Medical ethics and the elderly

CASE REPORT

CP Chan MBChB, FHKAM (Medicine), **YL Wong** MBChB, MRCP, **KY Sha** MBChB, FHKAM (Medicine)

Department of Medicine and Geriatrics, United Christian Hospital, Hong Kong

Correspondence to: Dr CP Chan, Department of Medicine and Geriatrics, United Christian Hospital, Hong Kong. E-mail: ianchan@pacific.net.hk

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On 24 February 2009, an 80-year-old woman presented to the geriatric ward with malaise and bilateral lower-limb oedema. She had taken Chinese herbal medicine for these symptoms 1 week earlier but her condition had not improved. She had hypertension, hyperlipidaemia and anaemia secondary to chronic illness. Her long-term medication was nifedapine (20 mg twice daily).

She was afebrile and had a blood pressure of 170/80 mmHg and a pulse rate of 78/min. Physical examination was unremarkable except that she looked pale and had mild bilateral pitting ankle oedema. There were no ballotable kidneys or a palpable urinary bladder. Urine multi-stix was negative for sugar, leucocyte esterase and nitrite, but positive for red blood cells with albumin. The post-voiding residual urine volume was 127 mL. Blood tests were consistent with acute renal failure. Her serum creatinine increased from 91 to 290 μmol/L and serum urea from 7.7 to 17.5 mmol/L, and she had a normochromic normocytic anaemia (haemoglobin, 7.3 g/dL; mean corpuscular volume, 88.4). The fasting blood sugar level was 4.5 mmol/L. Mid-stream urine culture grew no bacteria and revealed profused non-dysmorphic red blood cells with scanty leucocytes and no eosinophils. Abdominal ultrasonography demonstrated renal parenchymal disease without obstructions or calculi. Hepatitis B and C serology was negative. The 24-hour urine protein level was 3.93 g/day and the creatinine clearance was 19 ml/min.

After consultation with Hong Kong Poison Information Centre,[1] the herbal medicine regimen she had taken was not regarded as contributing to her acute renal failure. In the absence of any cause for acute renal failure, presence of nephrotic syndrome, and adequate kidney sizes, our renal team suggested renal biopsy but the patient refused. Serial test showed worsening of renal function. The serum creatinine had risen to 453 μmol/L. In a family conference with the patient, her children, and the geriatric and renal teams, her condition was discussed. The pros and cons of renal biopsy, indications and risks, alternative strategies, and possibile reversibility of the disease were discussed. The patient finally agreed to undergo ultrasound-guided renal biopsy on 5 March 2009.

Renal biopsy showed diffused crescentic glomerulonephritis with negative immunofluorescence stain. Serum myeloperoxidase-specific antineutrophil cytoplasmic antibodies (ANCA) were positive (60 RU/ml) with a p-ANCA pattern. Anti-glomerular basement membrane, anti-nuclear antibody, anti-double-stranded DNA and multiple myeloma screen was negative. The diagnosis of rapidly progressive glomerulonephritis (RPGN) was confirmed.

The patient and her close relatives were invited for a discussion of the management plan and encouraged to raise questions. The renal team suggested conventional treatment with high-dose steroids and immunosuppressants. Prognosis, treatments, and the adverse effects from the treatment of RPGN were explained. The patient agreed to immunosuppressive treatment. Intravenous methylprednisolone 500 mg daily for 3 days was given, followed by oral prednisolone 40 mg daily with cyclophosphamide 100 mg daily. Upon discharge, her condition had improved and her pre-morbid functional status had resumed.

On 20 March 2009, she was re-admitted because of massive haemoptysis. Chest radiographs showed bilateral alveolar shadow. Her haemoglobin level had dropped from 7.7 to 6.6 g/dL, and her total white cell count was 3.1. The diagnosis was pulmonary haemorrhage with a background of RPGN. She underwent intubation and mechanical ventilation and was transferred to the intensive care unit. Despite active treatment including plasmaphoresis and antibiotics, the patient died 3 days later.

DISCUSSION

In the Caucasian population, the prevalence of RPGN ranges from 1 to 2 per 100 000 persons.[2] The male-to-female ratio is approximately 1:1. The age range is 2 to 92 years old. The peak incidence occurs in the middle of the sixth decade of life. RPGN is an uncommon cause of acute renal failure in the geriatric population. Our case illustrated the principles of caring for elderly, namely pre-morbid functioning, disease reversibility, non-maleficence, beneficence, autonomy, informed consent and collaboration.[3,4]

Premorbidity and reversibility

RPGN results in high morbidity and mortality, although it is potentially reversible following aggressive and often long-term immunosuppression,[5] which may be inappropriate in the elderly, particularly those who are frail. Individualisation of treatment decisions is therefore important. Our patient enjoyed social life with good functioning and controlled problems that were inactive before the onset of RPGN. Therefore, she was not excluded from consideration of aggressive treatment modalities.

Non-maleficence and beneficence

The principle of non-maleficence implies an obligation not to inflict harm. Principles of beneficence demand more, because physicians must take positive actions to help others, and not only avoid harmful acts. Untreated RPGN leads to irreversible organ failure. Although treatment poses side-effects and possible adversity, the potential benefits outweigh the drawbacks. Autonomy of our patient was respected, and decisions were made by her.

Autonomy

The meaning of autonomy can extend to liberty, rights, privacy, individual choice, and freedom of the will (being one's own person). A person's right to hold views, to make decisions, and to take action based on personal values and beliefs should be respected.[6] Such respect includes not just attitudes but actual action. Respect involves treating persons to enable them to act autonomously in the absence of attitudes and actions that ignore, insult, or demean their autonomy. The patients must authorise through an act of informed and voluntary consent.

Informed consent and collaboration

Before agreeing to renal biopsy and receiving immunosuppressants, our patient and her close relatives were given detailed information on the risks and benefits, pros and cons, alternatives and follow-up plans. They were encouraged to raise questions. Our patient evaluated the information and granted consent, without coercion or duress. She understood that she was under interdisciplinary management and had the right to raise any questions concerning her treatment and to withdraw from such treatment at any moment, as long as she was mentally competent.

References

1. Hong Kong Poison Control Network; http://www.hkpcn.org.hk/eng/Index2.html.
2. Andrassy K, Kuster S, Waldherr R, Ritz E. Rapidly progressive glomerulonephritis: analysis of prevalence and clinical course. *Nephron* 1991;59:206-12.
3. Beauchamp TL, Childress JF. *Principles of biomedical ethics*. New York: Oxford University Press; 1979.
4. Rai GS. *Medical ethics and the elderly*. 2nd ed. Radcliffe Publishing.
5. de Lind van Wijngaarden RA, Hauer HA, Wolterbeek R, Jayne DR, Gaskin G, Rasmussen N, et al. Chances of renal recovery for dialysis-dependent ANCA-associated glomerulonephritis. *J Am Soc Nephrol* 2007;18:2189-97.
6. Leino-Kilpi H, Valimaki M, Arndt M, et al. *Patient's autonomy, privacy and informed consent*. The Netherlands: IOS Press; 2000.