Introduction:

CW 1759-50 has been developed to reduce histamoid phenomena in an ultra-short acting nondepolarizer; when compared with gantacurium (GW 280430A) its safety ratio [ED for histamoid circulatory, pulmonary and cutaneous phenomena/NMB ED95] is approximately four to seven times greater in monkeys and dogs versus that of gantacurium (unpublished data). CW 1759-50 is ultra-short acting because the molecule is inactivated by bodily L-cysteine in a chemical reaction. In this study, we tested spontaneous recovery and antagonism of 1759-50 blockade by exogenous L-cysteine at two key points: one minute following a bolus dose of 4x ED95 (0.20 mg/kg)(point A) and one minute following discontinuation of continuous infusions (point b).

Results:

Rate of spontaneous recovery [5-95%] interval following bolus dosage (1x -4x ED95) and infusion do not differ. Rate of accelerated recovery (reversal) by L-cysteine also did not differ (Table).

Conclusions:

The data indicate that recovery from 1759-50 blockade, whether spontaneous or L-cysteine accelerated (reversal) is unaffected by bolus dosage or infusion. Dosage for immediate reversal by L-cysteine is identical at all points tested. The neuromuscular properties of 1759-50, together with its reduced association with histamoid phenomena (vis-a-vis) gantacurium) suggest that CW 1759-50 may present an improved profile in human subjects.