

## • 论著 •

## 三家医院门急诊环境下输液配置微生物污染情况比较分析

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**[摘要]** 目的: 研究在医院门急诊环境下输液配置及存放过程中的微生物污染情况及影响因素。方法: 在 A、B、C 三家医院的门急诊环境下按无菌操作法配置静脉输液各 400 份, 操作时分别穿刺 1、3、6、9 次各 100 份, 配置完成后分别放置 0、2、4、6、8 h 各 20 份, 按照《中国药典》2010 版附录 XIIH 无菌检查法项下规定的薄膜过滤法进行无菌检查。结果: 三家医院培养的微生物阳性结果共 147 份 (12.25%, 147/1 200)。A、B、C 三家医院的阳性结果分别 58 例 (14.50%)、47 例 (11.75%)、42 例 (10.50%), 比较差异无统计学意义 ( $P>0.05$ )。穿刺次数是影响输液微生物污染的因素, 不同放置时间段内均可发生微生物污染。结论: 医院门急诊环境下配置和放置输液存在一定微生物污染风险, 尤其在儿童医院, 输液配置应在净化环境中严格按无菌操作规程进行, 配置完成的输液应尽快使用。

**[关键词]** 输液配置; 微生物污染; 门急诊

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### Microbial Contamination Situation of Intravenous Admixture in Outpatient and Emergency Department in Three Hospitals

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**[Abstract]** **Objective:** To study microbial contamination situation of intravenous admixture and storage in outpatient and emergency department. **Methods:** In three hospitals, 400 intravenous infusions were configured according to aseptic technique in outpatient and emergency department, respectively. The intravenous infusions were punched 1, 3, 6 and 9 times respectively at operation, and placed in their respective environment for 0, 2, 4, 6, and 8 hours. Sterile test was performed according to the membrane filtration method in *Chinese Pharmacopoeia*. **Results:** One hundred and forty-seven positive results were obtained in the three hospitals; the positive rate was 12.25%. The numbers of positive cases in the three hospitals were 58, 47 and 42 cases respectively and positive rate were 14.50%, 11.75% and 10.50% respectively. The positive detection rate had no significant difference in the three hospitals. Puncture times was an influencing factor causing the infusion microbial contamination. Microbial contamination could be happened in any placing period. **Conclusions:** There is a risk of microbial contamination when configuring and placing infusions in outpatient and emergency department in hospitals, especially in children's hospital. The infusions should be configured in purifying environment with the strict respect of asepsis rules, and then should be used as soon as possible.

**[Key words]** Transfusion configuration; Microbial contamination; Outpatient and emergency department

静脉输液应用于临床已有近百年历史, 以给药速度快、生物利用度高、疗效显著等优点在临床治疗及抢救过程中发挥着重要作用<sup>[1]</sup>。门急诊是静脉输液的重要场所, 近年来门急诊输液量有逐年增多的趋势<sup>[2]</sup>。但门急诊输液配置环境简陋, 同一患者可能有多份输液需同时配置完成, 其输液在配置、存放和使用过程中可能存在微生物污染。本研究通过在三家医院门急诊环境下进行输液配置, 并就配置过程中穿刺次数、配置后放置时间对微生物污染情况的影响进行比较分析。

## 1 材料和方法

### 1.1 仪器和试剂

集菌器 PY220、集菌仪 HTY-601(杭州高得医疗器械有限公司); 全自动高压灭菌器 LMQ-L(山东新华医疗器械厂); 生化培养箱 LRH-250(上海一恒科技有限公司); 垂直净化层流台: 谷林净化(上海谷林净化空调技术有限公司)。

硫乙醇酸盐液体培养基、改良马丁培养基、pH 7.0 氯化钠-蛋白胨缓冲液(北京三药科技开发公司, 批号分

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