Donation by living donors is effective for recipient and safe for donor

EDITOR,—Celia Wight and Bernard Cohen use a recent report by the British Transplantation Society as the basis for a discussion about the shortage of organ donors for transplantation.¹ They are not alone in suggesting that this is the main obstacle facing transplantation today.² Their editorial focuses on cadaveric organs used for transplantation. Surprisingly, they do not mention the use of kidneys donated by living relatives. This form of renal donation has been popular in the United States for a number of years but is less common in Europe.²

In patients with diabetes mellitus, kidney grafts from a living related donor have a better graft survival rate than cadaveric grafts.³ Good evidence shows that there is little risk to the kidney donor, and a 20 year follow up of living kidney donors from Minneapolis concluded that perioperative mortality in North America was low, while no evidence of progressive renal deterioration or other serious disorders was found in the donors.⁴ More recently, high graft survival rates have been reported for kidneys transplanted from spouses and living unrelated donors.⁵

Taken together, these data strongly support the belief that transplantation of a kidney from a living donor is both an effective treatment for the recipient and safe for the donor. More frequent use of kidneys from living (related or unrelated) donors in Britain and throughout Europe might relieve some of the shortages of organs for transplantation.

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Transplant coordinators need more money for education

EDITOR,—Celia Wight and Bernard Cohen point out that the fall in the numbers of organ donors due to declining death rates from intracranial haemorrhage and road traffic accidents should be welcomed.¹ We would suggest that herein lies the most important limitation on the current transplantation programme. However, organ donation, as well as providing the obvious benefit to potential transplant recipients, can offer a bereaved family considerable comfort. It is the family's bravery and generosity at a time of tragedy that allow this practice to continue. This factor should not be lost in the continuing debate surrounding the perceived shortage of donor organs.

Failure to provide adequate physiological support to potential organ donors accounts for the loss of at least a quarter of donor organs.² Further education in the management of donors could reduce this figure, so that better use could be made of this scarce resource. We recognise that there are geographical inadequacies in the service of transplant coordinators, but the report of the British Transplantation Society Working Party found that only a quarter of coordinators have a budget for educational purposes and many rely on money from pharmaceutical firms.³ We agree with the report's recommendation that the existing service should be expanded so that all coordinators have the resources with which to carry out this vital function, and we believe that this should be done

before investment is made in the commercial ventures suggested by Wight and Cohen.

While we understand our transplant colleagues' desire to find new ways to increase the pool of donors, we urge them to proceed with care in their bid to change the law regarding interventional ventilation. The report of the British Transplantation Society suggests that only 19% of 141 units where interventional ventilation was discussed would support this practice.³ Transplant coordinators have worked for many years to build and secure trust among medical and nursing staff in intensive care units. This trust is based on the knowledge that the life of one person is not more important than the life and process of death of another. Anything that might jeopardise this relationship would be detrimental to current donor referral rates.

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Half of physicians are unaware of surveillance system for Creutzfeldt-Jakob disease

EDITOR,—Surveillance of disease is crucial in the development of control strategies, and particularly so for infectious diseases. Will *et al* recently hypothesised that a newly described variant of Creutzfeldt-Jakob disease is causally linked to bovine spongiform encephalopathy.¹

The epidemiological value of a surveillance system is associated with its capacity to detect a high proportion of cases of the disease under surveillance. We carried out a survey of 50 physicians in Leeds to evaluate their awareness of the national surveillance system for Creutzfeldt-Jakob disease; 38 responded. Table 1 shows the results, which, not surprisingly, reflect clinical exposure to the disease in its more typical manifestations. Patients with the new variant of the disease described by Will *et al* may not initially present with obvious neurological symptoms; the first referral may be to a psychiatrist, a group apparently less aware of the surveillance system. Clearly, the new variant of Creutzfeldt-Jakob disease will need to be considered in a range of differential diagnoses.

To ensure the maximum epidemiological benefit from the national surveillance system we suggest that the existence of the Creutzfeldt-Jakob Disease Surveillance Unit in Edinburgh is made known more widely; also useful would be

working case definitions for provisional, possible, and confirmed cases.

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Diagnosing testicular torsion

Isotope scanning is useful

EDITOR,—We agree with Mark Davenport that acute testicular torsion is difficult to diagnose clinically.¹ His article suggests that the diagnosis may be aided by Doppler ultrasonography, but this investigation can be unreliable² and may lead to a false sense of security. Often surgery is required to exclude torsion, with no therapeutic benefit. This is undesirable if the diagnosis can be made without surgery, as any operation has potential complications and cost implications.

We are surprised that Davenport does not mention nuclear medicine in his review. Testicular isotope scanning has been used since 1973³ and is effective in assessing the acute scrotum. Melloul *et al* reported a series of 87 patients in whom isotope scanning was used to aid diagnosis.⁴ Scanning with technetium-99m as pertechnetate produced a 100% specificity and 98% sensitivity for testicular torsion, which is comparable to previous published results. In a retrospective audit of 36 patients in North Staffordshire who underwent ^{99m}Tc scintigraphy we found a specificity of 90% and a sensitivity of 100%.

It has been suggested that isotope scanning introduces unjustifiable delay and expense.⁵ We have found, however, that, with appropriate arrangements, this investigation does not increase morbidity but can considerably reduce unnecessary surgery. The test is one of the cheapest and simplest of all nuclear medicine imaging procedures. It involves an acceptable dose of radiation (2 mSv), and the gamma camera is used for only a short time.

We therefore believe that isotope scanning should have a more central role in the assessment of the acute scrotum. Because successful testicular salvage relies on the time between the onset of symptoms and surgery,¹ however, this depends on departments of nuclear medicine providing an immediate access service both during and outside normal working hours.

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Table 1—Results of survey among various physicians to evaluate awareness of national surveillance system for Creutzfeldt-Jakob disease

Specialty	Aware of system		Not aware of system	
	No of physicians	Cases seen in past 5 years*	No of physicians	Cases seen in past 5 years*
Neurology	4	2, 3, 2	0	—
Psychiatry	3	—	7	1
Geriatrics	5	1	2	—
Other medical specialists	8	—	9	—

*Numbers of cases seen by individual physicians who had seen any cases.

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Author's reply

EDITOR,—The clinical evaluation of the acute scrotum in children is difficult, but I have yet to see a study correctly evaluating the value of radionuclide isotope imaging solely in this population. All of the studies quoted by C J Luscombe and colleagues have been performed predominantly in adults. Children are uncooperative, and their testes are smaller, which must increase the diagnostic error. For instance, in a large series of children with an acute scrotum Lewis *et al* reported a sensitivity of 95.4% and a specificity of 85.7% for radionuclide imaging,¹ which is not as clear cut as Luscombe and colleagues imply. Fenner *et al*, whom Luscombe and colleagues cite, stated, "We believe its [radionuclide imaging's] routine use in clinical practise is limited" and "would result in needless delays and unjustifiable expense."² This is from advocates of the technique.

There is no doubt that delay in surgery results in ischaemia, infarction, and testicular loss. Any diagnostic strategy has to be designed with this as the bottom line. If a nuclear medicine department can perform and report such an investigation within an hour of a request being made by the accident and emergency department, presumably at any time of the day or night, then the investigation may have a role. If the department cannot do this then rapid exploration is the option that is safest (to the testicle). The economic argument is spurious: one false negative scan leading to legal action will wipe out any pecuniary advantage.

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Don't count on urinary white cells to diagnose childhood urinary tract infection

EDITOR,—Because pyuria is common in febrile children,¹ screening for urinary tract infection in children by detecting increased urinary white cells (with leucocyte esterase strips or standard microscopy) will produce false positive results. Because urinary white cells may disappear rapidly,² such screening will also produce false negative results. We report on a child with a devastating urinary tract infection who had very few urinary white cells for another reason.

An extremely ill 8 month old boy presented after 36 hours of diarrhoea, vomiting, and fever. He was drowsy and dehydrated but did not have any localising signs. On the ward, phase contrast microscopy of a suprapubic urine specimen showed $>10^{11}$ rods/l but $<20 \times 10^6$ white cells/l; 12 hours later the presence of *Escherichia coli* was confirmed in urine and blood. A culture of cerebrospinal fluid was sterile. Creatinine and electrolyte concentrations indicated established oliguric acute renal failure, with a fractional excretion of sodium of 2.0%. Ultrasonography showed a solitary, non-obstructed, right hydronephrosis and hydronephrotic. His haemoglobin concentration

(109 g/l) and platelet count (175×10^9 /l) were in the low normal range, but his neutrophil count was very low at 0.9×10^9 /l, and most cells seemed immature. At 13 hours he had a cardiorespiratory arrest (despite a normal potassium concentration of 4.8 mmol/l) and could not be resuscitated. Postmortem examination showed haemorrhagic adrenal glands and severe acute pyelonephritis but no urothelial inflammation.

The fact that this boy had few urinary white cells was probably related to the low number of circulating blood neutrophils, a pattern of blood film that is well recognised with overwhelming infections.³ To avoid the diagnostic pitfalls of counting white cells when screening for childhood urinary tract infection we now use phase contrast microscopy of fresh, unspun urine to identify bacteria.² This is done routinely in our wards and clinics by permanent nursing and medical staff and is taught to all new junior doctors. Its most obvious advantage is that the result is instantly available, allowing antibiotics to be given immediately when the result is positive (as in this case). Contamination is also identified immediately, allowing a repeat sample to be collected without delay. Samples yielding negative results (the majority) can be discarded, which saves laboratory costs. A minor advantage is that, when a maintained instrument is available, studying a urine specimen by microscopy is quicker than filling in a laboratory form.

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Cerebral oedema after ingestion of MDMA ("ecstasy") and unrestricted intake of water

EDITOR,—3, 4-Methylenedioxymethamphetamine (MDMA or "ecstasy") is a synthetic derivative of amphetamine and a popular recreational drug among young people. It is known to cause severe hyperpyrexia, dehydration, and rhabdomyolysis.¹ Unrestricted ingestion of water is commonly believed to be important in combating some of the side effects of ingestion of the drug. We report on two patients who developed clinical effects due to the syndrome of inappropriate secretion of antidiuretic hormone after ingestion of MDMA. These adolescents had been "left to sleep it off" and presented late.

Case 1—A 15 year old girl presented semiconscious and having fits 18 hours after ingesting an unknown quantity of alcohol and MDMA. She had been left to sleep by friends after a party. On examination she had a score on the Glasgow coma scale of 5/15, was hypertonic with dystonic movements, and was apyrexial but sweating. The initial serum sodium concentration was 119 mmol/l and plasma osmolality 156 mmol/kg. The urine osmolality was 655 mmol/kg and urine sodium concentration 6 mmol/l when plasma values were 270 mmol/kg and 129 mmol/l, respectively. The creatine kinase level was 3249 U/l (normal 24-195). Severe fluid restriction improved the serum osmolality and corrected the hyponatraemia over 24 hours. Computed tomography showed moderate cerebral oedema. Toxicological examination of urine

confirmed ingestion of MDMA. She recovered fully with no neurological sequelae.

Case 2—A 16 year old girl presented 21 hours after a party at which MDMA, alcohol, and amphetamines had been available. Fifteen hours after being left to sleep she had been found semiconscious with dystonic movements and agitation. Her score on the Glasgow coma scale was 11/15. She was apyrexial. The initial serum sodium concentration was 112 mmol/l and plasma osmolality 142 mmol/kg. Urine osmolality was 184 mmol/l and urine sodium concentration 99 mmol/l. Computed tomography showed mild cerebral oedema. MDMA and methyldeoxyamphetamine were detected in urine and gastric aspirate. The creatine kinase value was 1157 U/l. With fluid restriction her electrolyte concentrations returned to normal over 24 hours. She recovered fully but had some anterograde and retrograde memory loss.

Three recent case reports have linked use of MDMA with the syndrome of inappropriate secretion of antidiuretic hormone.²⁻⁴ Our patients developed cerebral oedema secondary to this syndrome. We suggest that the current practice of encouraging unrestricted intake of water needs to be reviewed. Rhabdomyolysis did not occur in our patients, but creatine kinase values were initially high. It is potentially dangerous to assume that an adolescent with altered consciousness after a party is intoxicated with alcohol and can be "left to sleep it off."

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Managing patients with an absent or dysfunctional spleen

Guidelines should highlight risk of salmonella infection in sickle cell disease

EDITOR,—The guidelines for the prevention and treatment of infection in patients with an absent or dysfunctional spleen recognise sickle cell disease as being an important cause of a dysfunctional spleen.¹ We are surprised, however, that they do not mention the infection that occurs most frequently in patients with this disease.

In districts such as ours, which serves a large population with sickle cell disease (about 620 patients are registered), *Salmonella* spp are the micro-organisms most commonly isolated from blood cultures. In a review of 4884 bacteraemias at our hospital during 1976-91 *Salmonella* spp accounted for 11 of 21 bacteraemias in patients with sickle cell disease, while *Streptococcus pneumoniae* and *Haemophilus influenzae* type b were responsible for only three and one respectively. In addition, if Gram negative bacilli were seen on microscopy of blood samples from patients with sickle cell disease in whom culture yielded positive results, *Salmonella* spp were cultured in nearly 70% of cases.² This high incidence of salmonella bacteraemia may not be universally appreciated by all clinicians. Despite aggressive treatment, salmonella osteomyelitis developed in about a third of cases. The emergence of resistance to antibiotics in *Salmonella* spp presents further problems in the management of osteomyelitis in sickle cell disease.³