immunohistochemical and avidin-biotin complex methods. **Results:** The rate of negative P16 protein expression was significantly higher in the carcinomatous tissue (58.7%, 27/46) than in the pericarcinomatous tissues (36.8%, 14/38) and in Edmondson grade Ⅲ and Ⅳ HCC (78.9%, 15/19) than in Edmondson grade Ⅰ and Ⅱ HCC (44.4%, 12/27) ($P < 0.05$). The rate of negative P16 protein expression was significantly higher in HCV antigen positive group (80%, 16/20) than in HCV antigen negative group (42.3%, 11/26) ($P < 0.05$). **Conclusion:** P16 protein expression seems to be related closely to the pathogenesis and development of HCC and HCV antigen may be involved in its pathogenesis through the inhibition on the function of P16 gene, which exerts a negative regulation of cell proliferation of HCC.

Key words hepatocellular carcinoma; P16 protein expression; hepatitis C virus

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异丙酚-普鲁卡因-芬太尼静脉复合麻醉的临床研究

Clinical observation of propofol-procaine-fentanyl total intravenous anesthesia

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为探寻理想的全凭静脉麻醉(Total intravenous anesthesia, TIVA)方法,本文采用异丙酚与普鲁卡因、芬太尼配伍施行静脉复合麻醉,经临床试用,取得满意效果。

1 资料与方法

选择 ASA Ⅰ-Ⅱ级、非心脏手术病人 8例(男 5例、女 3例),年龄 25~52岁,体重 45~69 kg 全麻诱导为静注异丙酚 2~2.5 mg/kg(90 s注完)、芬太尼 4 μg/kg 琥珀胆碱 2 mg/kg,气管内插管,控制呼吸。以 2% 普鲁卡因复合液 100 ml(含异丙酚 200 mg 芬太尼 0.2 mg)静脉滴入维持麻醉,滴速初始为 1.5 ml/kg·h^{-1},30 min后视麻醉深度调节滴速为 0.5~1.5 ml/kg·h^{-1}。术毕前 20 min停用复合液。当病人苏醒,自主呼吸恢复正常后拔除气管导管。

麻醉期间连续监测心率、收缩压、舒张压、平均动脉压和血氧饱和度。于麻醉开始后 2、30、60、120、180 min,由给药对侧静脉分别采取血样 3 ml,分离血浆后,采用高效液相色谱法(HPLC)检测血浆异丙酚浓度。

为观察异丙酚和芬太尼在复合液中的稳定性,取上述复合液 10 ml,放置于室温下,分别于 10、30、60、120 min取样用 HPLC法检测异丙酚和芬太尼含量。

数据以 $\bar{x} \pm s$ 表示,采用 t 检验进行统计学处理,$P < 0.05$ 表示有统计学意义。

2 结果

异丙酚-普鲁卡因-芬太尼复合液在室温(20 °C)下放置 2 h,异丙酚和芬太尼浓度无明显变化($P > 0.05$),见表 1。

表 1 复合液中异丙酚、芬太尼的含量($\bar{x} \pm s$)

	10 min	30 min	60 min	120 min
异丙酚 (g/L)	2.01±0.03	1.98±0.04	2.03±0.06	2.02±0.08
芬太尼 (mg/L)	2.02±0.03	2.02±0.02	1.99±0.01	2.02±0.02

全麻诱导后,收缩压降低 7.86%,舒张压降低 6.78%,心率减慢 14.18%。气管插管后恢复至麻醉前水平。维持期收缩压、舒张压、平均动脉压和心率平稳。

血浆中异丙酚浓度的变化随麻醉时间延长逐渐降低。

平均麻醉时间为(4.39±0.77) h,异丙酚维持用量为(2.54±0.47) mg/kg·h^{-1},普鲁卡因为(24.89±4.37) mg/kg·h^{-1},芬太尼(2.62±0.29) μg/kg·h^{-1}。清醒时间平均为 9.8 min,所有病例均未使用钠洛酮,自主呼吸 15~20次/min,潮气量 410 ml以上,血氧饱和度>98%。术后 24 h随访,均无术中知晓,术后无恶心呕吐。

3 讨论

普鲁卡因静脉复合麻醉是我国常用的麻醉方法,但至今尚无理想的药物配伍方案。异丙酚起效快,作用时间短,强效镇静安眠,恢复快速安全,不良反应少,但镇痛效能弱。而芬太尼镇痛效果好,对心血管系统抑制作用轻,但镇静效能弱,易出现术中知晓现象,术后呼吸抑制和恶心呕吐发生率较高。两者均不能单独作为 TIVA的理想药物。异丙酚与芬太尼伍用,则能取长补短,具有良好的麻醉效能。从临床试用结果来看,普鲁卡因-异丙酚-芬太尼静脉复合麻醉诱导迅速平稳,麻醉深度易于调节,血流动力学稳定,恢复快速完全,无术中知晓和术后恶心呕吐。

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本实验表明,在哮喘豚鼠肺组织中,组织细胞中PKC表达增加,伴 PKC的转位活化。PKC的活化进一步引起炎性介质释放增加,而 PKC特异性抑制剂 H-7阻抑炎性介质的释放,说明 PKC在哮喘炎性介质的释放中起着重要作用。

参考文献

[1] Nishizuka Y. Protein kinase 5, Protein kinase C and lipid signaling for sustained cellular responses[J]. FASEB J, 1995, 9(5): 484-494.

[2] 中华医学会呼吸系病学分会.支气管哮喘防治指南(支气管哮喘的定义、诊断、治疗、疗效判断标准及教育和管理方案)[J].中华结核和呼吸杂志, 1997, 20(5): 261-265.

[3] Huston P A, Church M K, Clay T P, *et al*. Early and late-phase bronchoconstriction after allergen challenge of non-anesthetized guinea pigs. I. The association of disordered airway physiology to leukocyte infiltration[J]. Am Respir Dis, 1988, 137(3): 548-557.

[4] Ooka Y, Kuwata T, Asada A, *et al*. Regulation of thymocyte lineage commitment by the level of classical protein kinase C activity[J]. J Immunol, 1997, 158(12): 5707-5716.

[5] 蔡文琴,王伯ǎ.实用免疫细胞化学与核酸分子杂交技术[M].四川科学技术出版社, 1994. 94-96.

[6] Bansal S K, Jha A, Jaismal A S, *et al*. Increased levels of protein kinase C in lymphocyte in asthma: Possible mechanism of regulation[J]. Eur Respir J, 1997, 10(2): 308-313.

[7] Bates M. E, Bertics P. J, Calhoun W. J, *et al*. Increased protein kinase C activity in low density Eosinohils[J]. J Immunol, 1993, 150(10): 4486-4493.

[8] Chang E Y, Szallasi Z, Acs P, *et al*. Functional effects of overexpression of protein kinase C-α, -β, -δ, -ε and -η in the mast cell line RBL-2H3[J]. J Immunol, 1997, 159(6): 2624-2632.

[9] Vezza R, Habib A, Li H, *et al*. Regulation of cyclooxygenase by protein kinase C[J]. J Biol Chem, 1996, 271(47): 300028-300033.

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The expression of protein kinase C in lung tissues and its effects on TXA_2 release in asthmatic guinea pigs

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Abstract **Objective**: To study the role of protein kinase C (PKC) in the pathogenesis of asthma. **Methods**: Guinea pigs were sensitized by exposing to aerosolized ovalbumin. 24 hours after exposure, the activity of PKC in lung tissues was determined, the expression of PKC in the lungs was identified and the quantity of TXA_2 release induced by PMA, a PKC activator, and H-7, a specific inhibitor of PKC, was measured. **Results**: ① The activity and expression of PKC in the asthmatic lung tissues were significantly increased and they were positively correlated to the release of TXA_2. ② PMA after incubated with lung tissues, promoted the release of TXA_2 and H-7 was able to antagonize the effects of PMA after preincubated with lung tissues. **Conclusion**: Overexpression of PKC may play an important role in the development of asthma. Consequently the inhibition of the activity of PKC may exert therapeutic effects on asthma.

Key words protein kinase C; asthma; thromboxane A_2; guinea pig

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由于异丙酚清除半衰期短,用于全麻的维持需采取持续滴入法。过去规定异丙酚只能与 5%葡萄糖液配用,临床使用十分不便。我们以往的研究结果显示异丙酚能与普鲁卡因注射液配用[1]。在 2%普鲁卡因注射液中,异丙酚至少能稳定保存 2h 以 0.5~ 1.5 ml/kg·h^{-1}的速率输注复合液,血液中异丙酚浓度有效和稳定。说明异丙酚与普鲁卡因、芬太尼配伍合理有效,而用该方法配制简单,使用方便。

普鲁卡因-异丙酚-芬太尼三者伍用,异丙酚维持剂量与其它报道相比明显降低,有效减少了药物副作用的发生[2]。异丙酚突出的缺点是循环抑制,其抑制作用呈现剂量依赖性。异丙酚血药浓度与心血管效应关系研究表明,当血中异丙酚浓度大于 2.0μg/ml时,循环处于明显抑制状态[3]。我们采用 IPPFBA,当平均滴速为 1.2 ml/kg·h^{-1}(异丙酚剂量为 2.4 ml/kg·h^{-1})时,异丙酚血药浓度平均为 1.1μg/ml,血压和心率保持于基础水平,既获得了理想的麻醉效果,又维持了血流动力学的稳定。显示出此种复合方法的优越性,是一较理想的 TIVA方法。

关键词 全凭静脉麻醉;异丙酚;普鲁卡因;芬太尼
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参考文献

[1] 陶 军,刘桥义.异丙酚与普鲁卡因注射液配伍稳定性观察[J].临床麻醉学杂志, 1998, 14(2): 84-85.

[2] Struys M, Versichelen L, Thas O, *et al*. Comparison of computer-controlled administration of propofol with two manually controlled infusion techniques[J]. Anaesthesia, 1997, 52(1): 41-50.

[3] 王祥瑞,孙大金,杭燕南,等.异丙酚的血药浓度与临床效应的关系[J].中华麻醉学杂志, 1996, 16(7): 76-79.

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