

Special Issue on
Phosphate and Its Role in Vascular Calcification and Aging

CALL FOR PAPERS

Serum phosphate balance is tightly regulated by various endocrine signals. Phosphate homeostasis and the underlying endocrine system are disturbed especially in chronic kidney disease. During renal insufficiency, an endocrine dysregulation promotes the onset of hyperphosphatemia. Hyperphosphatemia exerts detrimental effects on the cardiovascular system and is closely linked to increased cardiovascular mortality. Elevated phosphate levels have therefore been considered as vascular toxin. Phosphate effects on vascular smooth muscle cells cause an osteo/chondroblast-like transdifferentiation, which actively promotes tissue mineralization. These effects partly resemble an accelerated aging process. Currently, knowledge about the development of hyperphosphatemia and the mechanisms of its vascular effects is still incomplete. Therefore, until now no clinical strategy exists to counter the detrimental sequelae of hyperphosphatemia.

In this special issue, the current knowledge about the development and the consequences of hyperphosphatemia shall be widened and summarized. Especially encouraged are original articles and reviews focused on the current knowledge on the effects of phosphate on the aging process, the underlying mechanisms, and its clinical implications.

Potential topics include but are not limited to the following:

- Development of hyperphosphatemia in chronic kidney disease
- The role of phosphate and cardiovascular risk beyond chronic kidney disease
- Association of phosphate and premature aging
- Molecular mechanisms underlying the detrimental effects of phosphate
- Clinical implications from diagnostic modalities to therapeutic strategies

Authors can submit their manuscripts through the Manuscript Tracking System at <https://mts.hindawi.com/submit/journals/ijn/prvc/>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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