

Table S1. Demographic characteristics of wild grey squirrels undergoing gonadectomy during pilot study 1 and 2 randomized to receive two anesthetic mixtures IM including ketamine (15 mg/kg) or alfaxalone (4 mg/kg) with different dexmedetomidine doses: alfaxalone-dexmedetomidine 30 µg/kg (group A+30DEX; n=5), ketamine-dexmedetomidine 30 µg/kg (group K+30DEX; n=5), alfaxalone-dexmedetomidine 35 µg/kg (group A+35DEX; n=6) and ketamine-dexmedetomidine 35 µg/kg (group K+35DEX; n=5).

		Pilot study 1 (n=10)		Pilot study 2 (n=11)	
		A+30DEX	K+30DEX	A+35DEX	K+35DEX
Sex	Female (n, %)	2 (40.0%)	1 (20.0%)	2 (33.3%)	3* (60.0%)
	Male (n, %)	3 (60.0%)	4 (80.0%)	4 (66.7%)	2 (40.0%)
Body weight (g; mean± SD)		424±105	530±45	477±92	520±45
Age	Young	2 (40.0%)	1 (20.0%)	4 (66.7%)	1 (20.0%)
	Adult	3 (60.0%)	4 (80.0%)	2 (33.3%)	4 (80.0%)

*1 pregnant squirrel.

Table S2. Parameters related to the quality of sedation, surgical techniques and recovery phase on wild grey squirrels undergoing gonadectomy during pilot study 1 and 2 randomized to receive two anesthetic mixtures IM including ketamine (15 mg/kg) or alfaxalone (4 mg/kg) with different dexmedetomidine doses: alfaxalone-dexmedetomidine 30 µg/kg (group A+30DEX; n=5), ketamine-dexmedetomidine 30 µg/kg (group K+30DEX; n=5), alfaxalone-dexmedetomidine 35 µg/kg (group A+35DEX; n=6) and ketamine-dexmedetomidine 35 µg/kg (group K+35DEX; n=5). Descriptive statistics: values are numbers and percentages.

Parameter		Pilot study 1 (n=10)		Pilot study 2 (n=11)	
		A+30DEX	K+30DEX	A+35DEX	K+35DEX
Muscle relaxation	Absent	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
	Mild	5 (100.0%)	3 (60.0%)	3 (50.0%)	4 (80.0%)
	Excellent	0 (0.0%)	2 (40.0%)	3 (50.0%)	1 (20.0%)
Depth of anesthesia	Inadequate	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
	Mild	5 (100.0%)	3 (60.0%)	3 (50.0%)	4 (80.0%)
	Profound	0 (0.0%)	2 (40.0%)	3 (50.0%)	1 (20.0%)
Recovery time	Poor	0 (0.0%)	0 (0.0%)	2 (33.3%)	0 (0.0%)
	Good	4 (80.0%)	1 (20.0%)	1 (16.7%)	0 (0.0%)
	Excellent	1 (20.0%)	4 (80.0%)	3 (50.0%)	5 (100.0%)
Recovery quality	Poor	1 (20.0%)	0 (0.0%)	1 (16.7%)	0 (0.0%)
	Good	2 (40.0%)	0 (0.0%)	3 (50.0%)	1 (20.0%)
	Excellent	2 (40.0%)	5 (100.0%)	2 (33.3%)	4 (80.0%)

Table S3. Effect of the season on basal physiologic parameters of wild grey squirrels undergoing gonadectomy (estimated marginal means ± standard error).

	Season				p value
	Winter	Spring	Summer	Fall	
RR_basal	102±11	100±13	121±14	89±11	0.338
HR_basal	242 ^a ±12	244 ^{ab} ±12	225 ^a ±13	273 ^b ±10	0.022
SpO ₂ _basal	98±1	98±1	97±1	96±1	0.587
T_basal	38±1	38±1	38±1	38±1	0.936

For each row, values followed by the same superscript letter do not differ significantly ($p < 0.05$).