different centres, it would be appropriate to attempt treatment with the maximum possible dose for a period and then to stop this expensive treatment if the expected response cannot be achieved.

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1. Breen CP, Macdougall IC. Improvement of erythropoietin-resistant anaemia after renal transplantation in patients with homozygous sickle-cell disease. Nephrol Dial Transplant 1998; 13: 2949–2952
2. Tomson CR, Edmunds ME, Chambers K et al. Effect of recombinant human erythropoietin on erythropoiesis in homozygous sickle-cell anaemia and renal failure. Nephrol Dial Transplant 1992; 7: 817–821
3. Scettler V, Wieland E. A case report of darbepoetin treatment in a patient with sickle cell disease and chronic renal failure undergoing regular hemodialysis procedures that induce a dose dependent extension of blood transfusion intervals. Ther Apher Dial 2009; 13: 80–82
4. Dale GL, Albertio L. Is there a correlation between raised erythropoietin and thrombotic events in sickle cell anaemia? Lancet 1998; 352: 566–567

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Marked improvement in renal function after rectal cancer resection in a case of anti-neutrophil cytoplasmic autoantibody-negative pauci-immune crescentic glomerulonephritis

Sir,

A small number of patients with pauci-immune crescentic glomerulonephritis (CrGN) lack circulating anti-neutrophil cytoplasmic autoantibodies (ANCA)s [1], and the significance and pathogenesis of this disorder are not fully understood. A recent paper reported that ANCA-negative pauci-immune CrGN might represent an independent disease entity, with distinctive features [2]. In contrast to the many reports describing a strong relationship between neoplasms and glomerulopathies, i.e. membranous nephropathy [3], there has been a limited number of reports documenting a possible relationship with rapidly progressive glomerulonephritis (RPGN). Serum ANCA levels also tend to be positive in such cases (Table 1).

A 59-year-old male was hospitalized because of rapid deterioration in renal function over the course of several weeks (Figure 1). Renal impairment was not evident 7 months earlier [serum creatinine (sCr), 78.8 μmol/L]. Although RPGN was indicated, neither myeloperoxidase (MPO)- nor proteinase 3 (PR3)-ANCA was detected in the serum by enzyme-linked immunosorbent assay. A non-specific assay using a commercial fluorescence detection kit also failed to detect serum ANCA. No other organ involvement was evident.

Unexpectedly, a 4-cm rectal tumour was found concurrently and pathologically diagnosed as a well-differentiated adenocarcinoma. Serum carcinoembryonic antigen (CEA), carbohydrate antigen 19-9 (CA19-9), cancer antigen 125 (CA125) and alpha-fetoprotein (AFP) were all negative. Because the renal function deteriorated even further (sCr, up to 289.4 μmol/L), low-dose oral steroid therapy, i.e. 20 mg/day (0.28 mg/kg/day) prednisolone, was initiated preoperatively based on the presumptive diagnosis of RPGN.

The principal finding of the biopsy, which was performed at Day 13 of the steroid therapy, was CrGN, with 70–80% of the glomeruli (total = 31 glomeruli) exhibiting fibrocellular or fibrous crescents. No immunoglobulins were detected in the glomeruli by immunofluorescent analysis.

Despite a temporary improvement in renal function after the low-dose prednisolone administration at the time of biopsy, the sCr level stayed flat at 82 μmol/L and was not responsive to the short-term low-dose oral steroid therapy. On Day 17 of the steroid therapy, the sCr level started to rise again (Figure 1). Steroid therapy was tapered off to reduce surgery-associated risks, followed by successful resection of the rectal cancer (pT3M0N1). The sCr level declined immediately after the surgery without further medication.

The relapse of progressive renal insufficiency prior to steroid discontinuation and its significant reversal immediately after the surgery suggest that tumour resection rather than the short-term low-dose oral steroid therapy was responsible for the improvement of renal function. Hence, the present

Table 1. Published cases of RPGN associated with non-renal solid malignancies

| Age (years), gender | Organ      | Serum ANCA                  | Citation                     |
|---------------------|------------|----------------------------|------------------------------|
| 64, M               | Stomach    | Not mentioned ANCA(-)        | Intern Med 2008; 47: 1237    |
| 57, M               | Stomach    | pANCA(-)/cANCA(-)*          | Gastric Cancer 2003; 6:267   |
| 60, F               | Lung       | pANCA(+)                    | Am J Kidney Dis 2000; 36: E24|
| 64, M               | Stomach    | cANCA(+)                    | Int Urol Nephrol 1994; 26: 579|
| 62, M               | Lung       | cANCA(+)                    | Clin Nephrol 1993; 40: 22    |
| 56, M               | Prostate   | cANCA(+)                    | Clin Nephrol 1993; 40: 22    |
| 77, M               | Prostate   | pANCA(+)                    | Clin Nephrol 1993; 40: 22    |
| 50, M               | Bladder    | cANCA(+)                    | Clin Nephrol 1993; 40: 22    |

pANCA, perinuclear anti-neutrophil cytoplasmic autoantibodies; cANCA, cytoplasmic anti-neutrophil cytoplasmic autoantibodies.

*The method for detection was not specifically described.
case suggests the possibility of ANCA-negative pauci-immune CrGN as a paraneoplastic syndrome.

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Bacterial infections following adjuvanted H1N1 vaccination in three renal transplant recipients

Dear Sir,

The current seasonal trivalent influenza vaccine is not effective against the influenza A(H1N1)v virus, and a new monovalent vaccine against A(H1N1)v was developed and fast-track licenced [1]. We report three renal transplant patients recently admitted with a serious bacterial infectious disease following adjuvanted A(H1N1)v vaccination.

Case 1: A 63-year-old male renal transplant (March 2003) recipient presented with subfebrile temperature of 37.9°C, cough and chest pain. Seven days before, he had been vaccinated against H1N1 by his general practitioner. For immunosuppression, cyclosporine A and prednisolone were taken. Chest X-ray showed a pneumatic infiltration in the right lower lung. Bronchoscopy was performed, and Chlamydia pneumoniae was cultured.

Case 2: A 46-year-old truck driver with a well-functioning renal transplant for 14 years experienced fever and malaise following H1N1 vaccination. He was commenced on sultamicillin for cystitis with a positive urine culture of enterococci. His immunosuppression was methylprednisolone and cyclosporin A. Since urine output declined, the patient presented to the emergency department, and intravenous ceftriaxone was begun.

Case 3: A 66-year-old renal transplant (March 2007) patient had received a H1N1 vaccination 1 week before developing cough, malaise and running nose. He pre-

1. Savige J, Davies D, Falk RJ et al. Antineutrophil cytoplasmic antibodies and associated diseases: a review of the clinical and laboratory features. Kidney Int 2000; 57: 846–862
2. Chen M, Yu F, Wang SX et al. Antineutrophil cytoplasmic autoantibody-negative pauci-immune crescentic glomerulonephritis. J Am Soc Nephrol 2007; 18: 599–605
3. Lefaucheur C, Stengel B, Nochy D et al. Membranous nephropathy and cancer: epidemiologic evidence and determinants of high-risk cancer association. Kidney Int 2006; 70: 1510–1517

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