transplantation in Wiskott-Aldrich syndrome. Transplantation 1993; 56: 747–748

Comments of a frustrated Batavian friend having unsuccessfully practised Yoga to solve the Nephroquiz

Although I do not consider myself a beginner, I was unable to solve the Nephroquiz ‘Out of the Blue’ in the issue of last September. I have studied Figure 1 for quite a long time. Most puzzling to me was the question of whether the extremity presented was the right leg of a supine patient or the left arm of a prone patient. In either case the two severely cyanotic fingertips in the picture most probably belonged to a second individual who was also seriously ill. When I tried to simulate the position of the fingers by lying on my back or on my stomach, the only thing I accomplished was that I almost twisted first my left and subsequently my right arm.

In addition to this acrobatic exercise the presented case raised another question, which is usually the first that I ask in such instances: ‘Who examined the urinary sediment?’ First, there is a failure to report on the morphology of the erythrocytes. I can imagine that the authors left this out to make their question not too easy. But I certainly refuse to believe that there were no erythrocyte casts present. In such a case of active IgA nephropathy the absence of erythrocyte casts must be considered as highly unusual. Such a result is most often caused by the failure of the examiner to screen the sediment carefully at low magnification (× 100). We have shown in a blinded, controlled study of 107 patients with proven causes of either glomerular or non-glomerular haematuria that, in the patients with glomerular haematuria, erythrocyte casts can be detected in 83% of the cases [1]. Especially the presence of dysmorphic erythrocytes should be a reason for a thorough screening of the entire sediment. This may take some time (up to 10 min), but the examiner is often rewarded by the detection of one or two characteristic erythrocyte casts.

We have recently proposed a very simple procedure to fix the urinary sediment [2]. It will enable the beginner to save the sediment for later consultation of a more experienced ‘uroscopist’.

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A case of early-onset pre-eclampsia associated with IgA nephropathy

Sir,

A 31-year-old healthy Japanese woman presented to an obstetrician in September 1996 with amenorrhoea and was found to be pregnant (7th week of gestation). In November 1996 (16th week of gestation), she weighed 56 kg, which represented a gain of 2 kg over her normal weight. Pretibial oedema was noted. During the 19th week of gestation, she weighed 70 kg and anasarca was noted. She consulted another obstetrician who noted a positive test for proteinuria and haematuria, hypoproteinanaemia and hypoalbuminaemia, and hypertension. She was transferred to our hospital with a diagnosis of severe pre-eclampsia. On admission, the serum creatinine (s-Cr) was 141 μmol/l (normal range in pregnant women; 35–71 μmol/l), blood urea nitrogen (BUN) 5.3 mmol/l, uric acid 9.55 mg/dl (normal; 3.0–6.0), total protein (TP) 44 g/l and albumin 18 g/l in blood chemistry. Her urine gave a +++ test for proteinuria and haematuria (RBC 5–10/high-power field), but was negative for glycosuria. The 24-h urinary protein (UP) was 5.5 g. To determine the aetiology of the hypertension, a plasma renin and aldosterone, and thyroid function tests were all within normal limits.

She was treated with antihypertensive agents, but blood pressure was not controlled. During the 20th week of gestation, she decided to discontinue the pregnancy and the fetus was aborted. Her blood pressure returned within the normal range rapidly, and 2 weeks later she did not require any antihypertensive agents. Three weeks later, blood chemistry revealed that a TP of 54 g/l, albumin of 28 g/l, s-Cr of 76 μmol/l, and BUN of 2.5 mmol/l, and urinary tests revealed a UP of 0.7 g/day.

A renal biopsy was performed 3 weeks after the abortion. The specimen revealed segmental sclerosis, visceral epithelial caps, a double-contour appearance, swelling of the endothelium, adhesions, and mesangial deposits. In an immunofluorescence (IF) study, staining for antibodies against IgA, IgG, and C3 was positive in the mesangial area, while staining for IgM, C1q, C4, and fibrinogen was negative. Electron-microscopy revealed fusion of foot processes, swelling of endothelial cells, matrix widening, and mesangial dense deposits without mesangial proliferation (Figure 1). These results were consistent with IgA nephropathy and nephropathy of pre-eclampsia.

Pre-eclampsia is thought to produce renal alterations such as endothelial swelling and ballooning of the glomeruli, similar to focal glomerulosclerosis. In the present case the onset of proteinuria, generalized oedema, and hypertension occurred during the 18th week of gestation, and the hypertension and oedema disappeared 2 weeks after delivery. The pathological findings in renal biopsy are characteristic of the nephropathy of pre-eclampsia, while that mesangial deposits and IF findings are characteristic of IgA nephropathy. These results show that IgA nephropathy and nephropathy of pre-eclampsia coexisted in this patient. There is no evidence,
however, that patients with IgA nephropathy are at particular risk of developing pre-eclampsia.

We conclude that the present patient had underlying IgA nephropathy associated with pre-eclampsia. We recommend that renal biopsy be performed after severe and/or atypical pre-eclampsia to reassess the renal risk of further pre-eclampsia.

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Acute renal failure in patients with multiorgan failure: risk factors influencing survival

SIR,
The mortality of acute renal failure (ARF) still exceeds 50% (it can reach up to 80% in Intensive Care Unit patients), and so does the mortality of several forms of multiorgan failure (MOF) [1]. Mortality of ARF seems to be determined by the severity of associated diseases rather than by the ARF itself. Because of the high mortality rate and enormous treatment costs, from early days much interest has been shown in determining the prognosis of these patients. With this aim, multiple aspects have been studied [2]. There is a debate in the literature about the usefulness of different patient characteristics and score systems in predicting the outcome of ARF patients of Intensive Care Units (ICU) [3,4].

The aim of the present study was to evaluate characteristics and indices suited to predict mortality in MOF patients with ARF.

We studied retrospectively data of 39 patients with MOF requiring renal replacement therapy, admitted consecutively to the ICU of our Medical Centre from April 1, 1994 to December 31, 1996. This was a mixed population of medical and surgical patients. All were treated with intermittent haemodialysis carried out with cuprophane or polysulphone filters. We considered only death or discharge from ICU as valid outcomes. Student’s t-test and $\chi^2$-test were used to assess whether individual variables differed significantly between survivors and non-survivors at a $P<0.05$.

The overall mortality rate was 74.3%. The mean age of the patients was 53±18.8 years. There was no difference in age, gender, serum creatinine, urea nitrogen, serum potassium, and blood pressure between survivors and non-survivors at the time of the initial renal consultation. The APACHE II score at the time of the initial renal consultation was significantly higher in non-survivors than in survivors (28.8±5.50 vs 21.0±2.79, $P<0.005$). The number of organ system failure (OSF) [5] was 2.4±0.79 in survivors and 3.1±0.90 in non-survivors ($P<0.05$). Survivors had higher hematocrit (30.8±5.29 vs 24.6±4.87, $P<0.05$), higher serum total protein (52.9±9.04 g/l vs 48.0±7.88 g/l, $P<0.005$) and serum albumin levels (31.9±2.52 g/l vs 27.4±4.31 g/l, $P<0.01$) than non-survivors. Scops occurred in 45% of the non-survivors and 30% of the survivors ($P<0.01$). Sixty-two per cent of the non-survivors and 40% of the survivors ($P<0.01$) were oliguric at the time of the initial renal consultation. Forty-nine per cent of the survivors and 76% of the non-survivors needed mechanical ventilation ($P<0.01$). Thirty per cent of the survivors and 56.8% of the non-survivors received vasopressor drugs because of hypotension when first seen by nephrologists.

In conclusion, the high mortality rate observed in our patients is comparable to those reported in the literature. Our series shows that MOF patients with lower hematocrit, serum albumin or serum total protein, having sepsis or being oliguric, needing vasopressor drugs or mechanical ventilation seem to have higher death rate. APACHE II score and the number of OSF at the time of the initial renal consultation appear to be useful in predicting the outcome in these patients. Survival seems to be negatively linked to the severity of associated diseases.

It would be desirable to start prospective multicentre studies with the purpose of determining patient characteristics and score systems applicable in predicting the outcome in MOF patients with ARF.

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Fucus vesiculosus: a nephrotoxic alga?

SIR,
In January 1995, a 18-year-old female was admitted to our unit because of polyuria and polydipsia. The patient complained of extreme faintness and her general condition was poor. The patient had been on a hypocaloric diet over the 3 months prior to the admittance and had actually lost ~10 kg in weight; as an adjunctive therapy prescribed by a herbalist, she was also taking marine oak (Fucus vesiculosus) in 400 mg tablets (three tablets three times a day). Her personal history was negative for renal diseases and she denied any other medication. Laboratory testing revealed: blood creatinine, 8.7 mg/dl; glycosuria (500 mg/dl); moderate proteinuria and leukocyturia; serum autoantibodies, negative. Renal sampling performed by automatic Trucut needle yielded moderate interstitial fibrosis, widespread tubular degeneration, and diffuse lymphomonocytic infiltrate; the glomeruli displayed scarce and focal mesangial proliferation, but the basal membrane appeared as intact (Figure 1a). Direct IF testing was negative. Positive peroxydase staining was obtained for T-lymphocyte-related UCHL1 (CD45 RO) and monocyte-related KP1 (CD68) antibodies, respectively (Figure 1b, c).

To exclude contamination by heavy metals, we performed a quantitative analysis on the marine oak powder the tablets were composed of. For this purpose, we used an atomic adsorbance spectrophotometer (Varian Spectra-20) supplied with a graphite minwave plus an autosampler; before testing,