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Gancyclovir for adenovirus infection

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We report a 47 year old man who presented with severe haemorrhagic cystitis 49 days after a sibling allogeneic bone marrow transplant (BMT) for acute myeloid leukaemia (AML) in early 2nd relapse. The symptoms consisted of gross haematuria, urinary frequency of up to 20 times a day, and severe dysuria. Rapid virus culture of the urine was positive for adenovirus and electron microscopy also showed the presence of BK-polyoma virus. After one week of hydration and empirical antibiotics no improvement of symptoms was achieved and the urine remained positive for both viruses. At this stage spin cytology of the urine also revealed cells with intranuclear inclusions in keeping with viral cystitis. Because of experimental in-vitro evidence of adenovirus inhibition by Gancyclovir, the patient's Gancyclovir dose was increased from 5mg/Kg once three times a week, which he was on for CMV prophylaxis, to 5mg/Kg twice daily. Although the urine was still positive for adenovirus and polyoma virus 2 days after the commencement of full dose Gancyclovir, the patient's symptoms improved rapidly. After two weeks of treatment his symptoms became minimal and repeat viral culture became negative for adenovirus, even though polyoma virus remained detectable.

Although haemorrhagic cystitis following BMT is usually caused by BK-polyoma virus reactivation and is normally self-limiting, the symptoms in this patient only started to improve significantly after full dose Gancyclovir was commenced. Furthermore, the resolution of symptoms coincided with the disappearance of the adenovirus from detection. That the polyoma virus persisted after resolution of the cystitis suggests that in this case, the adenovirus was the main culprit of the cystitis.

This is the first reported case of adenovirus induced haemorrhagic cystitis successfully treated with therapeutic doses of Gancyclovir.

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Bronchiolitis obliterans organising pneumonia (BOOP) following allogeneic bone marrow transplant- a common pulmonary complication following BMT?

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Pulmonary disease remains a major cause of transplant related morbidity and mortality. At least 39% of Transplant Related Death (TRD) are reported to be due to lung disease. Pulmonary complications appear both in the immediate and late post BMT period. These are usually of infective origin. However, a large number of pulmonary disease following BMT are labeled as idiopathic or interstitial pneumonitis. 20% of these are of non-infective origin. Bronchiolitis obliterans organising pneumonia (BOOP) was diagnosed in a 28 year old man 1 year after a one antigen mismatch sibling donor bone marrow transplant for chronic phase chronic myeloid leukaemia (CML). He presented with a 2 week history of increasing breathlessness and cough. We failed to identify an infective cause, and pulmonary function tests were not typical of bronchiolitis obliterans of chronic GVHD. CXR showed multiple patchy opacities in the peripheral and basal zones of both lungs. The pulmonary function tests showed a restrictive pattern with reduced diffusion, and the diagnosis was histologically confirmed after an open lung biopsy. The patient was treated with high dose steroids (1mg /Kg) and after 6 months of treatment his symptoms resolved completely although some residual consolidation remained. Formal pulmonary function tests normalised except for some residual decrease in diffusion.

The aetiology of this syndrome is not clear but is characterised by a good response to steroids which leads in most cases to complete resolution. Although, as far as we know, this is the first reported case of adult BOOP associated with BMT, the condition is probably much more common and may account for a significant part of the 20% of non infective pneumonitis following BMT. It is therefore important that this syndrome is promptly diagnosed, as treatment for this is different to that for infective pneumonitis and unless it is promptly treated with steroids it can become rapidly fatal.