

학교 집단소변검사로 발견된 막증식성 사구체 신염 II형 1례

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A Case of Type II Membranoproliferative Glomerulonephritis Detected by School Urinary Screening Tests

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목적: Type II membranoproliferative glomerulonephritis is characterized by thickening of the glomerular basement membrane owing to electron-dense deposits on electron microscopy. The presenting features are hypocomplementemia, hematuria, proteinuria and hypertension. Recently early detection of type I membranoproliferative glomerulonephritis by school urinary screening tests has been increasing, but detection of type II disease doesn't have been reported. We experienced a case of type II membranoproliferative glomerulonephritis in a child presenting with proteinuria, hematuria in school urinary screening tests. He had been diagnosed with type II membranoproliferative glomerulonephritis by percutaneous renal biopsy. Here, we present this case with a brief review of the literature.

방법: A 10-year-old boy was admitted to our hospital and presented with proteinuria, hematuria in school urinary screening tests. He had no abnormal birth, past, and family history. His blood pressure was 97/57 mmHg, heart rate was 73 beats/minute, respiratory rate was 22 beats/minute and body temperature was 36.4 °C. The laboratory findings at admission day were hemoglobin 12.2 g/dL, hematocrit 34.1%, white blood cell 6,640/mm³ (lymphocyte 50.8%, neutrophil 38%), platelet 256,000/mm³. The blood chemistry showed total protein 6.1 g/dL, albumin 4.1 g/dL, BUN 16.3 mg/dL, creatinine 0.8 mg/dL, ASO 290 IU/mL. C3 and C4 were decreased as 17 mg/dL and 8.3 mg/dL. Random urinalysis were specific gravity 1.025, pH 6.0, protein 2+ (100 mg/dL), blood 3+, RBC 10-19/HPF. WBC 5-9/HPF. Cultures of blood, urine were negative. The chest and abdomen x-ray, renal sonography did not show any abnormality. Electron microscopic examination by percutaneous renal biopsy revealed segmental irregular distribution of the ribbon-like thickenings of the glomerular basement membrane by intramembranous electron-dense deposits and distinctive ring-shaped electron-dense deposits within the mesangium. On immunofluorescent microscopic examination the glomerulus stains for C3 in a peripheral and a mesangial ring pattern.

결과: The patient was diagnosed with type II membranoproliferative glomerulonephritis. Follow-up urinalysis showed protein 2+ (100 mg/dL), blood 3+, RBC 20-29/HPF, random microalbumin/creatinine 0.56. He had been treated with losartan and enalapril.

결론: Although type II membranoproliferative glomerulonephritis consists of 15-35% of total membranoproliferative glomerulonephritis, 2% of primary glomerulopathy, it frequently progresses to end-stage renal disease. This is the first case report of type II membranoproliferative glomerulonephritis detected by school urinary screening tests in Korea. Our case suggests that early detection by school urinary screening tests improves prognosis of type II membranoproliferative glomerulonephritis.

Key Words: 막증식성 사구체 신염, 학교 집단소변검사
Type II MPGN, Urinary screening tests