[Sappington translation sample source Chinese]

七氟醚在儿科麻醉维持中的系统评价

吸入麻醉和静脉麻醉是目前最常用的麻醉方法，七氟醚具有芳香气味，血气分配系数低、诱导快，苏醒快、对气道刺激性小等优点，适合儿科麻醉，自从上世纪90 年代七氟醚问世后，很多研究利发现七氟醚除上述优点外，在麻醉维持时也有容易造成患儿躁动等缺点，加之七氟醚价格较昂贵[1]，使其在国内的应用还较少。本研究旨在对七氟醚在儿科麻醉维持上的效果与其他吸入或静脉麻醉药比较进行系统评价。

1 资料与方法

1.1 纳入与排除标准

1.1.1 研究对象 纳入年龄<16 岁的患儿。

1.1.2 研究设计 纳入随机对照试验。

1.1.3 干预措施 纳入试验组采用七氟醚麻醉维持，对照组通过其他方法麻醉维持的试验。排除试验组和对照组均采用七氟醚作麻醉维持。

1.1.4 疗效判断指标 术后早期苏醒时间、术后躁动、PONV、术间眼心反射、术后出苏醒室的时间。

1.2 检索策略

电子检索PubMed、EBSCO、Springer、Ovid、外文医学期刊全文数据库（Foreign Journals Intergrations System）和CNKI 以及Cochrane 图书馆（2008 年第1 期），文献检索起止时间均从建库至2008 年4 月。

检索词包括sevoflurane、sevorane、七氟醚、七氟烷、随机对照试验、语种为英语和中文。手工和机检查找检索到文献的参考文献。

根据检索到的摘要在外文医学期刊全文数据

库、OVID、Springer 上检索全文或直接与作者联系索取全文。

1.3 文献质量评价方法

由两位研究者独立进行文献质量评价并按设计好的表格提取资料，如遇分歧，通过讨论或根据第三位研究人员的意见解决。

纳入研究的方法学质量评价采用Cochrane 协作网推荐的简单评估方法，评价条目包括评价试验外部与内部真实性的关键指标：随机方法是否正确、分配隐藏是否正确、是否实施盲法、是否报告失访和退出、基线是否可比。由两名评价员（孙、韩）独立选择试验并提取资料，如遇不一致通过讨论解决，纳入研究的方法学质量采用Cochrane Reviewer' Handbook 4.2.7 随机对照试验的4 条质量评价标准进行评价：① 随机方法是否正确；② 是否做到分配隐藏，方法是否正确；③ 是否采用盲法；④ 有无失访或退出，如有失访或退出时，是否采用ITT 分析，如果所有4 条质量评价标准均完全满足，则该研究存在偏倚的可能性最小，文献为A 级；如果其中任何一条或多条质量评价标准仅为部分满足，则该研究存在相应偏倚的可能性为中度，为B 级；如果其中任何一条或多条质量评价标准完全不满足，则该研究存在偏倚的可能性为高度，为C 级。

1.4 统计学方法

采用RevMan 4.2.10 分析软件，将资料进行定量综合。首先进行异质性检验，试验间异质性采用卡方检验（检验标准为α=0.05），当结果不存在异质性时，以固定效应模型描述，存在异质性时，在分析产生异质性的原因后，若无临床异质性，则用随机效应模型进行合并分析。对度量衡单位相同的连续变量

采用加权均数差值（WMD），对度量衡单位不同的连续变量采用标化均数差值（SMD），$P<0.05$ 为差异有统计学意义。计数资料选取相对危险度（RR）或风险差异（RD）及其95%CI 表示，$P<0.05$ 为差异有统计学意义。

当纳入足够多的研究时，则进行漏斗图分析观察是否存在发表偏移。若临床试验提供的数据不能进行Meta 分析时，则只对其进行描述性的定性分析。

[Sappington translation sample target English]

Sevoflurane Maintenance in Children

Inhaled anesthesia and intravenous anesthesia are at present the most commonly used methods of anesthesia. Sevoflurane has a pleasant aroma, a low blood-gas distribution coefficient, fast induction, fast emergence, little respiratory tract irritation, and other advantages; it is suitable for anesthesia use in pediatrics. Since sevoflurane was launched in the 1990s, in addition to the advantages above, research has discovered that sevoflurane has such disadvantages as likelihood of pediatric patient agitation during anesthesia maintenance. In addition, the fact that sevoflurane is quite expensive[1] means that it is used less in China. The aim of this research is to systematically assess sevoflurane's effects in pediatric anesthesia maintenance compared to other inhaled or intravenous anesthesia medications.

1 Materials and methods

1.1 Inclusion and exclusion criteria

1.1.1 Study subjects. Patients age < 16 years were included.

1.1.2 Study design. Randomized and controlled trials were included.

1.1.3 Interventional measures. Trials using sevoflurane anesthesia maintenance and controls using other methods of anesthesia maintenance were included. Trials and controls both using sevoflurane as anesthesia maintenance were excluded.

1.1.4 Indicators for determining therapeutic efficacy. Early-stage emergence period after surgery, agitation and PONV after surgery, oculocardiac reflex during surgery, and time to leave recovery room after surgery.

1.2 Search strategies

Electronic search was undertaken using PubMed, EBSCO, Springer, Ovid, Foreign Journals Integration System, CNKI, and the Cochrane Library (2008 Issue 1). The literature search start date was the date the database was established and the end date was April 2008.

Search terms included sevoflurane, sevorane, and randomized control trial in both English and Chinese. Manual and mechanized checks of the literature searches were performed as a reference. Based on abstracts retrieved from the Foreign Journals Integration System, OVID, and Springer, full articles were located or the author was contacted directly to obtain the full article.

1.3 Method to assess literature quality

The two researchers performed independent assessments of literature quality and designed tables with the data obtained. If there was a dispute, then the difference was resolved through discussion or referred to a third-party researcher.

Assessment of study method quality for inclusion in the research employed the simple assessment method recommended by the Cochrane cooperative network. Assessment conditions included assessment of the trial's external and internal key validity indicators: Whether the randomization method was correct, whether distribution and concealment were accurate, whether a blinding method was used, whether missed visits and withdrawals were reported, whether the baselines were comparable. Selected trials and extracted data were independently recommended by the two assessors (Sun, Han) and any inconsistencies were resolved through discussion. The methodology used for the inclusion in the research was taken from 4.2.7 Randomized Control Trials and Item 4 Quality Assessment Criteria in the Cochrane Reviewer's Handbook: (1) Was the randomization method accurate; (2) Were distribution and concealment performed, was the method accurate; (3) Was a blinding method used; (4) Were there missed visits or withdrawals, and if there were missed visits or withdrawals, was ITT analysis used. If all four quality assessment criteria were satisfied, then there was the lowest likelihood of bias and the article was graded A. If any one or more of these quality assessment criteria were only partially satisfied and there existed in the research a moderate possibility of bias, the article was graded B. If any one or more of these quality assessment criteria were not met at all, then a high probability of bias was present in the study research, and the article was graded C.

1.4 Statistical methods

RevMan 4.2.10 analysis software was used to perform quantitative integration of the data. First heterogeneous testing was performed, for heterogeneity between trials the chi-square test was used (test standard was $\alpha = 0.05$). When there was no heterogeneity between results, it was described using a fixed effects model. When heterogeneity existed, after analyzing the reason the heterogeneity was produced, if there was no clinical heterogeneity then the randomized effects model was used to perform pooled analysis. For continuous variables with identical units of measurement, the weighted mean difference (WMD) was used. For continuous variables with different units of measurement the standardized mean difference (SMD) was used; a difference of $P < 0.05$ was statistically significant. To count data, relative risk (RR) or risk difference (RD) was selected, and the 95% CI expressed, $P < 0.05$ was statistically significant.

When a sufficient number of studies were included, a funnel diagram was used to analyze and observe whether a publishing bias was present. If meta-analysis could not be performed on the data provided in the clinical trial, then only descriptive qualitative analysis was performed on the data.