Fibrin glue for treatment of severe haemorrhagic cystitis following allogeneic haematopoietic stem cell transplantation.

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Abstract:

Background: Patients undergoing hematopoietic stem cell transplant (HSCT) are particularly exposed to the risk of developing haemorrhagic cystitis (HC), which is characterized by symptoms ranging from macroscopic haematuria to renal failure. HC signifi- cantly affects quality of life and in some cases becomes intractable leading to patient death. Its therapeutic management has not been established. In this prospective study, we used Fibrin Glue (FG), an haemostatic agent derived from human plasma, to treat 34 patients with refractory post-transplant HC. Materials and methods: Between January 2006 and October 2012, 1116 (249 children and 867 adults) underwent an HSCT at the Rome Transplant Network. Among adults, 554 received an autologous HSCT and no patient developed HC. Of 313 patients undergoing an allogeneic HSCT (HLA sib. n=140, MUD n=71, UCB n=28, Haplo n=74) 45 (14%) developed HC, which was of grade >=II in 34 patients (grade: II n=10, III n=21, IV n=3). All these patients refractory to conventional therapy for HC were treated with FG. During cystoscopy bladder distension was maintained at a constant pressure of 12 mmHg by a carbon dioxide insufflator and FG was diffusely sprayed on bleeding and raw surfaces of bladder mucosa by an endoscopic applicator. The response was evaluated at 10, 30 and 60 days from first FG application. Results: The number of FG application was 1 in 21 patients, 2 in 10 and 3 in 3 with a median FG volume of 10.8 ml (range, 6.3-16). The pelvic pain disappeared within the first 24 hours from FG application in all patients and the complete remission, defined as regression of all symptoms and absence of haematuria, evaluated at 10, 30 and 60 days was achieved in 18%, 61%

and 83% of patients, respectively. The response was independent from platelets recovery and BK viruria and its treatment. Conclusions: FG therapy is an effective, feasible, and reproducible procedure to treat grade >= II refractory HC.