KSN 2020
FULLY VIRTUAL MEETING

Abstract Type : Poster
Abstract Submission No. : PO-1047

Calcifications in children on maintenance peritoneal dialysis

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Case Study: Background: Heterotopic calcification has been reported in patients with chronic kidney disease (CKD), associated with uremia and derangement of calcium-phosphate metabolism. Calcification in cardiovascular system worsens cardiovascular morbidity in CKD. However, heterotopic calcification has not been reported frequently in children with end-stage-renal disease (ESRD). Here we introduce pediatric cases who developed systemic multiple calcification during peritoneal dialysis (PD).
Case: Among 32 patients on maintenance PD, 4 cases were found to have heterotopic calcification. Presentation of the cases are as follows.
A 9-years old girl with ESRD due to C1q nephropathy complained of both corneal opacity since 4 months before ensuing PD. Suspecting band keratopathy, both corneal calcium plaques were removed twice, 8 months and 14 months after starting PD.
A 15-years-old, bed-ridden patient with ESRD complained of hard mass at left flank area 3 years after starting PD. On CT, multiple soft tissue calcification was found and pathologic examination revealed fibroadipose tissue with dystrophic calcification. The dialysate was changed to the one with less calcium, but the calcifications still remained or slightly increased after a year.
A 20-years-old male with ESRD due to focal segmental glomerulosclerosis with *INF2* mutation showed incidental calcifications in pelvic cavity from the beginning of the PD. There were no symptoms but the calcifications increased in size and numbers for 2 years.
A 21-years-old male on PD for 5 years complained of painless, slowly increasing, and multiple masses at left anterior leg. Pathology of the mass revealed fibroadipose tissue with dystrophic calcification.
Conclusions: While it is rare in children with ESRD, heterotopic calcification does occur at various sites including cornea and soft tissue. Therefore, recent KDIGO guideline of 2017 recommending to avoid calcium based phosphorus binders is applicable in children as well.