Editorial-I

Oral Antibiotic Therapy for Low Risk Febrile Neutropenia: Time to Dare

Febrile Neutropenia in cancer patients on chemotherapy is considered a medical emergency and is traditionally treated with parenteral antibiotics. Treatment of carefully selected patients with oral antibiotics alone appears to be feasible for adults and children with low risk of complications. Scoring systems have been developed for identifying the patients with febrile neutropenia who are at low risk of complications. The most validated is the Risk Index by Multinational association for Supportive Care in Cancer (MASCC)[1] which has also been endorsed by IDSA.[2] It included 1139 febrile neutropenic episodes in adult patients with malignancy. Broadly, patients <60 years with no or mild symptoms of illness and no focus of bacterial infection or signs of systemic infection and an out-patient status at time of onset of fever are major predictors of low risk. Klassen et al derived and validated clinical predictors for risk stratification in pediatric oncology patients with febrile neutropenia.[3] Children presenting with initial monocyte count of >100/mm^3 with no co-morbidities and a normal chest X ray finding are at the lowest risk of complications and mortality.

A meta-analysis of fifteen randomized trials on feasibility of oral antibiotics as initial therapy in febrile neutropenia showed comparable results of oral versus iv antibiotics for low risk patients.[4] Oral antibiotic therapy has the advantage of reduced cost, facilitation of out patient management and reduced risk of hospital acquired infection.

Although attractive, such kind of therapy needs vigilant observation and availability of prompt access to hospital care. In a developing country like India where there is always shortage of resources and good medical care, feasibility and safety of oral antibiotics in low risk febrile neutropenia needs to be established.

Study by Dominic et al[5] in this issue is a daring step in this direction. The study is a randomized comparison of oral antibiotics with IV antibiotics in out patient setting. Risk stratification was done considering the expected duration of neutropenia (<7 days) and absence of co-morbid features. Oral antibiotics used were Amoxicillin-Clavulanate along with Levofloxacin and IV antibiotic therapy used was Ceftriaxone along with Amikacin on once a day schedule. The response to therapy was comparable (72% in IV and 77% in oral arms). Risk factors identified are age >60 years, prolonged neutropenia and positive blood culture. Growth factors were not used in these patients.

Can we follow the results directly in our practice? The culture positivity has been found to be an important predictor for failure to therapy and all of the gram negative isolates were extended spectrum b lactamase inhibitors. Combination of Levofloxacin with Amoxicillin + clavulanate does cover this suitably but iv antibiotic combination of ceftriaxone and amikacin does not. Is it possible that this has undermined the value of IV antibiotics to some extent? The numbers are small enough to draw any conclusion. Monotherapy with third or fourth generation IV antibiotics (particularly covering ESBL spectrum) would be an alternative choice of initial parenteral antibiotic therapy for further trials on this issue. However the choice of antibiotics must be guided by local spectrum and susceptibility pattern of organism from the same hospital.

An alternative strategy could be brief inpatient admission during which therapy is initiated, fulminant infections excluded and initial cultures are obtained followed by oral out patient therapy. More trials to develop guidelines in Indian setting would be warranted.

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Ashish Dixit
Department of Clinical Hematology & Blood & Bone Marrow Transplant Comprehensive Cancer Centre Manipal Hospital Bangalore
ashis.dixit@manipalhospital.org