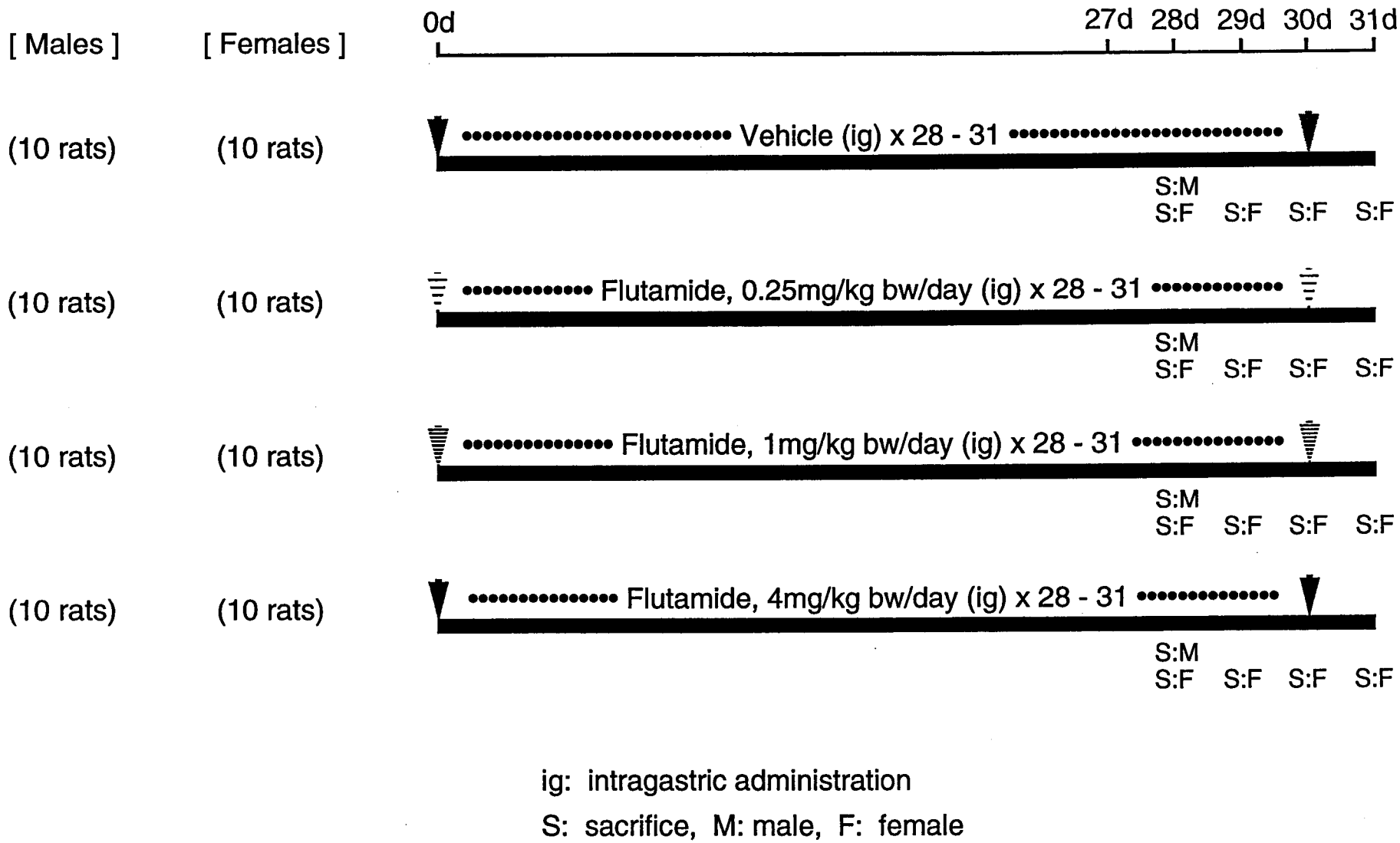

Fig. 1. Experimental design for the study of flutamide

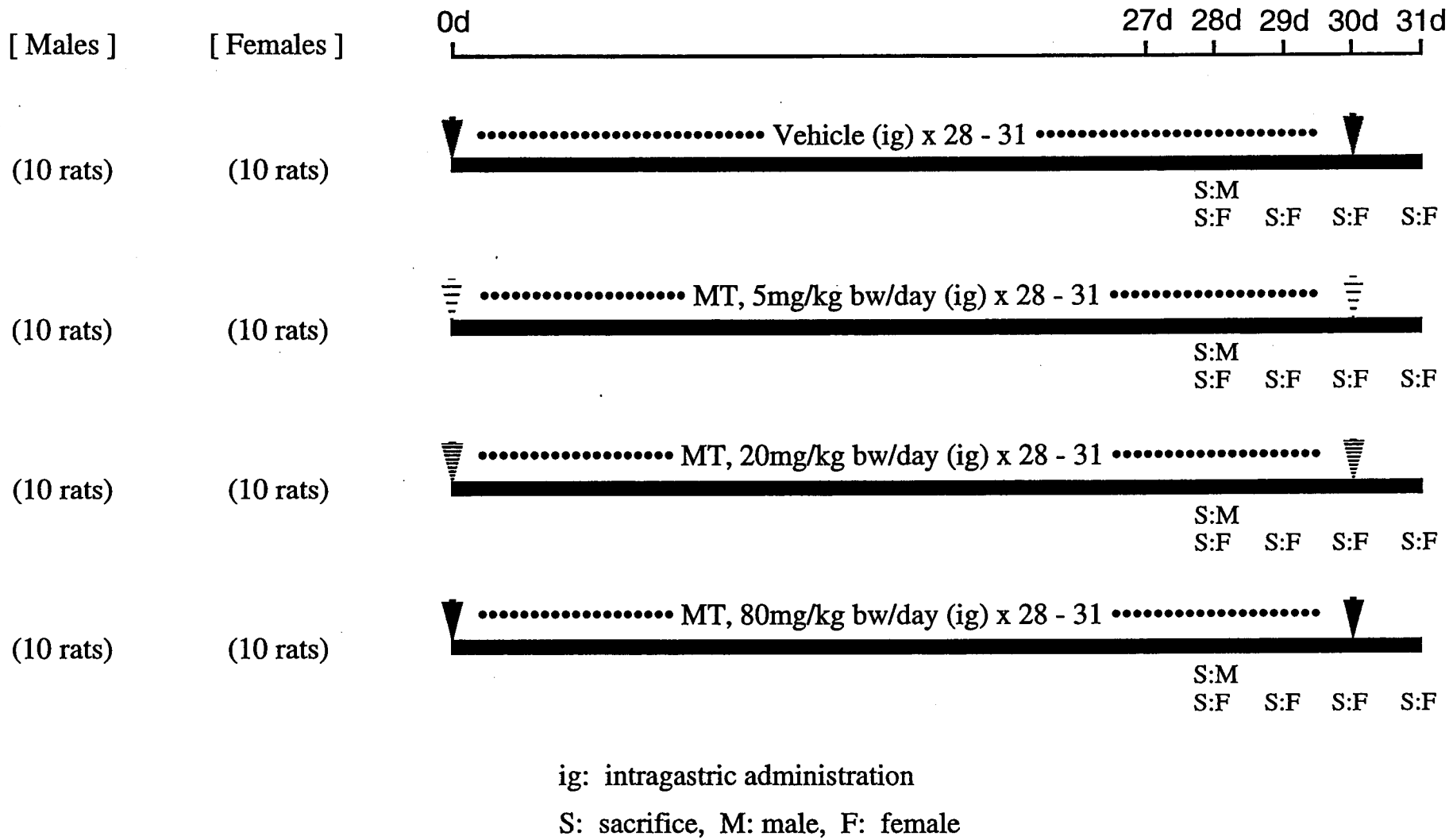

Fig. 2. Experimental design for the study of methyltestosterone

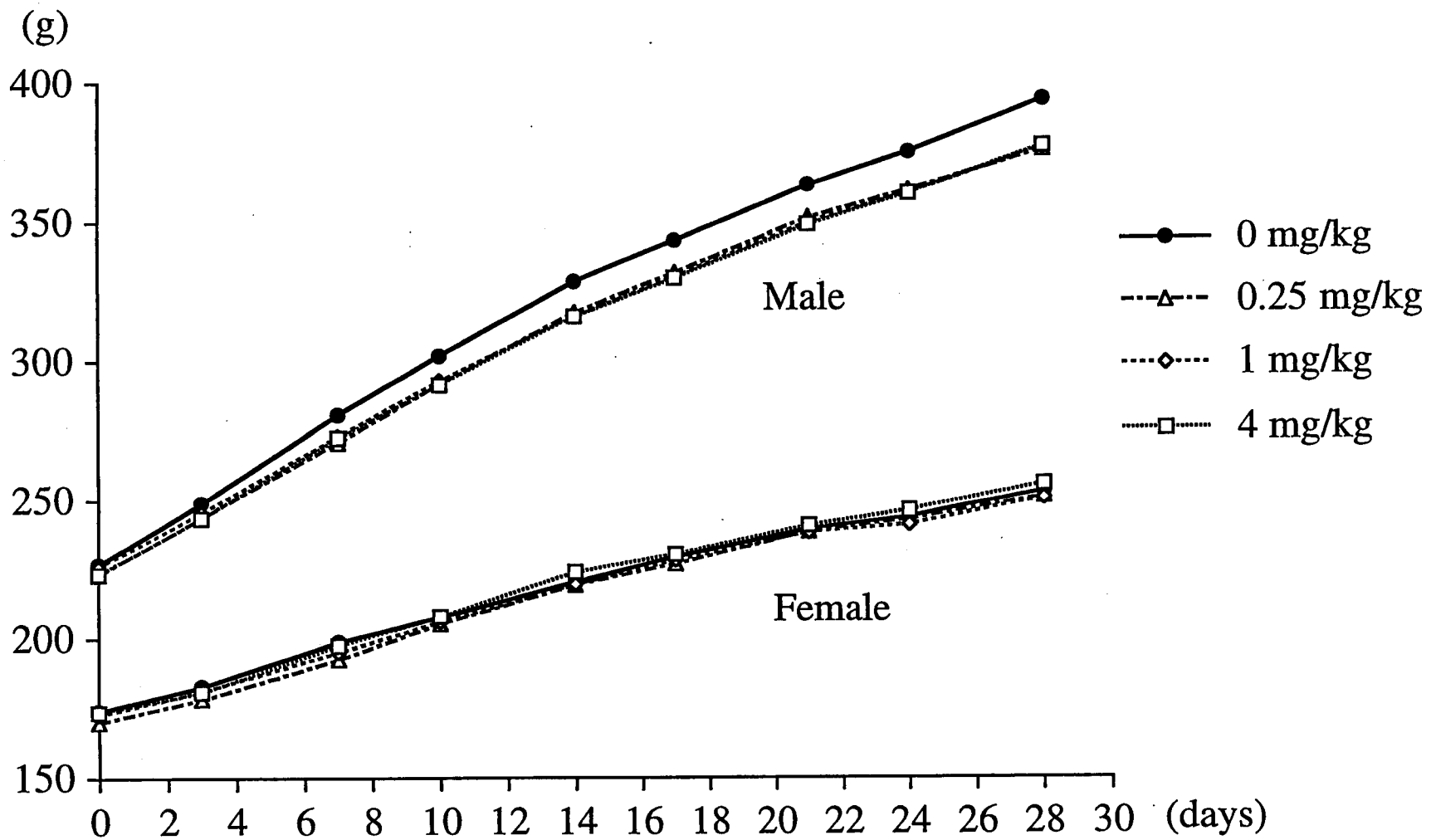

Fig. 3. Growth curves of rats treated with flutamide for 28 days

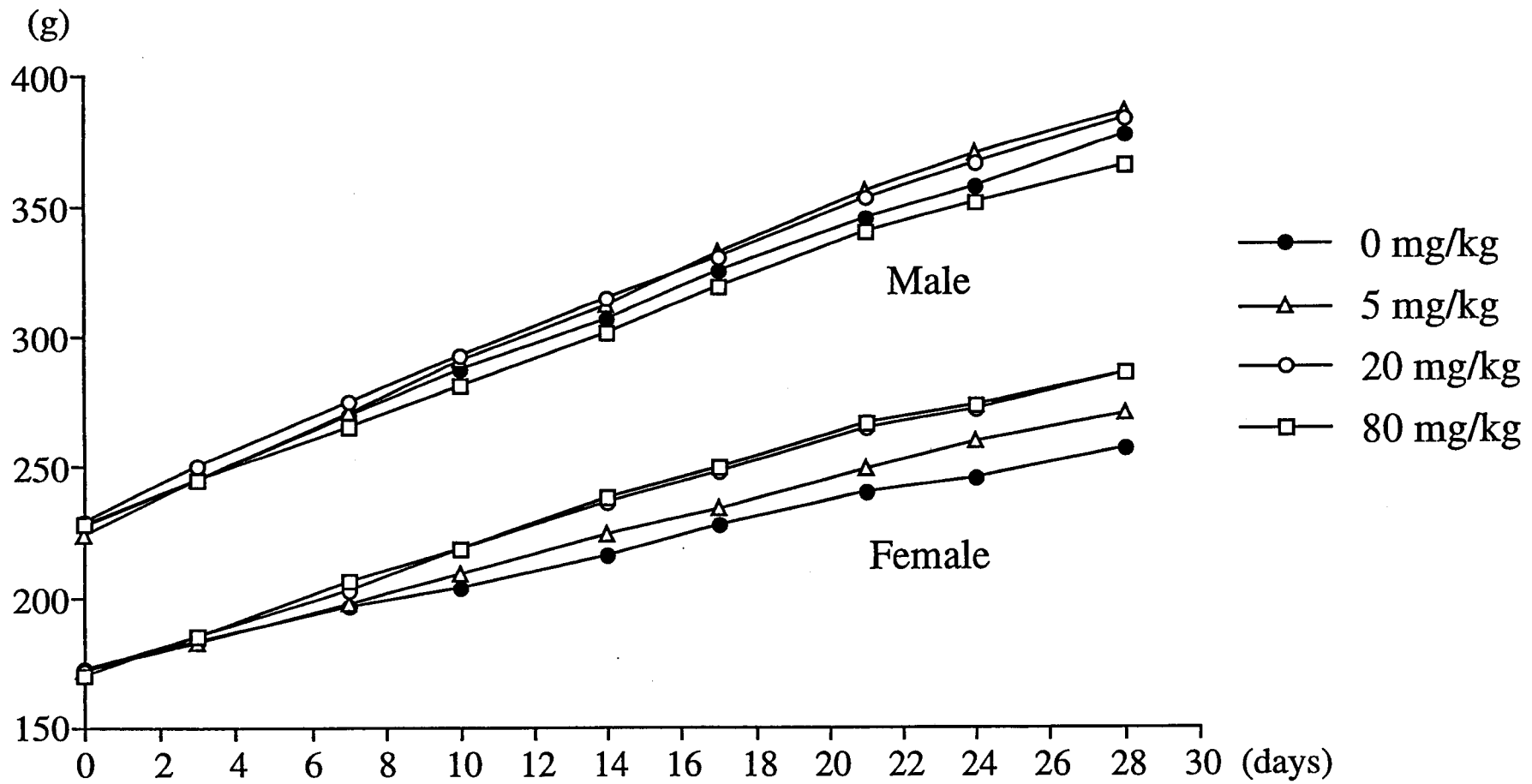

Fig. 4. Growth curves of rats treated with methyltestosterone for 28 days

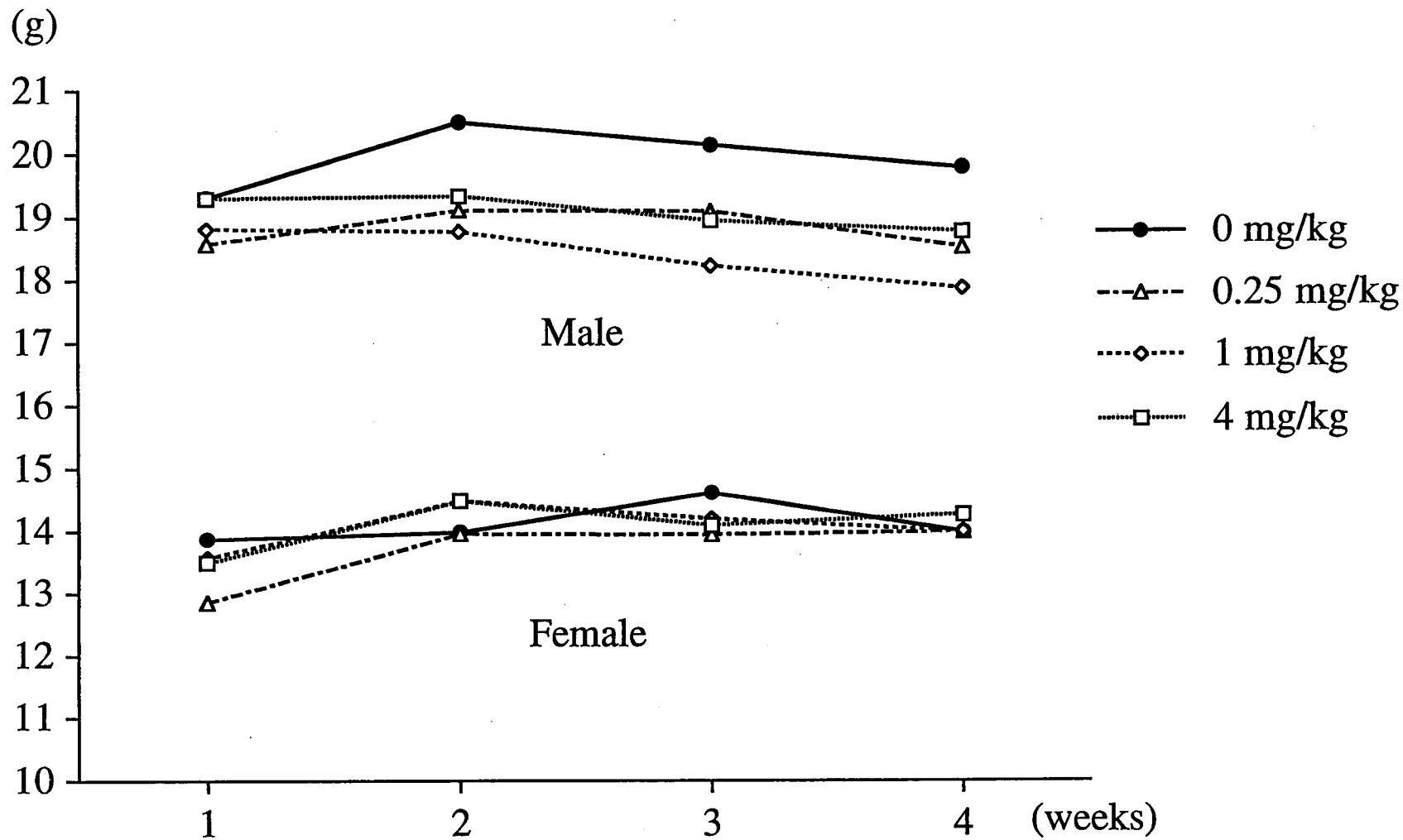

Fig. 5. Sequential food intakes of rats treated with flutamide for 28 days

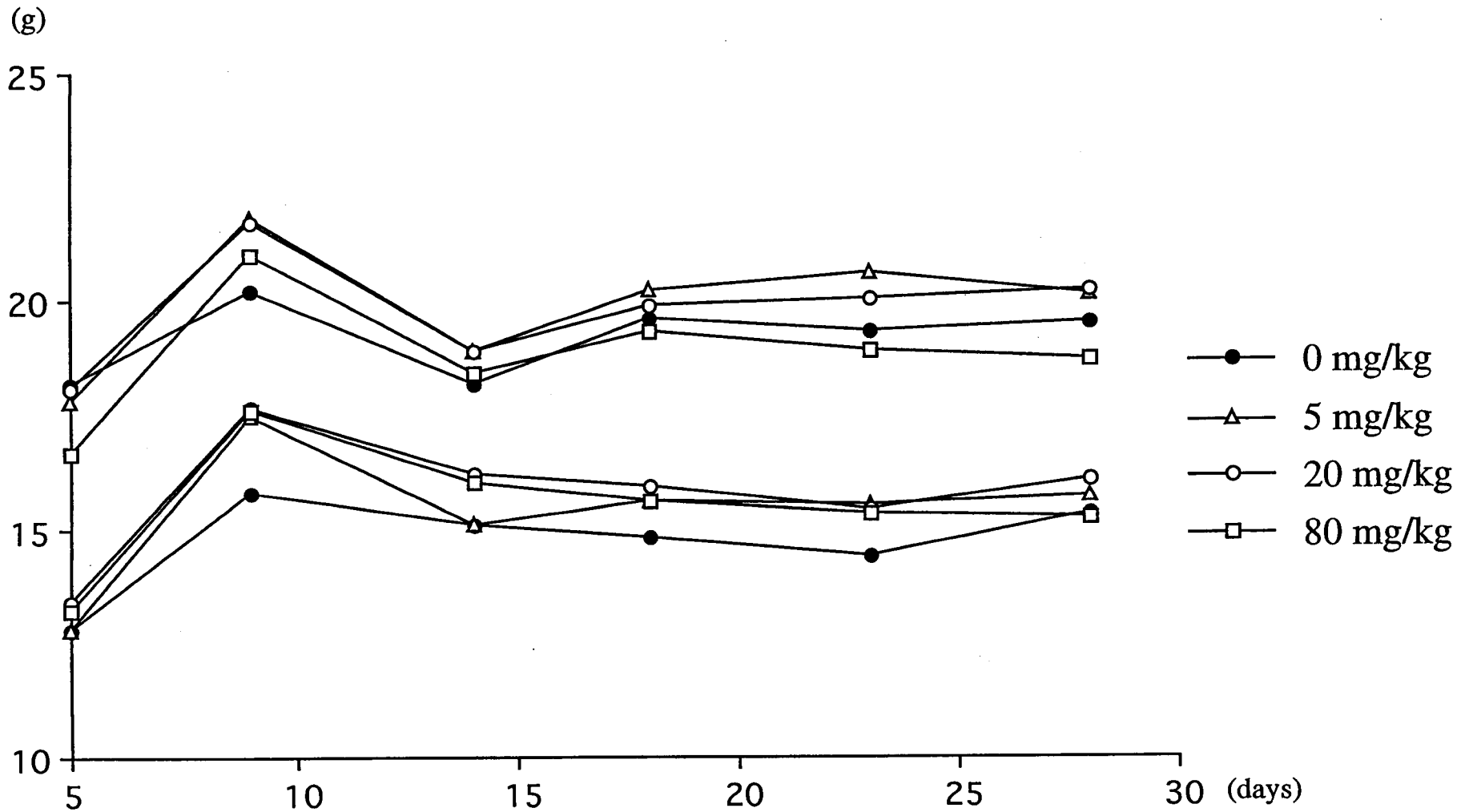

Fig. 6. Sequential food intakes of rats treated with methyltestosterone for 28 days

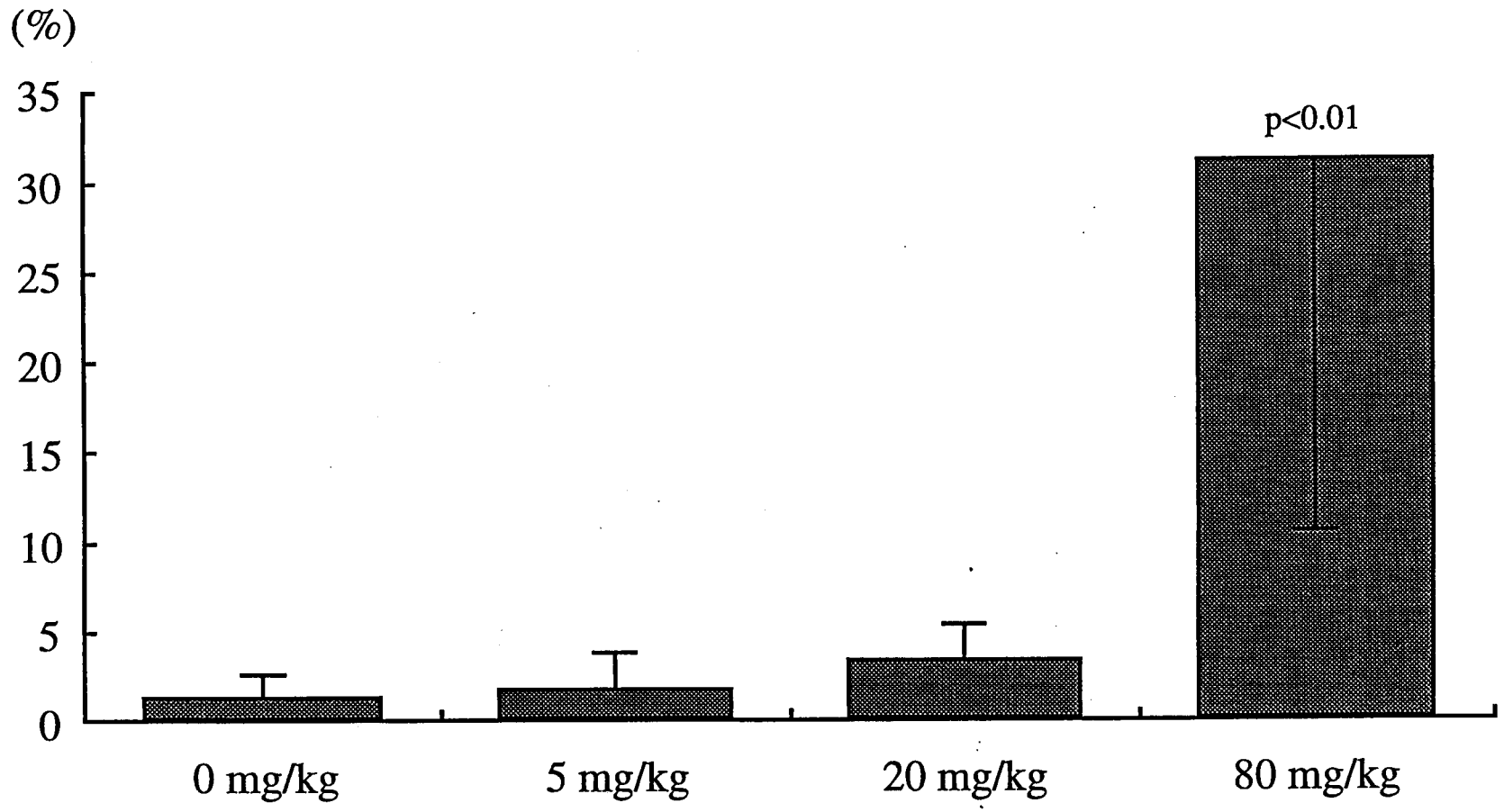

Fig. 7. Percentage of stage Ⅶ and Ⅷ tubules with degenerated pachytene spermacytes of male rats treated with methyltestosterone for 28 days

Table 1. Cyclic changes on the vaginal smear of female rats treated with flutamide for 28-31 days

Dose level (mg/kg)	Animal no.	Experimental days											
		20	21	22	23	24	25	26	27	28	29	30	31
4	41	MD	D	P	E	M	D	P	E	MD	D*		
	42	E	MD	D	P	E	D	D	P	E	EM	D*	
	43	P	E	MD	D	P	E	D	D	P	E	M	D*
	44	MD	D	P	E	MD	D	P	E	M	D*		
	45	E	M	D	P	E	E	MD	D	P	E	M	D*
	46	E	M	D	D	E	E	D	D	P	E	M	D*
	47	D	P	E	M	D	P	E	MD	D*			
	48	E	MD	D	P	E	E	D	D	P	E	M	D*
	49	MD	D	E	E	MD	D	P	E	E	EM	D*	
	50	P	E	M	D	P	E	M	D	P	E	M	D*
1	51	E	D	D	P	E	D	D	P	E	D	D*	
	52	E	MD	D	P	E	M	D	P	E	MD	D*	
	53	E	D	D	P	E	D	D	P	E	D	D*	
	54	D	P	E	MD	D	P	E	MD	D*			
	55	M	D	P	E	MD	D	P	E	M	D*		
	56	D	D	P	E	M	D	P	E	M	D*		
	57	P	E	MD	D	P	E	D	D	P	E	M	D*
	58	D	D	P	E	MD	D	P	E	MD	D*		
	59	P	E	MD	D	P	E	M	D	P	E	M	D*
	60	D	P	E	D	D	P	E	D	D*			
0.25	61	D	D	PE	E	M	D	PE	E	MD	D*		
	62	D	P	E	M	D	P	E	E	MD	D*		
	63	MD	D	P	E	D	D	P	E	M	D*		
	64	E	D	D	P	E	E	D	D	D*			
	65	E	M	D	P	E	D	D	P	E	M	D*	
	66	D	P	E	D	D	P	E	MD	D*			
	67	D	E	M	D	P	E	M	D	P	E	D	D*
	68	E	D	D	P	E	D	D	P	E	M	D*	
	69	D	P	E	E	D	D	P	E	E	MD	D*	
	70	P	E	M	D	P	E	MD	D	P	E	M	D*
0 (Control)	71	E	M	D	P	E	D	D	P	E	MD	D*	
	72	E	MD	D	P	E	D	D	P	E	MD	D*	
	73	E	M	D	P	E	M	D	P	E	MD	D*	
	74	D	P	E	M	D	P	E	MD	D*			
	75	D	P	E	M	D	P	E	MD	D*			
	76	P	E	M	D	PE	E	M	D	DP	E	M	D*
	77	D	D	P	E	MD	D	P	E	M	D*		
	78	D	P	E	D	D	P	E	MD	D*			
	79	E	M	D	P	E	M	D	P	E	MD	D*	
	80	E	M	D	P	E	M	D	P	E	MD	D*	

P: proestrus, E: estrus, M: metestrus, D: diestrus, *: the day sacrificed

Table 2. Cyclic changes on the vaginal smear of female rats treated with methyltestosterone for 28-31 days

Dose level (mg/kg)	Animal no.	Experimental days											
		20	21	22	23	24	25	26	27	28	29	30	31
80	41	Abnormal without cyclic changes								*			
	42									*			
	43									*			
	44									*			
	45									*			
	46									*			
	47									*			
	48									*			
	49									*			
	50									*			
20	51												
	52	E	D	D	D	P	E	MD	D	D*			
	53	D	D	D	D	D	P	E	MD	D*			
	54	D	D	D	D	D	P	E	M	D*			
	55	M	D	D	D	D	D	D	D	P	E	EM	D*
	56	D	D	D	E	MD	D	D	D	D	E	E	MD*
	57	D	D	D	P	E	M	D	D	D*			
	58	M	D	D	D	D	D	DP	E	E	D	D*	
	59	D	D	D	D	D	D	D	D	P	E	MD	D*
	60	D	D	E	MD	D	D	D	D	D*			
5	61	D	P	E	EM	D	D	DP	E	EM	D*		
	62	P	E	E	D	D	E	E	MD	D*			
	63	E	E	MD	D	D	E	D	D	D*			
	64	M	D	E	E	EM	D	D	DP	E	E	D*	
	65	D	D	P	E	D	D	D	P	E	EM	D*	
	66	D	D	P	E	EM	D	D	P	E	EM	D*	
	67	D	P	E	E	M	D	P	E	MD	D*		
	68	P	E	E	E	M	D	D	P	E	E	E	EM*
	69	E	E	EM	D	DP	E	M	D	D*			
	70	E	E	M	D	D	P	E	EM	D*			
0 (Control)	71	D	P	E	MD	D	P	E	MD	D*			
	72	E	EM	D	P	E	M	D	P	E	M	D*	
	73	D	P	E	MD	D	P	E	D	D*			
	74	D	DP	E	M	D	P	E	D	D*			
	75	E	M	D	P	E	M	D	P	E	M	D*	
	76	D	P	E	D	D	P	E	M	D*			
	77	P	E	EM	D	P	E	EM	D	D	P	E	M*
	78	E	M	D	P	E	M	D	P	E	E	EM	D*
	79	D	P	E	MD	D	P	E	MD	D*			
	80	E	M	D	P	E	EM	D	P	E	M	D*	

P: proestrus, E: estrus, M: metestrus, D: diestrus, *: the day sacrificed

Table 3. Hematological data of male and female rats treated with flutamide for 28-31 days

Dose level	0 mg/kg	0.25 mg/kg	1 mg/kg	4 mg/kg
[Male]	(10)[a]	(10)	(10)	(10)
WBC ($x10^2/\mu l$)	92.1±14.6	88.7±19.3	89.1±30.2	84.3±11.8
RBC ($x10^4/\mu l$)	785.8±39.9	781.3±47.6	778.1±46.5	756.5±48.3
HGB (g/dl)	14.84±0.56	14.47±0.62	14.66±0.69	14.31±0.75
HCT (%)	43.26±1.54	42.51±1.94	42.97±2.07	41.81±2.49
MCV (fl)	55.11±1.53	54.49±2.12	55.30±1.90	55.28±1.32
MCH (pg)	18.91±0.41	18.55±0.76	18.85±0.71	18.93±0.51
MCHC (g/dl)	34.30±0.33	34.04±0.41	34.12±0.36	34.25±0.57
PLT ($x10^4/\mu l$)	111.6±13.8	104.9±8.4	112.4±12.0	113.3±10.7
[Female]	(10)[a]	(10)	(10)	(10)
WBC ($x10^2/\mu l$)	71.5±9.8	61.3±9.6	67.1±14.7	57.3±16.2
RBC ($x10^4/\mu l$)	725.6±32.1	711.9±40.6	725.9±27.0	702.9±32.6
HGB (g/dl)	13.72±0.58	13.52±0.57	13.91±0.52	13.47±0.56
HCT (%)	39.16±1.78	38.70±1.91	39.43±1.35	38.73±1.89
MCV (fl)	53.97±1.18	54.40±1.34	54.34±1.51	55.13±1.64
MCH (pg)	18.91±0.30	19.01±0.54	19.16±0.49	19.16±0.54
MCHC (g/dl)	35.03±0.40	34.96±0.49	35.28±0.47	34.79±0.36
PLT ($x10^4/\mu l$)	108.0±9.9	106.1±11.3	113.0±12.3	109.7±9.7

a : numbers in parentheses represent the numbers of rats examined.
Data represent mean values ± S.D.