Do IgA-Positive Casts Show Tubulointerstitial Changes by Immunofluorescence?

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Dear Sir,

Light microscopy (LM) is the gold standard method for the detection of tubulointerstitial (TIN) changes. Immunofluorescence (IF) studies generally are negative for antibodies and immune deposits, so no firm marker is reported for the detection of TIN involvement by IF.

In this study 87 kidney biopsies from 51 male and 36 female patients were evaluated by LM and IF. TIN changes such as inflammatory cell infiltration, edema, tubular atrophy and fibrosis were detected in 56 cases (TIN-positive group) and no TIN changes in 31 cases (TIN-negative group) by LM. The presence of cast-like material, which was highly positive with FITC-conjugated anti-IgA (IgA cast) was considered as a marker for TIN changes by IF. These casts are also weakly positive with IgM, C4 and negative with IgG antisera. Kidney biopsies from 2 patients with few and many IgA casts are shown in figures 1 and 2, respectively.

IgA casts were detected in 52 cases of the TIN-positive group (sensitivity 92.8%) and in 29 cases of the TIN-negative group, no IgA casts were detected (specificity 93.5%). Considering IgA casts as a marker of TIN changes, positive predictive value, negative predictive value and accuracy would be 96.2, 87.8 and 93.1%, respectively. Further work is needed to confirm these findings and to use them for grading the TIN changes by IF studies.

Fig. 1. Kidney biopsy with few IgA casts.

Fig. 2. Kidney biopsy with many IgA casts.

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