



Measurement of iohexol from canine plasma: comparative analysis between enzyme-linked immunosorbent assay, neutron activation analysis, and high performance liquid chromatography



Victoria Ortín Piqueras¹, Thomas Spillmann², Merja Pöytä Kangas³, Juhana M. Honkavaara², Satu Sankari², Dennis E. Vaccaro⁴, Rafael Frías¹

¹Central Animal Laboratory, University of Turku, Finland

²Department of Equine and Small Animal Medicine, Faculty of Veterinary Medicine, Helsinki, Finland

³Department of Production Animal Medicine, Faculty of Veterinary Medicine, Helsinki, Finland

⁴BioPhysics Assay Laboratory, Inc., Worcester, MA, USA

Introduction

Iohexol (Omnipaque®) is a non-radioactive, iodinated, water-soluble radiographic contrast medium, that is widely used for **imaging purposes** in both the clinical, and research settings. This well known X-ray contrast medium is extensively used worldwide, considered as a secure, economical, and easily available.

This contrast agent is also commonly used as a marker for **glomerular filtration rate** in both humans and animals such as dogs and cats. It has also been used to test **intestinal permeability** in humans, dogs, horses and rats.

Aim of study

To determine the **FIT-GFR Iohexol (ELISA) Kit** accuracy for the measurement of **iohexol in canine plasma**, and to compare it to both **high-performance liquid chromatography (HPLC)** and **neutron activation analysis (NAA)**.

Materials and Methods

Blank and iohexol-containing plasma samples (n=100) from dogs were collected from the jugular vein in lithium heparin tubes before and after intravenous application of 3.0 g iohexol/dog to the cephalic vein of healthy dogs.

CONCLUSIONS

- ✓ Findings from our study establish that **measurement of iohexol from canine plasma using the ELISA Kit is as reproducible and precise as using HPLC or NAA.**
- ✓ Moreover, using **ELISA Kit** for measuring iohexol may be more practical, economical and useful than using HPLC or NAA.

Results

The results of this study showed that the correlation coefficients when comparing **ELISA vs. HPLC** ($r=0.98$), **ELISA vs. NAA** ($r=0.99$) and **HPLC vs. NAA** ($r=0.98$) were all excellent.

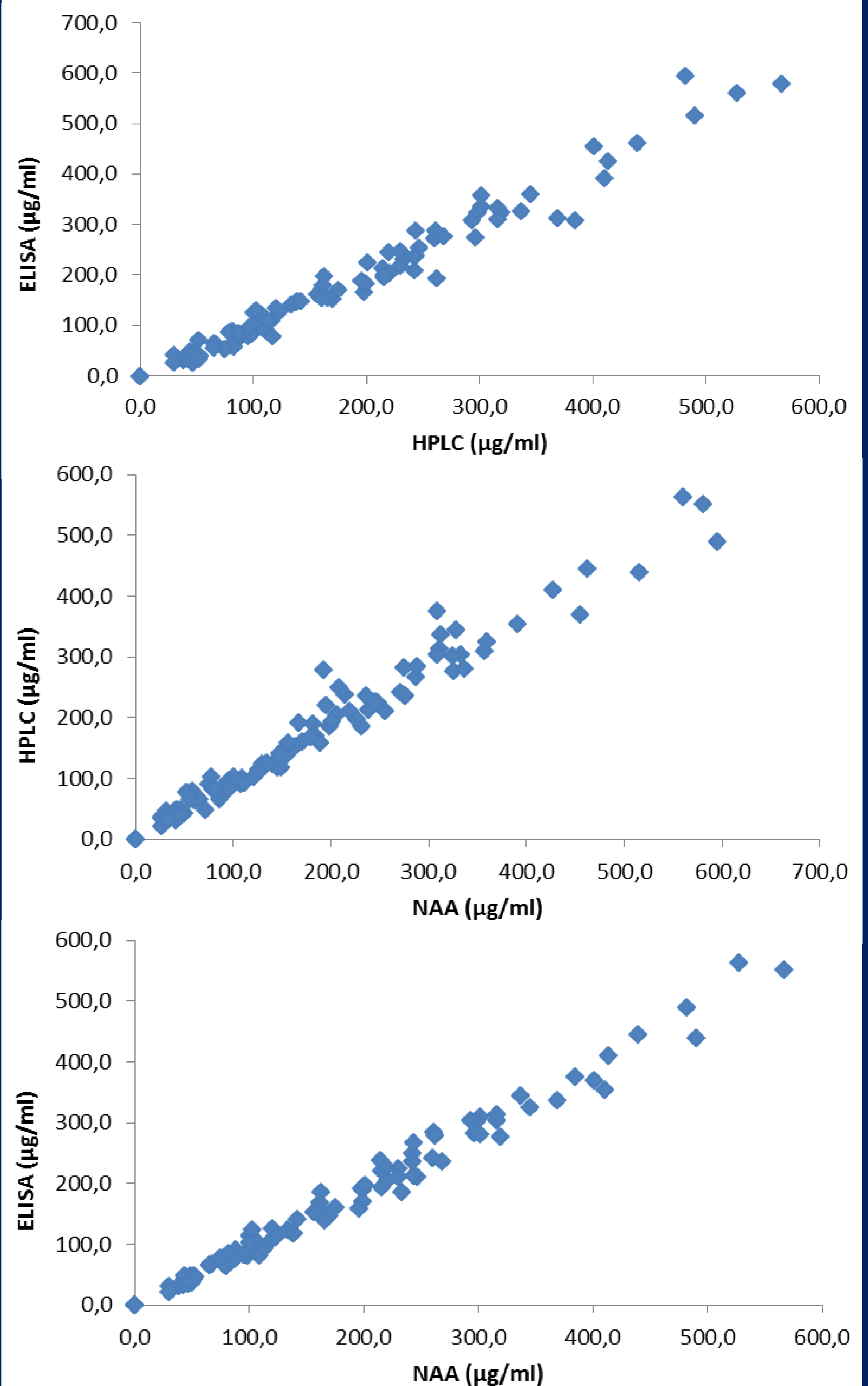


Fig. The iohexol concentration (µg/ml) in collected canine plasma samples measured by ELISA, NAA and HPLC.

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References

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