Title: Outcomes of myelodysplastic syndrome patients treated with hypomethylating agents – A single-institution retrospective study

Submitted by: Li Wai Yan Jamilla, Gill Harinder Singh Harry, Kwong Yok Lam

Objective: This study aimed to review the outcomes of patients with myelodysplastic syndrome treated with azacitidine or decitabine, and to identify the prognostic factors that correlated with overall survival, leukaemia-free survival and response to treatment.

Patients and Methods: A total of 83 patients with myelodysplastic syndrome or myelodysplastic/myeloproliferative neoplasm who were treated with azacitidine or decitabine at Queen Mary Hospital were included in the study. Patients with chronic myelomonocytic leukaemia and patients who were treated after progression to acute myeloid leukaemia were analysed in separate cohorts. Baseline characteristics, treatment and clinical outcomes were evaluated retrospectively.

Results: The overall response rate was 37.3%, with a median overall survival of 19.6 (range 1.9-71.5) months. For patients in the myelodysplastic syndrome cohort, median overall survival and leukaemia free survival were 22.0 months and 17.0 months respectively. Haematologic improvement was achieved in 26.7%, with a median number of 2 treatment cycles to response. These outcomes were comparable with those from phase III trials and internationally published registries. Abnormal cytogenetics, therapy-related disease, high IPSS and IPSS-R scores predicted inferior overall survival. Poor risk cytogenetics and the use of azacitidine as compared with decitabine were associated with inferior leukaemia-free survival. Abnormal cytogenetics predicted lower response rates to treatment.

Conclusion: Azacitidine and decitabine produced objective responses in a substantial proportion of patients, and several clinical factors correlated with the overall survival and leukaemia-free survival of patients treated with hypomethylating agents.