

论著

保护性通气模式对脊柱融合术老年患者肺功能的影响

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摘要:

目的:观察全身麻醉时采用肺保护性通气模式对老年脊柱融合术患者肺功能的影响。方法:选择美国麻醉医师协会(ASA) II~III级、择期行脊柱融合术患者60例,年龄70~85岁,采用随机数字表随机分成肺保护性通气(PMV)组及常规机械通气(CMV)组,每组30例。PMV组:机械通气模式为间歇正压通气(IPPV)加10 cmH₂O呼气末正压(PEEP),潮气量(VT)=6 mL/kg,呼吸频率(RR)=12~18次/min,吸:呼比(I:E)=1:2,每间隔15 min作一次规律肺泡复张(AR);CMV组:机械通气模式为IPPV,VT=10~12 mL/kg,RR=12次/min,I:E=1:2。观察全麻插管前(T₀)、插管后1 h(T₁)、拔管后即刻(T₂)、拔管后1 h(T₃)、术后1 d(T₄)、2 d(T₅)、3 d(T₆)各个时间点患者pH, PaO₂, PaCO₂, 氧和指数(PaO₂/FiO₂)、肺泡氧分压-动脉血氧分压差(PA-aDO₂)、收缩压(SBP)、舒张压(DBP)、脉搏(HR)、中心静脉压(CVP)及术后1天肺部并发症的发生情况。结果:在T₁, T₂, T₃, T₄, T₅各观察时间点中:与CMV组相比,PMV组中的PaO₂和PaO₂/FiO₂升高,PA-aDO₂下降(P<0.05);术后第1天,CMV组有5例发生了气管-支气管炎,5例低氧血症,3例肺不张,术后肺并发症(PPCs)发生率为43.3%,PMV组仅2例发生了气管-支气管炎,未出现其他并发症,PPCs发生率为6.6%(P<0.05)。两组血流动力学各时点组内组间比较差异无统计学意义(P>0.05)。结论:肺保护性通气模式能够有效改善老年脊柱融合术患者术后低氧血症,减少肺部并发症,对老年患者血流动力学无明显影响。

关键词: 麻醉, 全身 呼吸, 人工 肺功能 老年

Effect of lung protection mechanical ventilation on respiratory function in the elderly undergoing spinal fusion

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Abstract:

Objective: To determine the effect of lung protection mechanical ventilation on respiratory function in the elderly undergoing spinal fusion.
Methods: Sixty 70-85 year old patients, ASA class II or III, undergoing spinal fusion were randomly assigned into 2 groups (30 in each group): a protection mechanical ventilation group (group P) and a conventional mechanical ventilation group (group C). Low VT and low level positive end expiratory pressure (PEEP) mechanical ventilation were applied in group P (VT=6 mL/kg, RR=12-18 b/min, I:E=1:2, PEEP=10 cmH₂O, alveolar recruitment performed once every 15 min), while traditional ventilation was used in group C (VT=10-12 mL/kg, RR=12 b/min, I:E=1:2). Arterial blood samples were taken and pH, PaO₂, PaCO₂, PaO₂/FiO₂, A-aDO₂, HR, SBP, DBP and CVP were recorded before the operation (T₀), 1 h after tracheal intubation (T₁), tracheal extubation immediately (T₂), 1 h after tracheal extubation (T₃), 1 d, 2 d, and 3 d after the operation (T₄, T₅, and T₆). The pulmonary complication was also examined 1 d after the operation.
Results: At T₁, T₂, T₃, T₄ and T₅, PaO₂ and PaO₂/FiO₂ in group P were higher than those in group C, but A-aDO₂ in group P was lower than that in group C. Five patients had bronchitis, 5 had hyoxemia, and 3 had atelectasis in group C, but 2 bronchitis in group P. The incidence of pulmonary complication was 43.3% in group C and 6.6% in group P. There was no significant difference in HR, SBP, DBP and CVP between the 2 groups.
Conclusion: Lung protection mechanical ventilation improves the arterial oxygenation and

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accelerates the recovery of respiratory functions in elderly patients after spinal fusion operation, with no influence on hemodynamics.

Keywords: anesthesia, general respiration, artificial pulmonary function elderly

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