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The 'ball-in-cup' lesion is not specific for human immunodeficiency virus-related glomerulonephritis

To the Editor: We have read with interest the papers on human immunodeficiency virus (HIV)-related nephropathy from South Africa.[1,2] We have a comment concerning the HIV-related glomerulonephritis, where several biopsies showed 'ball-in-cup' lesions, characterized by subepithelial deposits with a peculiar basement membrane reaction. These lesions had the appearance of a hybrid between post-infectious and membranous glomerulonephritis. Gerntholtz *et al.*[2] consider this lesion typical for HIV infection, and speculate that the deposits might contain viral particles.

We have limited experience with HIV-related kidney disease in our countries. However, we have encountered similar lesions in HIV-negative patient groups, among them in lupus nephritis and in post-infectious glomerulonephritis (before the HIV era). A woman transplanted for lupus nephritis had a biopsy taken 3 years after transplantation, showing recurrence of membranous lupus nephritis (Figure 1a). A man with lecithin cholesterol acyltransferase deficiency had a biopsy with large lipid-rich deposits in all compartments of the glomerulus, some of which as subepithelial 'ball-in-cup' lesions (Figure 1b).

As the pathogenesis of this lesion is unknown, one might speculate that damage or stimulus of the podocytes incites these cells to produce increased amounts of basement membrane material. The pattern may evolve not only in immune complex diseases, such as lupus nephrits, but also in cases where non-immune lipid laden deposits are involved, as in lecithin cholesterol acyltransferase disease. In our opinion, the 'ball-in-cup' lesion may be typical for HIV-related immune complex glomerulonephritis, but not specific for this disease group.

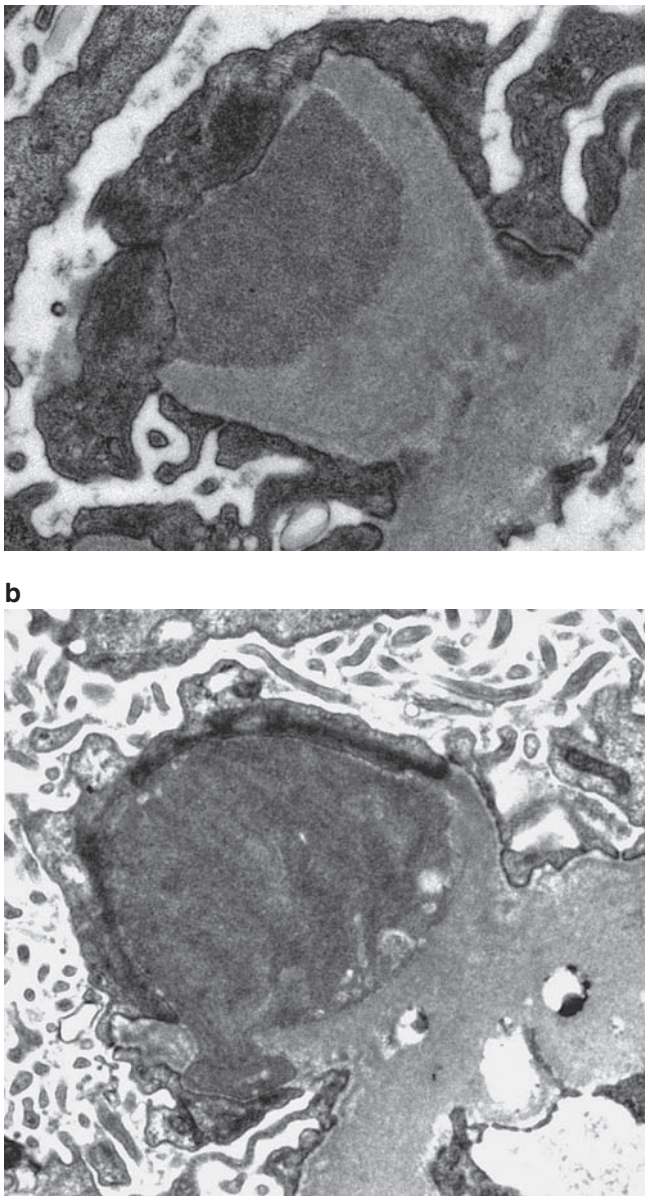

Figure 1 | Renal biopsies with 'ball-in-cup' lesions. (**a**) Subepithelial deposit in graft recurrent membranous glomerulonephritis in systemic lupus. Electron microscopy, × 7000. (**b**) Subepithelial deposit in lecithin cholesterol acyltransferase disease. Electron microscopy, × 9000.

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