane Library, CINAHL Complete, as well as the Chinese databases: China Knowledge Network (CNKI), China Biomedical Literature Database (CBM), VIP Data, Wan Fang Data. The time is from the construction of the database to December 2019.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 10 November 2020 and was last updated on 10 November 2020 (registration number INPLASY2020110042).

INTRODUCTION

Review question / Objective: **Safety of locating the tip of a medium-long catheter at the axillary front and clavicle midline.**

Condition being studied: **Medium-long catheters are being used more and more widely in clinical practice, but we still don't know the impact of different placements, but this is an important clinical issue that cannot be ignored**

METHODS

Participant or population: **All patients with medium and long catheters have no**

restrictions on age, type of disease, or gender.

Intervention: The tip of the mid-length catheter is positioned at the mid-clavicular line.

Comparator: The tip of the mid-length catheter is positioned in front of the armpit.

Study designs to be included: The randomized controlled trial (RCT) or observational studies (cross-sectional studies, cohort studies, and case-control studies) published at home and abroad.

Eligibility criteria: The randomized controlled trial (RCT) or observational studies (cross-sectional studies, cohort studies, and case-control studies) published at home and abroad, regardless of whether blinding and allocation concealment are used, are limited to Chinese and English. Exclusion criteria: Repeated publications; Conference abstracts; Unable to obtain full text documents; Unable to obtain relevant valid data.

Information sources: PubMed, Embase, Cochrane Library, CINAHL Complete, as well as the Chinese databases: China Knowledge Network (CNKI), China Biomedical Literature Database (CBM), VIP Data, Wan Fang Data. The time is from the construction of the database to December 2019.

Main outcome(s): We mainly focus on the safety of positioning the tip of the mid-length catheter in the front of the axilla and the mid-clavicular line.

Quality assessment / Risk of bias analysis: Two researchers evaluated the quality of the included RCT based on the risk of bias evaluation tool recommended by the Cochrane Collaboration. The evaluation content mainly includes the following 6 aspects: random allocation method; allocation plan concealment; blind method; completeness of the result data; selective reporting of research results; other sources of bias. According to the results of each study, the above 6 items need to be judged as "yes (low bias)", "no (high bias)", "unclear (lack of relevant information or uncertain risk of bias)". The cross-sectional research literature quality evaluation adopts the evaluation standards recommended by the Agency for Healthcare Research and Quality (AHRQ), and contains a total of 11 items, which are evaluated as "yes", "no" and "unclear" respectively. Use the Newcastle Ottawa Scale (NOS) to evaluate the quality of the included cohorts and case-control studies.

Strategy of data synthesis: The data was meta-analyzed by Stata software, count data uses odds ratio (OR) as the effect indicator, and measurement data uses mean difference (MD) as the effect indicator. Each effect size is given its point estimate and its 95% confidence interval (confidence intervals, CI). For the results of the number of studies more than10 items, Stata12.0 software was used to draw a funnel chart and combined with Egger test to publish the bias. $P<0.05$ indicates that the difference is statistically significant.

Subgroup analysis: If the evidence is sufficient, we will conduct a subgroup analysis to determine the difference between different article type, different age, different gender, etc.

Sensibility analysis: Finally, we evaluate each result according use the GRADE (Grading of Recommendations Assessment, Development and Evaluation). The evidence levels classified into four levels: high, moderate, low, or very low.

Country(ies) involved: China.

Keywords: Medium-long catheters, meta-analysis, safety.

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