Ondansetron

For initial management of aneurysmal subarachnoid hemorrhage:anti-emetics: e.g. Zofran® (ondansetron) 4mg IV over 2–5 minutes, may repeat in 4 & 8 hours, and then q 8 hours for 1–2 days. Avoid phenothiazines (e.g. Phenergan) which may lower seizure threshold (especially in patients who have had a seizure)

For post-op care following MVD anti-emetics (e.g. ondansetron 4mg IV q 6 hrs)

Ondansetron is a highly selective 5-HT3 receptor antagonist that is well tolerated in the clinic. Pre-clinical studies in rats have shown interesting effects of small doses of ondansetron on cognition, behavioural sensitisation and epilepsy. However, the pharmacokinetic profile at a very low dose has not been reported, possibly because currently, there are no published analytical methods capable of quantifying trace levels of ondansetron in plasma or brain. The objective of this study was to develop and validate a highly sensitive HPLC-MS/MS assay capable of quantifying ondansetron in rat plasma and rat brain homogenate following a low subcutaneous administration of 1.0 µg/kg. Ondansetron was extracted by protein precipitation with methanol containing labeled ondansetron. The chromatography was performed on a Thermo Scientific Aquasil C18 analytical column (100 x 2.1 mm I.D., 5 µm) operating at 40 °C. The mobile phase consisted of acetonitrile and 10 mM ammonium formate pH 3 at a ratio of 30:70, respectively. The flow rate was fixed at 300 µL/min and ondansetron and the internal standard were both eluted at 2.3 min. A linear (1/x) relationship was used to perform the calibration over an analytical range from 20.0 - 10,000 pg/mL in plasma and from 2.00 to 1000 pg/mL in rat brain homogenate. The inter-batch precision and accuracy ranged from 3.7 to 4.7% and from 0.7 to 10.9% in rat plasma, respectively. The inter-batch precision and accuracy observed in rat brain was 4.5 to 6.4% and -5.1 to 4.9% respectively. The method met all requirements and the assay was suitable for the determination of the pharmacokinetic profile following a subcutaneous dose of 1.0 µg/kg body weight (BW) in rats [1].

1)
Gaudette F, Bédard D, Kwan C, Frouni I, Hamadjida A, Beaudry F, Huot P. Highly sensitive HPLC-MS/MS assay for the quantitation of ondansetron in rat plasma and rat brain tissue homogenate following administration of a very low subcutaneous dose. J Pharm Biomed Anal. 2019 Jul 12;175:112766. doi: 10.1016/j.jpba.2019.07.014. [Epub ahead of print] PubMed PMID: 31330277.