

论文

尼可刹米呼吸兴奋作用机制的探讨

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摘要:

研究了尼可刹米、戊四唑、洛贝林对乌拉坦麻醉猫、兔在几种不同给药途径时兴奋呼吸的阈值。在猫、尼可刹米静脉注射兴奋呼吸的阈值平均为24.9 mg/kg,椎动脉注射阈量为静脉量的1/35,窦区局部给药阈量约为静脉量的1/6。戊四唑静脉注射兴奋呼吸的阈值平均为8.5mg/kg,椎动脉注射阈量约为静脉量的1/4.5,窦区局部给药阈量约为静脉量的1/3,但部分动物在5 mg/kg时抑制呼吸。洛贝林静脉注射兴奋呼吸的阈量为0.5 mg/kg,椎动脉注射阈量为静脉量的1/10,但半数动物呈呼吸抑制反应,窦区局部给药阈量约为静脉量的1/8.5。在兔,尼可刹米静脉注射兴奋呼吸的阈值平均为40.8 mg/kg,椎动脉注射阈量约为静脉量的1/10,窦区局部给药阈量约为静脉量的1/8,但有较多的动物反呈呼吸抑制反应。戊四唑静脉注射兴奋呼吸的阈量为14.9 mg/kg,椎动脉注射阈量约为静脉量的1/3,窦区给药则多数动物呈现呼吸抑制反应。洛贝林静脉注射兴奋呼吸的阈量为2.2 mg/kg,椎动脉注射阈量为静脉量的1/8。窦区局部给药阈量约为静脉量的1/6。从以上结果,我们认为尼可刹米和戊四唑一样主要是兴奋呼吸中枢,但在较大剂量时也可观察到尼可刹米通过窦区反射性地兴奋呼吸。而一般认为主要是作用于颈动脉体反射性兴奋呼吸的洛贝林,似亦有中枢机制同时存在。

关键词:

ON THE MECHANISM OF THE RESPIRATION STIMULATING ACTION OF CORAMIN

HUANG JIAO-CHENG

Abstract:

The mechanism of the respiration stimulating action of coramin was studied in anesthetized animals by comparing the respiratory stimulant threshold dose (RSTD) using different ways of administration namely into the vein, into the vertebral artery and into the carotid artery. Cardiazol and lobelin were also studied in the same manner for comparison. The following results were obtained.1. In cats anesthetized With urethane (1 g/Kg, i. p.), the mean intravenous RSTD of coramin was 24.9 mg/Kg, the mean intravertebral about 1/35 (0.7 mg/Kg) and the mean intracarotid about 1/6 (4.3 mg/Kg) of the intravenous dose; the mean intravenous RSTD of cardiazol was 8.5 mg/Kg, the mean intravertebral about 1/4.5 (1.9 mg/Kg) and the mean intracarotid about 1/3 (3 mg/Kg) of the intravenous dose(but there developed respiratory depression instead of respiratory stimulation in some animals when injected intracarotidly); the mean intravenous RSTD of lobelin was 0.5 mg/Kg, the mean intravertebral about 1/10 (0.05 mg/Kg) and the mean intracarotid about 1/8.5 (0.06 mg/Kg) of the intravenous dose.2. In rabbits anesthetized with urethane (1 g/Kg, i. v.), the mean intravenous RSTD of coramin was 40.8 mg/Kg, the mean intravertebral about 1/10 (4.1 mg/Kg) and the mean intracarotid about 1/8 (5 mg/Kg) of the intravenous dose (here developed again respiratory depression in some animals while injected intracarotidly); the mean intravenous RSTD of cardiazol was 14.9 mg/Kg, the mean intravertebral about 1/3 (5 mg/Kg) of the intravenous dose and in the intracarotid injection experiments, most of the animals developed respiratory depression; the mean intravenous RSTD of lobelin was 2.2 mg/Kg, the mean intravertebral about 1/8 (0.3 mg/Kg) and the mean intracarotid about 1/6(0.4 mg/Kg) of the intravenous dose.From the above mentioned experiments, it can be concluded that coramin stimulates the respiratory centre directly. A reflex stimulation by way of the chemoreceptors in the carotid body could only be demonstrated with much larger doses.

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