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Critical region of Lafora's Progressive Myoclonus Epilepsy in Chromosome 6q24 further reduced by Italian families to approximate 300 kb

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Lafora's Disease (LD) is a rare but fatal autosomal recessive epilepsy syndrome characterized by stimuli sensitive, massive and segmental myoclonus, absence and grand mal seizures, progressive neurological deterioration and PAS positive intracellular inclusion bodies. Serratosa et al in 1995 and Sainz et al in 1997, identified and then reduced the chromosome 6q23-25 locus of LD to 2.7 cM flanked by D6S1003 and D6S311. We haplotyped eight new families of Italian descent from Italy and Argentina with 14 highly polymorphic chromosome 6q24 microsatellites and observed regions of homozygosities in 5 families, three of whom were consanguineous. Guided by a yeast artificial chromosome/P1-derived artificial chromosome physical map of the candidate region, we examined the 2100 kb to 330 kb homozygous regions of 5 families for heterozygosities. One affected member each from families LD34 and LD36 showed D6S1049 (centromeric) and D6S1649 (telomeric) to be heterozygous, while two affected members of family LD39 showed D6S1042 (telomeric) to be heterozygous. Borders of homozygous regions in families LD34, LD36, and LD39, thus, reduced the LD region to an approximate 300 kb interval occupied by D6S1703, flanked centromeric by D6S1049 and telomeric by D6S1042.

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EFFECT OF ANAESTHETIC AGENTS ON INFARCT VOLUME IN THE RAT

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The present study was aimed to compare the infarction volumes and haemodynamic parameters in permanent endovascular middle cerebral artery occlusion (MCAO) when different anaesthetic agents are used. Adult male Sprague-Dawley rats were anaesthetized with sodium pentobarbital (60 mg/kg i.p.), fentanyl (0.3 mg/kg i.p.) and midazolam (2.5 mg/kg i.p.), or propofol (60 to 90 mg/kg i.p. followed by i.v. infusion at 10 to 25 mg/kg/h). The right-sided MCAO was achieved by passing a monofilament suture to permanently occlude the middle cerebral artery. Arterial blood pressure (ABP) and heart rate (HR) were monitored. Rectal temperature was maintained constant during anaesthesia. Three days after recovery, all rats were killed by decapitation, and their brains were stained with 2% tetrazolium chloride to determine the infarct volume. The mean infarction volumes (SEM; n) were, in cu. mm, 174.0 (16.0; 8) in the pentobarbital group, 170.0 (13.2; 10) in the fentanyl-midazolam group and 174.8 (17.1; 7) in the propofol group ($p > 0.05$ with ANOVA). Use of fentanyl-midazolam resulted in a significant increase in mean ABP and HR at 1 hour of ischaemia when compared to baseline readings, while use of pentobarbital led to a smaller but significant increase in HR at 1 hour of ischaemia. The change in the mean ABP at 1 hour of ischaemia was smallest in the propofol group, and the increase in the HR at 1 hour of ischaemia was greatest in the fentanyl-midazolam group. In conclusion, the infarction volumes are similar despite differences in the haemodynamic effects. Since an increased ABP and/or HR may enhance cerebral perfusion via collaterals, our results suggest that either (1) the haemodynamic effects are insignificant or (2) propofol and pentobarbital may protective against focal cerebral ischaemia when compared to fentanyl-midazolam. (Supported by the CRCG Research Grant 335/041/0071)