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Improvement of karyomegalic interstitial nephritis three years after ifosfamide and cisplatin therapy by corticosteroid

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Long-term nephrotoxicity of ifosfamide is occasionally progressive, and, in such case, there has been no specific treatment to prevent progression. It has been reported that the presence of karyomegalic interstitial nephritis, which is rare type of interstitial nephritis, may be related to ifosfamide-induced nephropathy with poor prognosis and resistant to the immunosuppressive therapy. A 15-year-old boy presented with progressive nephrotoxicity three years after systemic chemotherapy with ifosfamide and cisplatin for the treatment of osteosarcoma. Renal biopsy revealed the severe tubulointerstitial nephritis with tubular atrophy, and focal global and segmental glomerular sclerosis. It also showed tubular epithelial cells with variably sized nuclei, some of which were massively enlarged, abnormal hyperchromatic, irregular shaped, and bizarre-appearing. These morphological changes were suggestive of the histology of karyomegalic interstitial nephritis. Corticosteroid retarded the progression of nephrotoxicity. The present case is the first report suggesting that corticosteroid was effective against the late-onset renal toxicity by ifosfamide therapy. Our case also suggests that karyomegalic interstitial nephritis may be the result of long-term nephrotoxicity of ifosfamide. Since concurrent treatment with cisplatin is one of the risk factors for ifosfamide nephrotoxicity, there is a possibility that cisplatin may have a synergetic effect with ifosfamide for producing karyomegalic interstitial nephritis.

Biography

Tomokazu Matsuura has graduated from Keio University School of Medicine. He is the Chief Physician of National Hospital Organization Tokyo Medical Center, Department of Nephrology. He is a Councilor of Japanese Society of Nephrology and a part-time Assistant Professor at Keio University, Division of Endocrinology, Metabolism and Nephrology.

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