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How to overcome challenges met during chemotherapy for childhood acute myeloid leukemia**Taha Khattab**

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Despite improvement in treatment of children with acute myeloid leukemia (AML) over the past 3 decades, event-free survival EFS continue to be less than 50% in large series. The reasons for treatment failure include development of resistance to multiple drugs and treatment related mortality. The current study's objectives are to aware medical staff with the parameters needed to predict different challenges found during chemotherapy and to show that prompt assessment and intervention would overcome such challenges. Challenges could be divided into disease, treatment and patients related. Risk stratification based on bone marrow cytogenetic and response to first cycle of chemotherapy as low, intermediate and high risk category where LR need chemotherapy only for cure while IR and HR would need chemotherapy and SCT for their cure. Coagulopathy secondary to acute promyelocytic leukemia (M3) should be dealt with induction remission by initiating chemotherapy and FFP with other blood products support as indicated. Refractory disease could be treated using second line of chemotherapy, FLAG, IDA-FLAG and subsequent SCT. Patients related challenges include prolonged fever and neutropenia F&N, neutropenic enterocolitis (NEC), mucositis and cardiac dysfunction. F&N need combination broad spectrum antibiotics according to hospital pattern of isolated microorganism and sensitivity testing; special antimicrobial as per clinical evaluation and site of infection. F&N>4 days empiric antifungal should be added and CT fungal search to be arranged. NEC is a clinical diagnosis and could be managed by anti anaerobic drug, nil per mouth, gastric decompression, IVF and pediatric surgeon involvement. Mucositis of oral mucosa and GIT could be associated with viral and bacterial infection, so specific antimicrobial as well as mouth wash and systemic analgesia is all indicated. Echocardiography need to be done before each cycle of anthracyclines. Patients related challenges like Rh negative female need anti rhoGAM injection before Rh positive blood products, also central venous catheter CVC problems of infection and obstruction should be dealt with adequately by antimicrobial according to blood culture and sensitivity and its removal in case of positive culture with *Candida*. CVC obstruction could be dealt with using heparin saline washing or TPA (tissue plasminogen activator). Cumulative experience of medical team for children with AML is now crucial. Using intensive timed chemotherapy together with extensive supportive care and SCT when indicated all would have an impact on improving outcome of childhood AML.

Biography

Taha Khattab completed his PhD in Pediatrics in Nov 1993 from Cairo University. He also completed his Master's in Pediatrics in 1984. He graduated in Faculty of Medicine from Cairo University in 1979. His activity in medical publication includes about 60 publications: 22 manuscripts at different pediatric hematology/ oncology journals and about 38 abstracts: 32 as a first author and 6 as co-author. He also has membership at national and international medical associations like International Society of Pediatric Oncology (SIOP) since 2001, American Society of Clinical Oncology (ASCO) from 2002 to 2012, Saudi Pediatric Association since 2002, Saudi Society of Hematology since 2011.

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