High dose Melphalan and autologous stem cell transplantation for Multiple Myeloma following urinary bladder reconstruction with ileum: measures to minimise mucositis

Mai Khalifa Mohammed[1], JA Snowden[1], DJ Rosario[2], A Munir[2]
[1]*Haematology, Royal Hallamshire Hospital, UK*
[2]*Urology, Royal Hallamshire Hospital, UK*

A 58 year old lady had previously undergone anterior pelvic exenteration with bilateral pelvic lymphadenectomy and continent urinary diversion using an ileal pouch for a high grade locally invasive urothelial bladder cancer in 2006. She remained well with clean intermittent self catherisation.

In August 2011, she was diagnosed with IgG myeloma and treated with six cycles of oral cyclophosphamide, thalidomide and dexamethasone (CTD) regimen. She received prophylactic oral mesna with cyclophosphamide to reduce the risk of damage to reconstructed urinary reservoir. She had a very good partial response (VGPR) to six cycles of chemotherapy and was referred for consolidation with high dose melphalan and autologous autologous haematopoietic stem cell transplantation (HSCT).

The reconstructed bladder epithelium would be prone to damage not only from the cytotoxic effects of the circulating melphlan, but also via the urine as around 10% of the drug is excreted unchanged in the urine within 24 hours, and about 30% is excreted in the urine within 9 days of oral administration. A multidisciplinary approach was adopted to minimise these risks and we devised the following management plan: Informed consent was taken after full disclosure of the potential risks involved, including the unknown response of the bladder replacement. Peripheral blood stem cell mobilisation was performed with granulocyte colony stimulating factor (G-CSF) 10µg/kg and priming chemotherapy was avoided. The dose of melphalan was moderated to 140mg/m2, as previously described in patients with significant co-morbidity. Palifermin (recombinant keratinocyte growth factor) was administered from days –2 to day +3 to minimise mucositis in the neo-bladder. A self-retaining urinary catheter was placed in the pouch on free-drainage with regular sterile water irrigation to clear effluent, which was tested for blood and protein by dipstick daily. Platelet count was maintained above 50 x109/L.

The subsequent post-transplant course was relatively straightforward with no major complications. She remains well with no features of pouch dysfunction. Her myeloma is currently in complete remission.