CLIPPINGS

Guideline for the management of fever and neutropenia in pediatric patients with cancer and hematopoietic cell transplantation recipients: 2023 update (Journal of Clinical Oncology 2023; 41:1774-85)

Fever and neutropenia (FN) is one of the most common complications of cancer treatments. The management of pediatric FN continues to be heterogeneous across and within centers; this heterogeneity can be reduced through implementation of clinical practice guidelines (CPGs). This guideline gives an updated CPG for the empiric management of FN in pediatric patients with cancer and hematopoietic cell transplantation recipients. The International Pediatric Fever and Neutropenia Guideline Panel reconvened to conduct the second update of this CPG. Using the Grading of Recommendations Assessment, Development and Evaluation framework, evidence quality was classified as high, moderate, low, or very low. The panel updated recommendations related to initial management, ongoing management, and empiric antifungal therapy. Ten new RCTs in addition to the 69 RCTs were identified in previous FN CPGs to inform the 2023 FN CPG. Changes from the 2017 CPG included two conditional recommendations regarding *a*) discontinuation of empiric antibacterial therapy in clinically well and afebrile patients with low-risk FN if blood cultures remain negative at 48 hours despite no evidence of marrow recovery and *b*) preemptive antifungal therapy for invasive fungal disease in high-risk patients not receiving antimold prophylaxis. The panel created a good practice statement to initiate FN CPG-consistent empiric antibacterial therapy as soon as possible in clinically unstable febrile patients. The updated FN CPG incorporates important modifications on the basis of recently published trials. More high-quality RCTs are required to better inform pediatric FN clinical care. Implementation may be improved through creation and adaptation of institution-specific care pathways on the basis of CPGs. Future work should focus on addressing knowledge gaps, improving CPG implementation, and measuring the impact of CPG-consistent care.

Impact of minimal residual disease on relapse in childhood acute lymphoblastic leukemia: Lessons learnt from a tertiary cancer center in India (Pediatr Hematol Oncol 2023 Mar 17;1-12)

Outcome of children and adolescents with acute lymphoblastic leukemia (ALL) has improved significantly in the past two decades. Accurate risk stratification and minimum residual disease (MRD) based decisions have helped clinicians immensely to assign appropriate treatment to the patients. Prognostic predictive value of end of induction minimal residual disease (EOI-MRD) is well established in acute lymphoblastic leukemia (ALL). Factors likely to affect EOI-MRD positivity (>0.01%) by flowcytometry and relapse in different BFM-95 (Berlin–Frankfurt–Munich) risk groups among children and adolescents were evaluated.This is a single-center, retrospective study conducted at a tertiary care cancer institute in Northern India. Data of 223 children and adolescents diagnosed with ALL up to 18 years of age, from January 2015 to December 2019 was analyzed. Association between demographic and pretreatment characteristics with EOI-MRD was assessed. Risk factors for relapse were analyzed using univariate and multivariate Cox regression. Proportion of the SR (standard risk), MR (moderate risk), and HR (highrisk) patients was 18.8%, 60.9%, 20.3%, respectively. Positive EOI-MRD among these risk groups was observed in 11.9%, 18.3%, and 55.5% patients, respectively. MRD positivity was more likely to be associated with older age (>10years) and BFM-HR patients. Thirty-four (15.2%) patients relapsed in the whole cohort. On univariate analysis, statistically significant factors for RFS (relapse-free survival) included hyper-leukocytosis, high-risk cytogenetics, NCI (National Cancer Institute) high risk, poor day-8 prednisolone response, BFM–HR and positive EOI-MRD status. Of all these only EOI-MRD retained its impact by multivariate analysis. Positive EOI-MRD significantly predicted relapse in BFM-MR with 5-year RFS of 88.0% and 68.4%. Five-year RFS of EOI-MRD negative and positive groups were 86.4% and 65.5%, respectively. EOI-MRD is a powerful tool to predict relapse in children and adolescent with ALL, especially in BFM-MR. Application of MRD in HR patients needs to be redefined in conjunction with other variables.

Systematic review and updated recommendations for cardiomyopathy surveillance for survivors of childhood, adolescent, and young adult cancer from the International Late Effects of Childhood Cancer Guideline Harmonization Group (Lancet Oncol. 2023;24: E108-20)

Survivors of childhood, adolescent, and young adult cancer, previously treated with anthracycline chemotherapy (including mitoxantrone) or radiotherapy in which the heart was exposed, are at increased risk of cardiomyopathy. Symptomatic cardiomyopathy is typically preceded by a series of gradually progressive, asymptomatic changes in structure and function of the heart that can be ameliorated with treatment, prompting specialist organizations to endorse guidelines on cardiac surveillance in at-risk survivors of cancer. In 2015, the International Late Effects of Childhood Cancer Guideline Harmonization Group compiled these guidelines into a uniform set of recommendations applicable to a broad spectrum of clinical environments with varying resource availabilities. Since then, additional studies have provided insight into dose thresholds associated with a risk of asymptomatic and symptomatic cardiomyopathy, have characterised risk over time, and have established the cost-effectiveness of different surveillance strategies.

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