

Effect of route of administration on systematic availability of oxamniquine in the rabbit

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Abstract:

Eight New Zealand white rabbits (4 females, 4 males) each received oxamniquine (15 mg kg⁻¹) orally, rectally, intravenously and via the hepatic portal vein in a random cross-over study. Serial plasma samples were obtained for up to 10 hours post drug administration and the bioavailable fraction was calculated, with reference to the intravenous route, from areas under plasma drug concentration-time profiles. Estimated fractions available were approximately 1.0, 0.45 and 0.46 respectively, for portal vein, oral and rectal routes. Hepatic "first-pass" metabolism appeared to be negligible. Low oral availability suggested incomplete absorption and/or metabolism within gastrointestinal wall. Rectal administration resulted in comparable availability to oral administration. These results suggest that if a suitable formulation can be developed, then rectal administration of oxamniquine may provide an alternative to oral administration in patients who cannot take drug orally.