Drugs 2006; 66 (7): 959-960
0012-6667/06/0007-0959/$44.95/0

Decitabine in Myelodysplastic Syndromes

A Viewpoint by Hussain Saba

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Myelodysplastic syndromes (MDS) are diseases of the elderly characterised by ineffective haematopoiesis. MDS has been subcategorised into low- and high-risk groups. Low-risk MDS patients have a somewhat chronic course with cytopenias leading to infection and increased transfusions, with complications of iron overload and death due to infection. The high-risk MDS group is marked by an aggressive and rapid course, with transformation to acute myeloid leukaemia and death.

Management has included, among other things, growth factors and transfusion support, and thus far has been far from spectacular. Therefore, there is a need for more efficacious treatments for this disorder.

Aberrant DNA hypermethylation is considered to be involved in MDS, thus leading to trials of hypomethylating agents, such as 5-azacitidine and decitabine, to reverse the process. Decitabine appears to be more active than other hypomethylating agents. A European phase II study of decitabine in MDS led to an overall response rate of 49%, with a 64% response in high-risk patients.[1] A randomised, phase III study has been performed in the US and Canada, resulting in a reported 17% response in MDS patients treated with decitabine plus supportive care versus 0% with supportive care alone.[2,3] These responses were seen across all IPSS (International Prognostic Scoring System) risk groups, and were greater in higher risk patients. An MD Anderson study has suggested that lower doses of decitabine may be more effective.[4] Decitabine appears to be a promising drug for MDS and has just been approved by the US FDA for the treatment of MDS patients.[5] More trials are needed to optimise its use both alone and in combination with other new agents for greater efficacy in MDS patients. ▲

References

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