Prescribing pattern of imatinib among chronic phase chronic myeloid leukaemia (CML) patients and its financial impact on Hong Kong
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Introduction
Chronic myeloid leukaemia (CML) is a haematological malignant disease involving haematopoietic stem cells. In the most recent guidelines published by NCCN and European LeukemiaNet in 2013, tyrosine kinase inhibitors (TKI) specifically inhibiting the Bcr-Abl tyrosine kinase, are the first-line therapy for patients with chronic phase CML. Imatinib is the oldest analog among the 3 TKIs, and is the most commonly prescribed. Despite its proven therapeutic role in CML, imatinib is a drug of extreme high cost. Estimated annual drug cost is HKD$223,380 currently for a standard 400mg adult daily dose.

Objectives
This study aimed to survey on the prescribing pattern of imatinib in CML patients, its funding status, response, and estimated its economic burden on the Hong Kong population.

Methodology
This was a retrospective review study. All patients who were diagnosed with CML from 2003 to 2012 and managed in QMH or QEH were reviewed. Electronic records were retrieved to see whether imatinib was started as first-line treatment within 6 months of diagnosis. Patients’ response to imatinib, and funding source for the drug were documented. Annual drug cost of imatinib was estimated from all CML patients who attended all Hospital Authority institutions in 2012 who were prescribed with the drug.

Result
Total 153 patients from the 2 institutions were reviewed in detail. 124 (81%) of them
started imatinib as first-line therapy within 6 months of diagnosis. A trend of increasing prescribing rate for imatinib was observed. Among those who were not started with TKI, the most common reasons were patient preference (21%) and financial difficulties (17%, all either declined Samaritan Fund application, or refused medical social worker assessment). 12 paediatric patients were identified, and all but one of them used imatinib as first line. 71% patients on imatinib experienced side effects but most of them were mild. During their course of treatment, 46.3% patients on imatinib required social subsidy from Samaritan Fund. The projected annual cost burden on the whole Hong Kong population was HK$43,425,878. The prescribing rate of imatinib in chronic phase CML patients in Hong Kong is comparable to that of overseas. The drug has become a significant financial burden to patients’ family and the society as a whole. The subsidy system had effectively ensured that most patients who require imatinib were not deprived of drug treatment due to financial difficulties. Acknowledgement: We acknowledge the kind assistance and approval of Dr. Albert Lie, Prof. YL Kwong of QMH and Dr. KF Chau, Dr. June Lau of QEH to use their patients’ information.