

*Special Feature*

## NDT contributes to a collection of 100 seminal papers published by Oxford University Press

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In 1906, our publishers—Oxford University Press (OUP), started production of medical journals with the first edition of the Quarterly Journal of Medicine, edited by Sir William Osler. This part of the business has expanded considerably since those early days, with over 180 medical journals (including the Quarterly Journal) currently published by the company along with over 1800 academic books. *NDT*, of course, is relatively young in comparison, having first appeared in 1986.

To celebrate their important milestone, OUP have created a collection of ‘100 seminal papers’ from its journals. The editors of the 180 titles including ourselves at *NDT* were asked to nominate their ‘best’ paper for inclusion in the collection. The criteria for selection could be determined by the editors. We were advised that we could chose the paper that we perceived to have had the greatest impact, changed perceptions or been recognized as making the most outstanding contribution to medical science. Nominated papers were reviewed by a board of internal OUP staff who selected the final collection.

We strive to publish good quality clinical and basic science in *NDT* and picking our ‘best’ paper was bound to be difficult and could have been strongly influenced by personal opinion. We therefore felt that the fairest approach was to select the paper that had been cited most frequently. This turned out to be a rapid communication by London *et al.* [1] entitled ‘Arterial media calcification in end-stage renal disease: impact on all-cause and cardiovascular mortality’ published in the September 2003 edition. This paper has been cited at least 116 times to date and we are delighted that OUP have decided to include it in their ‘100 seminal papers’ collection.

So why has this paper had such a high impact? At the time it was published, the phenomenon of arterial calcification was well-recognized by health

care professionals managing patients with stages 4–5 chronic kidney disease (CKD). Two patterns of arterial calcification had been described—intimal and medial. Despite numerous cross-sectional descriptive studies, the clinical significance of these different patterns was not fully appreciated. While many previous studies had used elaborate imaging techniques such as electron beam tomography, London *et al.* [1] used a wonderfully simple approach, obtaining plain X-rays and ultrasound imaging to assess calcification in a group of 202 haemodialysis patients.

Patients with intimal calcification tended to be older and were more likely to have a clinical history of atherosclerosis before starting dialysis, suggesting that their calcification was occurring within pre-existing atherosclerotic plaques. Those with calcification in a medial pattern had generally been on dialysis for longer and were more likely to have been exposed to an elevated serum calcium × phosphorus product.

Perhaps the most important message in this paper was that both patterns of calcification predicted outcomes. Compared with patients with intimal calcification, those with medial calcification had a longer survival, although this was still shorter than that of patients with no calcification at all. Most importantly, medial calcification, which many had regarded to be an inevitable consequence of CKD, proved to be a strong prognostic marker of both all-cause and cardiovascular mortality in these haemodialysis patients. One likely reason, suggested the authors, was that medial calcification was associated with premature stiffening of arteries, which might in turn exacerbate left-ventricular hypertrophy.

The clinical message from this paper is simple. Using readily available imaging techniques, it is possible to obtain a meaningful assessment of the degree and pattern of arterial calcification in haemodialysis patients and this information is of use in assessing prognosis.

Perhaps the true test of good papers such as this is that it influences clinical practice. In a recent issue of

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*Kidney International*, a consensus document has been published by the organizers of a Kidney Disease: Improving Global Outcomes (KDIGO) conference held last September in Madrid [2]. This conference brought together world experts to address the issue of mineral abnormalities and bone disease in CKD patients. Included in the recommendations is the use of a plain abdominal X-ray to assess the degree of arterial calcification in dialysis patients, thus endorsing the results published by London *et al.* [1].

The editors would like to congratulate both OUP for 100 years of journal publishing and London and his co-workers for contributing the most frequently cited paper. We hope that this paper will help to set the standard for authors submitting their

work to be considered for publication in future issues of *NDT*.

*Conflict of interest statement.* None declared.

## References

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