high-risk disease, reduction of time from surgery to radiotherapy, and long-term follow-up for late effects.

Transfusion Medicine & Supportive Care

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CLINICAL EXPERIENCE OF GRANULOCYTE TRANSFUSION THERAPY IN MANAGEMENT OF NEUTROPENIA RELATED INFECTIONS IN A TERTIARY CARE CENTER

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Background: Granulocyte transfusions have recently gained popularity for the treatment of severe infections in neutropenic patients which do not respond to conventional antimicrobial therapies and recombinant growth factors. We conducted the present study to determine the clinical course of patients with neutropenia related infection receiving granulocyte transfusions in our center and to assess its efficacy in resolution of infections.
Methods: Retrospective analysis of all pediatric patients up to 18 years of age with neutropenia and infection receiving granulocyte transfusions in our hospital between January 2015 and July 2016.
Results: Twenty one pediatric patients with severe neutropenia related infections unresponsive to appropriate antimicrobial agents were included in the study. They received a total of 57 granulocyte transfusions. The study population comprised of 10 females (47.6%) and 11 males (52.4%). Median age of the study population was 9 yrs (5 months-16 years). 13 patients suffering from nonmalignant hematological diseases and 8 patients with malignant diseases were included in the study population. Voluntary healthy donors were used after granulocyte mobilization using granulocyte colony- stimulating factor (G-CSF) and dexamethasone. The median donor WBC count before leukapheresis was 31.9×10^9 /L and the mean donor granulocyte yield was 8.9×10^{10} /L. Seven patients had localized infection while 14 had sepsis. Causative organisms could be isolated in 16 cases out of which gram negative bacillus was isolated in 15 (93.75%). Median duration of neutropenia, antimicrobial therapy and G-CSF administration before granulocyte transfusion was 11 days (range 2-34), 10 days (range 3-20) and 9 days (range 2-20) respectively. Patients received a mean of 2.85 (range 1-8) granulocyte transfusions and mean cell dose of 2.7×10^{10} granulocytes. Ten of the total twenty one patients included had a favorable response and recovered from the infection. Granulocyte transfusions were generally well tolerated in most of the cases except for one episode of transfusion associated acute lung injury.
Conclusion: Granulocyte transfusions seem to be a clinically useful and generally safe adjunct in management of severe neutropenia related infections.

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BLOOD AND BLOOD PRODUCTS TRANSFUSION AUDIT: CURRENT PRACTICES AND LACUNAE IN BLOOD AND BLOOD PRODUCT TRANSFUSION AMONG HOSPITALIZED CHILDREN

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Transfusion audits are most effective tools to detect inappropriate blood product transfusion practices and suggest remedial measures to ensure safe and effective use of this precious product in health-care.
Objectives: Present study was designed to assess current practices regarding blood product transfusions in children with special emphasis on the appropriateness of these transfusions.
Materials & Method: Present study was a prospective study conducted over a period of 22 months from January 2013 to October 2014. Each episode of transfusion was analyzed and divided into appropriate and inappropriate according to the type of blood component, the clinical and hematological indication. Data was reviewed according to British Committee for Standards in Hematology and American Association of Blood Bank guidelines.
Results: In this study, a total 741 transfusions were used in 327 cases, including 449 packed red blood cells (60.6%), 148 Fresh frozen plasma (20.0%), 140 (18.9%) platelets and 4 (0.5%) whole blood transfusions. Appropriate usage of blood and blood products was 70.5%. Most inappropriately used was FFP (39.2% of FFP transfusions), followed by Packed RBCs (28.7%) and Platelets (22.9%). Packed RBCs transfusions were used most commonly for sepsis with/without DIC (25.2%), followed by nutritional anemia (20.7%) Packed RBC transfusions were used most inappropriately for nutritional anemia (49.5%) and sepsis (46.9%). FFP transfusions were used maximally for the indication of sepsis with/without DIC (43.2%), followed by perioperative indications (21.6%). FFP transfusions were most inappropriate for Dengue (68.8%) and perioperative indications (53.1%). Platelet transfusions were most commonly used for Aplastic anemia (45%) followed by sepsis (24.3%) Platelet transfusions were most inappropriate in Dengue cases (85%) and Idiopathic thrombocytopenic purpura (50%).
Conclusion: Present study concludes that in the study population, about one-third of all blood component transfusions used in study center are inappropriate. This study suggests establishment of set protocols for requisition of blood component transfusions in the study set-up to minimize irrational and unsafe use of these products.
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FUNGAL BRAIN ABSCESS IN HAEMATOLOGICAL MALIGNANCY: IS GOOD OUTCOME POSSIBLE?

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Introduction: Incidence of invasive fungal infections in children with hematological malignancies is increasing. We present clinical features and outcome of children with fungal brain abscess in acute lymphoblastic leukemia (ALL), an entity which traditionally has dismal outcomes.
Methods: Eighteen months data is presented. Total 160 new ALL patients were recruited. Thirteen developed proven fungal infection. Details of children with fungal CNS infection were retrieved and analyzed.
Results: Five children had fungal brain abscesses. B-cell ALL:T-cell was 4:1. Three children were standard risk, 2 intermediate risk. All were on intense chemotherapy including steroids; 4 induction, 1 intensification. Clinical presentation: Prolonged neutropenia: 100%; fever: 100%; altered sensorium/seizures seen in 80% (4/5). Duration of neutropenia: 16 days (14-23). Primary focus was lung in 4, ear in 1. Brain abscess was single in 2, multiple in 3 children. Meningitis was present in 2. All children underwent surgery (burr-hole drainage:4, excision:1). Culture/PCR proven fungus was seen in all: Aspergillus in 4; Mucor:1. Elevated serum galactomannan seen in 66%. Combination antifungals were given for aspergillus: Amptotericin (plain/liposomal)& voriconazole for 10 days, followed by voriconazole alone for 6 months. Single mucor patient received amphotericin for 12 months. Overall survival at 10 months: 80%; event free survival: 40% (events-death:1, defaulter:1, cortical blindness:1). Three children are continuing chemotherapy.
Conclusion: Mortality rate in fungal brain infections in children is reported to be 65%. Better outcomes in our patients can be attributed to multimodality therapy and early initiation of antifungal therapy along with judicious management of chemotherapy.
Keywords: Aspergillus, acute lymphoblastic leukemia, brain abscess, invasive aspergillosis