

Prevention of succinylcholine-induced fasciculation and myalgia - analyzed randomised controlled trials (trials A-L)

Reference	Ref #	Sequence	Type of surgery	Patients randomized	Induction	Fasciculation	Myalgia	Succinyl-choline	Active	Comparator	Oxford Score					
1st author year of publication	Ref #	PT=pretreatment Ind= Induction	Delay between Induction and Sch	drop-outs analyzed	Opioid pre-treatment	P=Propofol T=Thiopental M=Methohexitol in mg/kg	Assessment	Extracted endpoint	Assessment	Extracted endpoint (groups in brackets)	Number of analysed patients in brackets	Random Blinding Follow-up				
Bennetts 1981	12	PT-Ind-SCh	2 min	Various	341 42 299 m+f	None	M1.5-2	no data	n/a	Questionnaire	none, mild, moderate severe	1-1.5 mg/kg	Tubocurarine 2.5 mg (32) or 5 mg (42) 2' before Fazadinium 7.5 mg (31) or 15 mg (33) 2' before Gallamine 10 mg (33) or 20 mg (30) 2' before Pancuronium 0.5 mg (32) or 1 mg (29) 2' before	No pretreatment (37)	2 0 0	
Blint 1981	13	PT-Ind-SCh	30 sec	n/a	80 0 80 m+f	None	T4-6	none very fine minimal contraction vigorous contraction	none	Investigator	do you have any pain?	1-1.5 mg/kg	Metocurine 1 mg (10), 1.5 mg (10) or 2 mg (10) 3' before Tubocurarine 3 mg 3' before (10) Gallamine 20 mg 3' before (10) Pancuronium 0.5 mg 3' before (10)	No pretreatment (20)	1 1 0	
Brodsky 1979	14	PT-Ind-SCh	"followed by"	Major	40 0 40 m+f	None	T4	none, fine facial, minimal trunk vigorous trunk	none	Investigator	none, transient, numerous sites incapacitating	1.5 mg/kg	SCh 10 mg 1' before (20)	No pretreatment (20)	1 1 0	
Brodsky 1979A	15	PT-Ind-SCh	1 min	Various	40 0 40 m+f	none	T4	none, fine, minimal trunk vigorous	none	Investigator	none, transient, numerous sites incapacitating	1.5 mg/kg	Pancuronium 1 mg 4' before (20)	No pretreatment (20)	1 1 0	
Budd 1985	16	Ind-PM-SCh	3 min	Oral	100 0 100 m+f	Fentanyl 3 mcg/kg	T5	no data	n/a	Investigator Questionnaire	none, mild moderate/severe	1 mg/kg	Atracurium 2.5 mg (25) or 5 mg (25) 3' before Fazadinium 3.75 mg 3' before (25)	Saline (25)	1 1 0	
Chestnutt 1985	17	PT-Ind-SCh	"followed immediately"	Gynecology	80 14 66 f	None	T5	nil, mild, moderate, severe	nil	Investigator	nil, mild moderate, severe	1 mg/kg	Magnesium 1 g 2' before (31)	Saline (35)	0 0 1	
Chiu 1998	18	PT-Ind-SCh	"followed by"	Non-ophthalmic	40 1 39 m+f	Alfentanil 20 mcg/kg	P	none, mild, moderate, severe	none	no data	n/a	1.5 mg/kg	Mivacurium 20 µg/kg 3' before (19)	Saline (20)	1 1 1	
Collier 1979	19	PT-Ind-SCh	LOC	Gynecology	98 0 98 f	None	Althesin 50 mg	none, mild, moderate, marked	none	Investigator	none yes	1 mg/kg	Dantrolene 3.5 mg/kg PO 2h before (48)	No pretreatment (50)	2 1 0	
Davies 1983	20	PT-Ind-SCh	LOC	ENT	40 0 40 m+f	None	T5	none slight, obvious, major movements	none	Investigator	none, mild moderate, severe	1 mg/kg	Diazepam 10 mg 90' before (20)	Placebo (20)	1 2 0	
Ebeling 1996	21	Ind-PM-SCh	12 min	Various	64 0 64 m+f	Fentanyl 0.1 mg	T3-5	nein ja	nein	Investigator	nein ja	1 mg/kg	Pancuronium 1 mg 2' before (16)	Vecuronium 1 mg 2' before (16)	Saline (16)	1 0 0
Erk 1995	22	PT-Ind-SCh	"and"	ENT	100 0 100 m+f	None	T5	none moderate severe	none	Investigator	none yes	1.5 mg/kg	Vecuronium 10 µg/kg 2' before (20)	Chlorpromazine 100 µg/kg 5' before (20)	No pretreatment (20)	1 1 0
Fahmy 1979	23	PT-Ind-SCh	"and"	Various	120 0 120 m+f	None	T5	none, fine, coarse, vigorous	none	Investigator	none yes	1 mg/kg	Diazepam 50 µg/kg 5' before (40)	Tubocurarine 50 µg/kg 5' before (40)	No pretreatment (40)	1 1 0
Fassoulaiki 1981	24	Ind-PT-SCh	2-3 min	Breast	201 0 201 f	None	T6	no data	n/a	Investigator	none, moderate, severe	1 mg/kg	Lidocain-Spray 100 mg 3' before (97)	No pretreatment (104)	1 1 0	
Ferres 1983	25	PT-Ind-SCh	30 sec	Minor	198 0 198 m+f	None	T5	absent moderate severe	absent	Investigator	absent moderate severe	1.5 mg/kg	Vecuronium 1 mg 1' (21) or 2' (27) before Pancuronium 1 mg 1' (20) or 2' (25) before Gallamine 20 mg 1' (20) or 2' (20) before Tubocurarine 5 mg 1' (20) or 2' (23) before	Saline (16)	1 1 0	
Findlay 1996	26	Ind-PT-SCh	1 min	Oral	150 0 150 m+f	Fentanyl 1 mcg/kg	P	nil, mild, moderate, severe	nil	Investigator Questionnaire	nil, mild, moderate, severe	1.5 mg/kg	Vecuronium 1 mg 1' before (50)	Rocuronium 6 mg 1' before (50)	Saline (50)	1 2 0
Fisher 1993	27	PT-Ind-SCh	"and"	Gynecology	69 9 60 f	None	T4-7	none, any (not head/extr) coarse	none	Telephone interview	none, mild moderate, severe	1-1.5 mg/kg	Midazolam 30 µg/kg 5' before (35)	Saline (25)	1 2 1	
Gupte 1971	28	PT-Ind-SCh	"immediately"	Endoscopy	240 0 240 m+f	None	T250	no data		Investigator	absent, mild, severe	100 mg	Vitamine C 500 mg x 2 (125)	No pretreatment (115)	1 1 0	
Hatta 1992	29	PT-Ind-SCh	"followed by"	Minor	60 0 60 m+f	Pethidine 1 mg/kg	T4-5	absent, mild, moderate, severe	absent	Investigator	absent, mild, moderate, severe	1.5 mg/kg	Phenotoin 5 mg/kg (20)	Tubocurarine 3 mg (20)	No pretreatment (20)	1 0 0
Hochhalter 1996	30	Ind-PT-SCh	3 min	Orthopedic	50 0 50 m+f	None	P/T	None, fine, medium, coarse	none	Telephone interview	numeric analog scale (0-10)	0=none	Atracurium 50 µg/kg 3' before (26)	Saline (24)	1 2 1	
Houghton 1993	31	Ind-PT-SCh	"followed by"	Oral	200 0 200 m	None	T4	not visible, extremely fine, minimal contractions vigorous contractions	not visible	Investigator	None, slight, moderate severe	1.5 mg/kg	Pancuronium 1 mg 45" before (100)	Saline (100)	1 1 0	
Jain 1985	32	PT-Ind-SCh	"followed by"	Various	40 0 40 m+f	None	T4	absent, mild, moderate, severe	absent	Investigator	absent present	1 mg/kg	Lidocaine 4 mg/kg 0.5' before (20)	Saline (20)	1 0 0	
Joshi 1999	33	PT-Ind-SCh	"followed by"	Ambulatory	80 4 76 m+f	Fentanyl 1 mcg/kg	P2-2.5	absent, mild, moderate, severe	absent	Investigator	absent, mild, moderate, severe	1.5 mg/kg	Tubocurarine 0.05 mg/kg (19)	Rocuronium 0.06 mg/kg (20)	Saline (20)	2 0 1
Kahraman 1993	34	PT-Ind-SCh	no data	Ophthalmic	34 0 34 m+f	None	T5-7	absent, mild, moderate, severe	absent	Investigator	absent, mild, moderate, severe	1.5 mg/kg	Cisatracurium 0.01 mg/kg (17)	Diclofenac 75 mg IM (17)	Saline (17)	1 1 0
Kim 1999	35	PT-Ind-SCh	30sec	Minor	60 0 60 f	None	T5	absent, mild, moderate, severe	absent	White's practice	absent, mild, moderate, severe	1.5 mg/kg	Rocuronium 0.05 mg/kg (20)	Vecuronium 0.007 mg/kg (20)	Saline (20)	1 1 1
Laveneziana 1983	36	PT-Ind-SCh	"and"	Various	87 0 87 m+f	Methadone	T5	0, 1, 2	0	Investigator	0=none 1=present	1 mg/kg	Magnesium sulfate 20 mg/kg 2' before (42)	No treatment (45)	1 1 0	
Leeson-Payne 1994	37	PT-Ind-SCh	"followed by"	Oral	60 2 58 m+f	Fentanyl 1 mcg/kg	P2-2.5	absent, mild, moderate, severe	absent	Questionnaire	absent, mild, moderate, severe	1.5 mg/kg	Atracurium 0.05 mg/kg (20)	Ketorolac 10 mg (20)	Saline (20)	1 1 1