



EFFECT OF PENTOXIFYLLINE ADDITION ON FROZEN-THAWED BOAR SPERMATOZOA



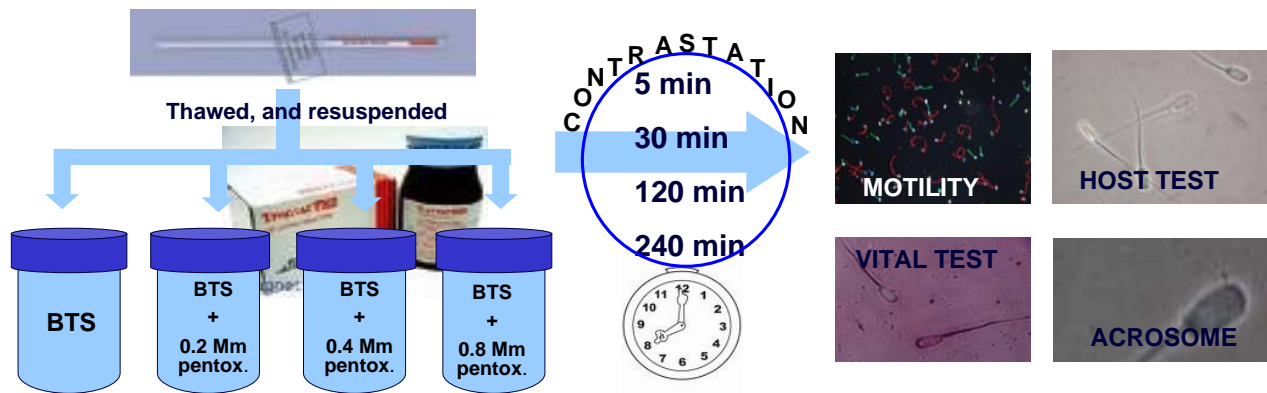
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OBJECTIVE

The main objective of this study was to determine the effect of supplementing the thawing media with pentoxifylline (Calbiochem) on the post-thaw survival of boar spermatozoa.

MATERIAL AND METHODS

In this study, frozen 0.5 mL straws (500 x 10⁶ spermatozoa) from 3 Pietrain boars were used. For each pentoxifylline treatment, six straws from different boars were thawed and pooled. Samples were resuspended in BTS supplemented with pentoxifylline at different concentrations (0, 0.2, 0.4 and 0.8 mM) and then diluted with the same media to reach a volume of 10 ml. Total motility, progressive motility (CASA), viability, acrosome status and hypoosmotic swelling test (HOST) were assessed at 5, 30, 120 and 240 min after thawing. Statistical analysis was carried out by ANOVA (n=8 replicates).



RESULTS

Post-thawing control: 5 minutes					Post-thawing control: 30 minutes					Post-thawing control: 120 minutes					Post-thawing control: 240 minutes					
Contrastation	° Signification	Treatment	N	Media± Error Std.	Contrastation	° Signification	Treatment	N	Media± Error Std.	Contrastation	° Signification	Treatment	N	Media± Error Std.	Contrastation	° Signification	Treatment	N	Media± Error Std.	
Total Motility	0,022	0 mM	8	85,00±5,808 ^a	0,001	0,001	0 mM	8	50,38±5,766 ^a	0,002	0,002	0 mM	8	36,38±5,172 ^a	0,000	0,000	0 mM	8	36,38±5,223 ^a	
		0.2 mM	8	87,89±2,738 ^b			0.2 mM	8	76,80±3,391 ^b			0.2 mM	8	65,25±6,947 ^b			0.2 mM	8	55,50±8,695 ^b	
		0.4 mM	8	76,88±5,111 ^b			0.4 mM	8	75,50±3,942 ^b			0.4 mM	8	64,00±4,217 ^b			0.4 mM	8	49,38±5,127 ^b	
		0.8 mM	8	84,00±3,343 ^b			0.8 mM	8	71,38±5,141 ^b			0.8 mM	8	66,38±5,828 ^b			0.8 mM	8	48,25±3,081 ^b	
Progressive motility	0,001	0 mM	8	43,63±4,702 ^a	0,000	0,000	0 mM	8	29,88±4,662 ^a	0,000	0,000	0,000	0 mM	8	14,63±3,630 ^a	0,000	0,000	0 mM	8	6,88±2,401 ^a
		0.2 mM	8	65,88±2,649 ^b			0.2 mM	8	57,88±3,538 ^b				0.2 mM	8	47,63±6,003 ^b			0.2 mM	8	36,63±6,038 ^b
		0.4 mM	8	56,13±4,095 ^b			0.4 mM	8	52,88±4,537 ^b				0.4 mM	8	45,63±4,283 ^b			0.4 mM	8	36,38±4,066 ^b
		0.8 mM	8	66,88±3,553 ^b			0.8 mM	8	51,88±4,406 ^b				0.8 mM	8	47,75±5,589 ^b			0.8 mM	8	29,75±3,899 ^b
Viability	0,630	0 mM	8	63,25±3,092	0,918	0,918	0 mM	8	71,00±5,345	0,191	0,191	0,191	0 mM	8	51,25±5,927	0,513	0,513	0 mM	8	43,25±4,854
		0.2 mM	8	70,50±5,039			0.2 mM	8	68,25±5,311				0.2 mM	8	64,50±3,698			0.2 mM	8	48,63±4,836
		0.4 mM	8	67,75±5,394			0.4 mM	8	66,38±3,919				0.4 mM	8	52,50±4,420			0.4 mM	8	54,00±5,939
		0.8 mM	8	65,75±4,317			0.8 mM	8	67,50±4,594				0.8 mM	8	55,75±3,990			0.8 mM	8	45,13±4,348
Host	0,972	0 mM	8	44,50±5,590	0,781	0,781	0 mM	8	41,50±4,747	0,238	0,238	0,238	0 mM	8	19,50±1,402	0,047	0,047	0 mM	8	20,50±2,163 ^a
		0.2 mM	8	45,50±4,322			0.2 mM	8	40,75±5,669				0.2 mM	8	24,50±2,812			0.2 mM	8	26,50±1,680 ^b
		0.4 mM	8	48,00±5,916			0.4 mM	8	47,25±4,407				0.4 mM	8	26,75±2,266			0.4 mM	8	19,25±1,645 ^b
		0.8 mM	8	46,50±5,779			0.8 mM	8	43,50±4,404				0.8 mM	8	27,25±4,439			0.8 mM	8	23,25±1,887 ^b
Acrosome	0,913	0 mM	8	19,00±3,689	0,329	0,329	0 mM	8	13,38±2,228	0,884	0,884	0,884	0 mM	8	18,75±4,483	0,778	0,778	0 mM	8	15,00±5,732
		0.2 mM	8	20,25±2,987			0.2 mM	8	18,63±3,585				0.2 mM	8	24,50±7,686			0.2 mM	8	25,00±7,982
		0.4 mM	8	17,50±3,601			0.4 mM	8	21,00±3,464				0.4 mM	8	19,13±4,831			0.4 mM	8	25,88±11,26
		0.8 mM	8	17,50±2,280			0.8 mM	8	20,25±3,110				0.8 mM	8	21,25±5,045			0.8 mM	8	21,38±5,582

a, b, c Values with different superscripts in the same column differ significantly (p < 0.05)

CONCLUSION

In conclusion, pentoxifylline supplementation of thawing extender improved motility and progressive motility of frozen-thawed boar spermatozoa.

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