

3rd International Conference on Nephrology & Therapeutics

June 26-27, 2014 Valencia Conference Centre, Valencia, Spain

Problems of calcification in dialysis fluid with acidification of 3 mmol/l Acetate

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Acidification is done in all mammals because of high energy turnover including the body temperature of 37°C. So bicarbonate is the way of logistics of carbone dioxide in the body. In order to prevent calcification of the ions with severe solubility (Ca⁺⁺, Mg⁺⁺ and bicarbonate⁻) the gas carbon dioxide shifts the actual reaction (pH) in acid direction. So this is also done in the dialysis fluid since 1978 in the vast majority with 3 mmol/l acetate. There is an elevated pCO₂ concentration and calcification due to the higher concentration of bicarbonate (32 mmol/l) in comparison to the condition of the healthy man. This problem of calcification can be realized, when the dialysis supply system is opened. When a dialysis monitor is used to treat a dialysis patient, then it's necessary to descale this monitor urgently. But there is no descaling of the patient. Problems of Calcification will just start with beginning of dialysis treatment, as even in late CKD-4 states the FGF-23 system is works to eliminate the inorganic phosphate. With the exchange of 3 mmol/l acetate to equimolar 1 mmol/l citric acid, there won't be any calcification. At the market, dialysis concentrates with 1 mmol/l citric acid are available and licensed. Hence, there is no need for therapy with a chemical unstable chemical prescription (> acidification of 3 mmol/l acetate). In order to prevent this avoidable calcification from the patients, the licencing departments should be forced to forbid the acidification with 3 mmol/l acetate, as this is an unstable chemical prescription.

Biography

Thomas Ryzlewicz has completed his MD at the age of 25 years from Free University West-Berlin. He was Senior Consultant of a Dialysis Center near Munich, Germany. In order to realize an own Medical Project (> Bloodline with very much reduced contact between Blood and Air→Oxyless-Line) an employed Job was disadvantageous. He realized this Project with Partners (Foundation of BHR GmbH (Germany), Foundation of Oxyless Ltd. (Reading), Patents with partners, PEMA-Audit in London). He is invited for Lectures with Technical Background concerning Dialysis regularly. His clinical work he does today in the viamedis Kidney Center in Riesa / Dresden (Germany). Two publications as Co-Author in Kidney International.

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