INTRODUCTION

Review question / Objective: To assess the effect of butorphanol on morphine-related pruritus.

Condition being studied: Pruritus, caused by multiple causes, is an intense itching sensation that produces the urge to rub or scratch the skin to obtain relief.

METHODS

Participant or population: all participants who received morphine for analgesia.

Intervention: Butorphanol versus placebo or no intervention.

Comparator: Patients using only morphine for analgesia.
Study designs to be included: Randomized controlled trials (RCTs).

Eligibility criteria: 1) RCTs, 2) prospective studies, 3) language in Chinese and English, 4) human trials, 5) all participants receiving morphine for analgesia.


Main outcome(s): The incidence and the Relative risk (RR) with 95% confidence interval (CI) of morphine-related pruritus in the two groups.

Additional outcome(s): The incidence and the Relative risk (RR) with 95% confidence interval (CI) of other side effects in the two groups.

Quality assessment / Risk of bias analysis: Two authors will independently assess the quality of the included studies according to the Cochrane collaboration’s tool for assessing the risk of bias. The following items will be evaluated for each study: 1) Allocation sequence generation, 2) Allocation concealment, 3) Blinding of participants and personnel, 4) Blinding of outcome assessors, 5) Incomplete outcome data, 6) Selective outcome reporting, 7) Other bias. We will judge all studies into low risk, high risk, unknown risk three groups referring to the judgment standard.

Strategy of data synthesis: We will use RevMan 5.4 software to conduct all statistical analyses. Relative risk (RR) with 95% confidence interval (CI) was computed for dichotomous outcomes.

Subgroup analysis: We will conduct the subgroup analysis about the effect of administration method of butorphanol on the incidence of pruritus.

Sensitivity analysis: Heterogeneity of the included studies will be assessed with the I² statistic and I² >50% is regarded as significant. If insignificant heterogeneity is high, a fixed-effect model will be used to conduct the meta-analysis found. And a random effect model will be adopted to perform the meta-analysis if I² >50%.

Language: We only research studies in Chinese and English.

Country(ies) involved: China.

Keywords: butorphanol, morphine, pruritus.

Contributions of each author:
Author 1 - Yan-Li Qiu - The author extract and analyze data and draft the manuscript. Email: qiuyanli123@163.com
Author 2 - Jian Zu - The author helps to conducte the study and provide statistical expertise. Email: zujian1990@sina.com
Author 3 - Yan Luo - The author helps to develop the selection criteria and the risk of bias assessment strategy. Email: 18917762576@163.com