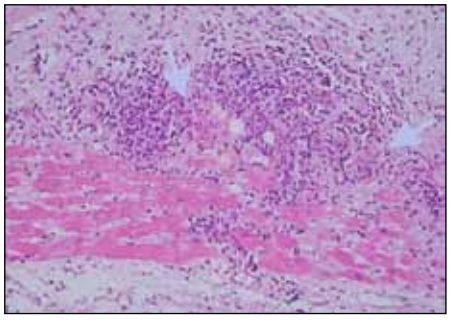
Giant cell myocarditis treated with antithymocyte globulin

Sir,

Acute cardiogenic shock is most commonly caused by myocardial infarction but can be caused by the myocarditides. A 33-year-old previously healthy male was transferred to the authors' care with acute cardiogenic shock, complicated by recurrent ventricular arrhythmias only partially controlled by amiodarone and lignocaine infusions; respiratory failure secondary to pulmonary oedema requiring intubation; chest sepsis requiring vancomycin and levofloxacin; general fluid overload and deranged liver function tests. He required inotropic and intra-aortic balloon pump support. Cardiac catheterization revealed normal coronary arteries. Endomyocardial biopsy revealed the diagnosis of giant cell myocarditis, a granulomatous myocarditis, with ongoing myocyte loss (*Figure 1*).

Giant cell myocarditis has a poor prognosis with a median survival of 5.5 months from onset of symptoms with a majority outcome of death or urgent cardiac transplantation. The disease can recur in transplanted organs (Cooper et al, 1997). Immunosuppression with corticosteroids alone is ineffective but the ideal immunosuppression regimen is unknown. The literature is dominated by case reports, and there have been no completed randomized controlled trials (Cooper et al, 1997, 2008).

Figure 1. Myocardium shows extensive areas of recent myocyte loss with replacement loose fibrosis, and patchy mixed lymphocytic and histiocytic inflammation with occasional giant cells (arrowed) impinging on surviving areas of myocardium, with ongoing myocyte damage. The pattern is typical of giant cell myocarditis. (Haematoxylin and eosin stain, x200 original magnification.)



This patient was treated with a novel regimen of rabbit antithymocyte globulin and corticosteroids. Rabbit antithymocyte globulin is a powerful immunosuppressant made from rabbit polyclonal antibodies that depletes T cells, but without the nephrotoxicity seen with ciclosporin. Rabbit antithymocyte globulin was given at 100 mg daily with intravenous methylprednisolone 1 g daily both for 3 days, followed by a tapering course of oral prednisolone. The patient was weaned off inotropes and was extubated 2 days later. On 2-year follow up his left ventricular ejection fraction improved from 23% at presentation to 42% and he has returned to normal activities. He remains on conventional heart failure therapy but does not require diuretics.

The authors believe this is the first reported case of successful combination of immunosuppression with rabbit antithymocyte globulin and corticosteroids to treat giant cell myocarditis, avoiding the need for mechanical circulatory support or heart transplantation. This highlights the importance of endomyocardial biopsy to assist diagnosis in patients with fulminant heart failure not caused by coronary artery disease (Shields et al, 2002; Cooper et al, 2007).

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Widening access to medicine

Sir,

Despite considerable efforts, there remains an undeniable skew of students from higher socioeconomic classes entering medical schools. Correcting this imbalance is needed to give equitable access to the profession and to allow doctors' backgrounds to better reflect the diversity of the population.

With the announcements of increases in tuition fees equitable access to professions such as medicine has been questioned. The Office for Fair Access are currently approving fees of over £6000 per annum in exchange for detailed access agreements from universities for the poorest students. However, up to a third of institutions may not promise enough to enable social mobility.

With the loss of the 'Aimhigher' annual grant (approximately £84 million), medical schools will have to plunder their own coffers, or promise schemes to widen participation that are acceptable to the Office for Fair Access. Some have suggested commitment from higher education institutions to the primary education sector as not a step too far, although it is suggested that intervention at 14 years of age has the greatest impact on encouraging participation. Is it not time to bridge the divide between further and higher education, particularly in vocational qualifications such as medicine?

Efforts to streamline education are impressive, and support afforded by independent, private schools to independent, state-funded academies promises further successes. There are many reasons why medical schools should sponsor independent, state-funded schools and academies. Not only is it true to the charitable objectives of many higher education facilities, but it amplifies the founding imperative of many red-brick institutions. What better way to engage the community in which a medical school is embedded than by nurturing clinicians of the future?

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