Nephrotoxicity of Radiocontrast Media in Ischemic Renal Failure in Rabbits

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Dear Sirs,

The title 'Nephrotoxicity of Radiocontrast Media in Ischemic Renal Failure in Rabbits', published in Nephron 32: 113-117 (1982), is misleading. A reader scanning this work by reading the Abstract and, say, the last paragraph of the Discussion for the conclusion, would gather that radiocontrast media have been shown to be harmful in this experimental model. Chemical details of the renal enzymes measured are given in the Abstract, but the radio-contrast medium tested is not. Nor does it appear in the Key Words. The writers must assume that the umbrella of 'radiocontrast media' is large and precise enough to cover anything relevant in the radiological field. Thus far, the reader would be justified in thinking that, for instance, barium meals are bad for rabbits in acute renal failure.

In fact he will naturally think at once of the intravenous urographic contrast media used in renal failure states. So indeed do the authors, since most of their Discussion is taken up with comparing their results to previous work using such media. The importance of the matter lies of course in the widespread clinical usefulness of these media in renal failure: not only in regard to the old indications for intravenous urography, where ultrasound and radio-nuclide studies now take pride of place, but also for angio-graphy and computed tomography. The current common urographic agents are fully substituted benzoic acid monomers, with negligible protein binding. The single contrast medium tested in this work is entirely different: iodipamide, used only for intravenous cholangiography. This is a dimer, with two unsubstituted side chains, and therefore plasma protein bound. Its principal route of excretion is not the kidney. Its relation to urographic contrast medium is closer than chalk is to cheese, but not much.

A reasonable conclusion of this work would read: 'Rabbits in acute renal failure were given iodipamide as for intravenous cholangiography, using a dose 5-10 times larger than that recommended clinically. Under these conditions this radiocontrast medium is nephrotoxic' If that hypothesis was worth exploring, the authors did well.

It is possible to cite careful human studies in support of the hypothesis that, given careful selection and preparation of patients in renal failure, urographic contrast agents do not do harm [1-3].

References

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