Table 1

Patient	1st Treatment Total Dose (mg/kg i.v.)	1st Treatment % Block (Tetanus)	2nd Treatment Total Dose (mg/kg i.v.)	2nd Treatment % Block (Tetanus)	3rd Treatment Total Dose (mg/kg i.v.)	3rd Treatment % Block (Tetanus)
1	0.03	90	0.03	93	0.03	58
2	0.02	68	0.02	75	0.02	24
3	0.03	99	0.06	87		
4	0.02	95	0.05	88		
5	0.02	93	0.05	76		

Thus, the neuromuscular blocking action of decamethonium, like that of suxamethonium, changes after repeated dosage when its properties resemble more those of the competitive neuromuscular blocking agents.

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Analysis of dopamine interactions with [^{3}H]-spiperone binding sites on rat corpus striatum membranes

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Initial studies using [^{3}H]-neuroleptics revealed the existence of binding sites in brain tissue which showed properties characteristic of an association with dopamine (DA) receptors (Burt, Creese & Snyder, 1976; Howlett & Nahorski, 1978; Titeler, Weinreich, Sinclair & Seeman, 1978). More recent reports however, have focussed attention on the complexity of DA agonist-antagonist interactions at these sites (Titeler *et al.*, 1978; Howlett, Morris & Nahorski, 1979). We have previously shown that while the DA antagonist [^{3}H]-spiperone appears, from saturation analyses, to bind to a single population of high affinity sites on rat corpus striatum membranes (Howlett & Nahorski, 1978), DA agonists interact with the [^{3}H]-spiperone for more than one site (Howlett *et al.*, 1979). In this present communication, we have further examined these interactions by studying the dopamine/[^{3}H]-spiperone competition at various degrees of occupancy of the antagonist binding sites.

The methods used were as previously described (Howlett & Nahorski, 1978), except that the corpus striatum membrane preparation examined was an homogenate in Tris/HCl (50 mM, pH 7.8), with no washing or purification. The binding studied was that displaced by (+)-butaclamol (10^{-6} M), and constituted 80–90% of the total binding.

Five concentrations of [^{3}H]-spiperone, ranging from 90 pM to 2.2 nM, were incubated with increasing amounts of DA (10 nM–100 μM). In the absence of any competing DA, 90 pM [^{3}H]-spiperone occupied approximately 40% of the maximum (+)-butaclamol displaceable binding sites. This occupancy increased to 50% at 230 pM and was virtually 100% at 1.5 nM [^{3}H]-spiperone.

At all five [^{3}H]-spiperone concentrations studied, DA produced displacement curves of a 'flattened' nature which Scatchard analyses resolved into two components. The affinities of dopamine for these two sites (0.3 and 40 μM) were comparable with our previous findings (Howlett *et al.*, 1979). The relative amounts of the two sites however, were proportional to the [^{3}H]-spiperone concentration. Even at the lowest concentration of ligand (90 pM), the occupancy of the high affinity site was maximal and comprised 85% of the total specific binding. Increasing the [^{3}H]-spiperone concentrations further occupied only those sites that had a low affinity for DA, such that at 2.2 nM [^{3}H]-spiperone, when both sites were fully occupied, the high affinity site comprised only 30% of the total. Thus, [^{3}H]-spiperone appears to bind to two sites on rat corpus striatum membranes with similar affinities, while DA displaces [^{3}H]-spiperone

from these two sites with markedly different affinities. Further studies are currently in progress to assess the significance of these findings and their possible relationship with the DA receptor.

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Pitfalls in the assessment of the specific binding of (−)[^{3}H]-dihydroalprenolol to β-adrenoceptors

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The use of radiolabelled ligands to identify receptors directly has been particularly useful in the study of the β-adrenoceptor (β-AR). However, the binding characteristics (K_D, B_{max}, Hill coefficients) vary considerably between laboratories even when workers are utilizing identical tissues and labelled ligands. We have made a careful assessment of the binding of (−) [^{3}H]-dihydroalprenolol ([^{3}H]-DHA) to bovine lung membranes and have estimated the apparent specific binding to the β-AR using various competing cold

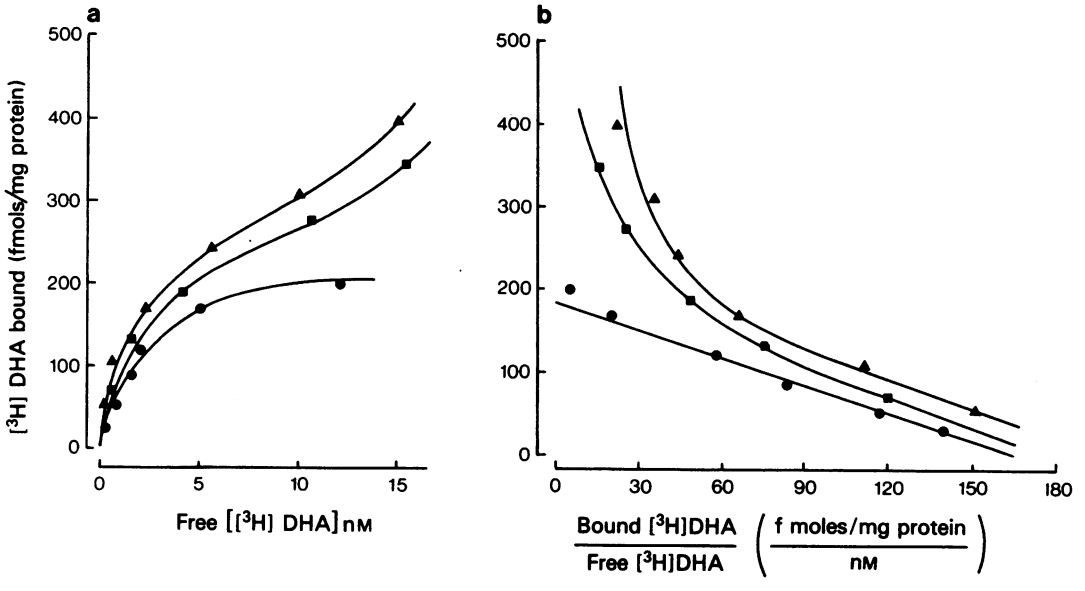

Figure 1 (a) Bovine lung membranes were incubated with increasing concentrations of [^{3}H]-DHA in the presence and absence of (−)-isoprenaline (2×10^{-4} M), (−)-alprenolol (1×10^{-5} M), and (−)-propranolol (1×10^{-5} M), and binding determined as previously described (Barnett, Rugg & Nahorski, 1978). Abscissa: Free [[^{3}H]-DHA] nM, Ordinate: [^{3}H]-DHA bound calculated as the difference between the total binding and that remaining in the presence of (−)-isoprenaline (●), (−)-alprenolol (■), or (−)-propranolol (▲). Each point represents the mean of four experiments. Variation around the points was not greater than ±5%. (b) The same data analysed by the method of Scatchard.