

Cases of MCD with persistent pathological findings even with the resolution of proteinuria

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Introduction: Minimal change disease (MCD) is a common cause of primary nephrotic syndrome in adults. Also it can be spontaneously resolved with remission rates up to 15%. Complete remission is defined as urine protein excretion below 0.3 g/day (urine protein-creatinine ratio of 0.3 g/g creatinine). The characteristic pathologic feature of MCD is diffuse effacement of podocyte foot process on electron microscopic examination (EM). However, the change in pathology after remission has not been studied. **Case report:** We report three cases of patients with nephrotic syndrome before admission for renal biopsy. All three patients had MCD diagnosed by pathologic examination, even though they have met the proteinuria criteria for spontaneous remission on the day of admission for their renal biopsies. Among the 3 cases, the following is one of them: A 78-year-old male with no past medical history was presented with proteinuria, azotemia. Initial urinalysis identified proteinuria (3+), no hematuria (RBC 1-4/HPF), and urine spot protein/creatinine was 11.1g/g. Kidney biopsy reported no immune complex deposition in immunofluorescence(IF), and diffuse podocyte foot process effacement in electron microscopy(EM), which were appropriate for MCD. On the day of biopsy, there was no proteinuria on urinalysis, and urine spot protein/creatinine was 0.17g/g. Also azotemia was resolved and eGFR levels recovered from 24.4 to 70.6. And resolution was prolonged without any evidence of disease relapse during the follow-up period. **Discussion:** By reviewing these cases, in which MCD patients had persistent pathological findings even with the resolution of proteinuria, we can ponder and propose future studies regarding the other mechanisms that can evoke proteinuria in MCD other than the renowned mechanism due to increased permeability caused by podocyte foot process effacement.

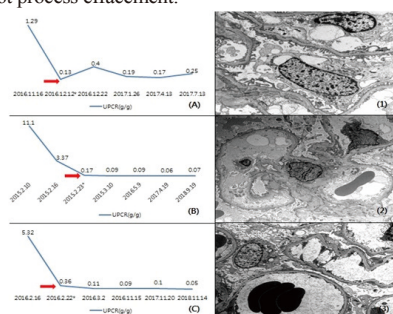


Figure 1. Each patient's serial UPCR curve and EM pathology image. (A) is the first, (B) is the second, and (C) is the third case patients' UPCR curve. The red arrow indicates the biopsy dates. From (1),(2),(3) are also each patient's EM images in order. All three of the EM images reveal diffuse effacement of podocyte foot process.