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SEMEN ANALYSIS USING THE ISPERM[®]

Introduction

Sperm morphology, motility (M) and concentration (C) are valuable fertility parameters. Computer assisted sperm analyzers are time saving and measure M and C objectively.

Aim

The aim of this experiment is the clinical validation of a new instrument (Isperm[®]) that allows rapid, low-cost sperm analysis.

Materials and methods

Frozen/thawed semen straws from bulls (104) and stallions (144) were analyzed using the Isperm and the ISASv1. Agreement index (AI), correlation coefficient (CC), and repeatability was calculated using SPSS24.

Results

All measurements have a low AI, moreover for C assessment no correlation was found in bull semen (CC=0.11, P=0.271; AI= -0.2; AI_{min}=10.4, AI_{max}=54.1) and a positive correlation in stallion semen (CC=0.705, P=0.01; AI=-0.2; AI_{min}=-242.7, AI_{max}=32.7). For M assessment, a significant correlation could be found between the two methods (bulls: CC=0.57, P=0.01; AI=-0.3; AI_{min}=14.4, AI_{max}=58.6 and stallions: CC=0.58, P=0.01; AI=0.7; AI_{min}=-20.3, AI_{max}=37.7). Repeatability in M and C assessment using the Isperm was low (relative pooled relative standard deviation 0.49 and 0.32).

Discussion

Different device-related settings and counting chambers renders the comparison scientifically less relevant but from a clinical point of view, one should be able to make a reliable judgment on motility and concentration¹. Furthermore a high repeatability is paramount.

Conclusion

The Isperm can be valuable to enhance the visual assessment of motility assessment but the numeric data output needs further improvement.

References

- 1 Hoogewijs MK, De Vliegher SP, Govaere JL, De Schauwer C, de Kruif A, Van Soom A (2012). Influence of counting chamber type on CASA outcomes of equine semen analysis. *Eq Vet J* 44(5), 542-549.