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囊粒径增大,但内相过于粘稠,不能分散成囊。CBP/PLGA投料比也明显影响微囊的含药量和包封率,随着卡铂投量增加,微囊含药量增加,药物包封率较高;本实验结果说明当CBP:PLGA在1:10~1.4:10之间,微囊含药量基本达到平稳,当比例等于和大于1.6:10时,含药量变化不大,药物包封率明显降低,考虑是药物加入量超过了囊材所能包封的临界值。因此,选择适宜的投药比例不仅能实现预期目标,而且能避免药物的无效损耗。

选用155均匀设计法筛选优化条件,依据包封率和粒径分布两项指标综合考察,用较少的试验达到了定量描述制备过程的目的。多元逐步回归分析结果提示PLGA浓度,内/外相体积比,CBP/PLGA投料比是影响微囊粒径分布和包封率的主要因素。根据定量方程所优化的实验条件制备微囊,实验结果在在理论预报范围内,高于均匀设计试验表中的最高值(0.8142),优化设计成功。

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个案与短篇

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颈内静脉穿刺置管致心率呼吸减慢1例

A case report of sudden drop in heart rate and respiratory rate during internal jugular vein indwelling catheter

宋 爽[1],石 彦[2],陈显春[1] (第三军医大学附属西南医院:[1]乳腺疾病中心;[2]普通外科,重庆 400038)

患者,女性,43岁,因患左乳癌拟手术。查胸片正常,心电图示:窦性心率,心率70次/min,正常心电图,否认心肺疾病史。手术前1天行颈内静脉穿刺置管术。取肩部稍垫高头后仰并偏左侧卧位,常规消毒铺无菌巾,0.75%利多卡因局麻,选取中位颈内静脉穿刺点(即胸锁乳突肌胸骨头和锁骨头的交角处),5 ml空针试穿成功后,颈内静脉穿刺针按试穿方向及深度行颈内静脉穿刺置管,当置管14 cm准备固定时,患者突然发生眼球上翻,口唇青紫,呼吸减慢至4~6次/min,心率减慢至30次/min,呼之不应。立即予以胸外心脏按摩,口对口人工呼吸,同时迅速固定颈内静脉导管,并经该管道予肾上腺素1 mg、尼克刹咪0.375 g静推。约2 min后患者心率恢复至80次/min,呼吸恢复至16次/min,面色转为红润,神志恢复正常。

继续观察2 h后患者病情平稳,未诉不适,自行走回病房。次日正常手术,术后痊愈出院。

讨论

颈内静脉穿刺置管术的穿刺位置有高位、中位、低位三种[1],以中位穿刺技术最常用,原因是该位置容易确定,该种穿刺技术所引起气胸、动脉误伤、颈上神经节损伤等并发症的机会最少,较为安全。但选用此位置穿刺,在操作过程中,术者从

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作者简介:宋 爽(1976—),女,山东省烟台市人,护士。电话:(023)68754150
收稿日期:2003-07-13;修回日期:2003-10-18

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膜外区,长169 aa,含有4个特征性的半胱氨酸假性重复区(CRP),该CRP区又称为TNFRSF成员的结构基序,是其结合配体后发挥生物学功能的结构基础。人IgG1Fc基因片段编码人IgG1 Fc段的铰链区、CH2与CH3 3个功能区,但缺失激活补体的CH1功能区[16]。将CD137膜外区与人IgG1Fc段,不仅提高了表达的CD137膜外区的稳定性,还为该融合蛋白的纯化与检测提供了一个方便的标记。

为检测重组质粒转染的真核细胞培养上清中是否有目的蛋白表达,我们建立了一个针对CD137段的夹心ELISA检测体系,检测结果证实上清中有该融合蛋白的表达。并通过SDS-PAGE鉴定了亲和纯化的融合蛋白的MW与纯度,用免疫印迹证实其为人CD137-Fc蛋白。

综上所述,我们应用重组DNA技术与真核表达系统,获得了纯化的hCD137-Fc融合蛋白,为后续的工作打下了一定的基础:一方面,可溶性的CD137-Fc结合配体后,在体内即可阻断CD137L-CD137之间的相互作用,为将其用于自身免疫病的治疗提供实验依据;另一方面,获得纯化的可溶性CD137蛋白,为进一步探讨CD137在免疫自稳调节、自身免疫性疾病和肿瘤免疫中的地位,以及探索CD137的其它生物学功能,提供了试剂保证。

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麻醉、试穿,到粗针穿刺、置管均反复用手按压颈前三角区,而该位置正在颈动脉窦周围,因反复刺激了颈动脉窦,反射性引起迷走神经兴奋,而引起呼吸心率减慢。若技术不熟练,反复多次进针,甚至可使穿刺针误入颈动脉窦周围或直接刺入颈动脉窦处,引起心跳呼吸骤停。因此,在行颈内静脉穿刺置管时应做到:①仔细询问病史,对有心肺功能不全、迷走神经张力增高的患者,应慎用或禁用本操作;②穿刺前应向患者作好解释,减轻其精神紧张[2],嘱其在穿刺过程中如有不适及时提出,但要保持体位不变;③摆体位时头颈部不要过偏过伸,尽量使患者颈部放松;④穿刺宜在有急救设备的处置室进行,若在病床旁进行则应备有急救药品;⑤术者须熟悉颈部解剖,掌握正确的穿刺技术,力求一针成功;⑥术中操作要轻柔,减少不必要的按压、揉搓等可能刺激颈动脉窦的操作,并密切观察患者神志、面色、呼吸、脉搏等的变化;⑦穿刺后让患者平卧10 min后再进行其它活动。

关键词:颈内静脉置管;心率呼吸减慢
中图法分类号:R619 文献标识码:B

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