The Use of Methotrexate in Juvenile Idiopathic Arthritis: 
A Single Center Experience

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Abstract
In the recent decade, an increasing number of disease-modifying anti-rheumatic drugs (DMARDs) have been developed for treatment in juvenile idiopathic arthritis (JIA). Currently, methotrexate (MTX) is the DMARD of first choice particularly in oligoarticular and polyarticular JIA, but its efficacy in systemic-onset JIA and enthesitis-related JIA was less satisfactory. A retrospective study on 40 patients followed up at Queen Mary Hospital for JIA was performed to review the treatment outcome and adverse effects associated with use of MTX. We concluded that MTX was safe and well tolerated in majority of patients, but treatment response varied with different JIA subtypes. Combination of MTX with other anti-inflammatory agents was often required to achieve disease remission in patients with more severe disease. Large, randomised controlled trials are needed to determine the efficacy of individual drug and their combination in each JIA subtype.

Key words
Juvenile idiopathic arthritis; Methotrexate

Introduction
Juvenile idiopathic arthritis (JIA) is the most common rheumatic disease in childhood. It is a clinical diagnosis made in a child less than 16 years of age with chronic arthritis for at least 6 weeks' duration after excluding other identifiable causes of arthritis. In Western countries, the overall prevalence is approximately 30-150 per 100,000 children. JIA is reported to be less common among Chinese children; a recent population-based epidemiologic study in Taiwan revealed that the prevalence was 3.8 per 100,000 children under the age of 15. While approximately one-third of children with JIA achieve disease remission at the time of adolescence, it is estimated that up to 50% of all JIA patients continue to have debilitating joint damage and systemic disease that persist into adulthood. Poor prognostic factors include polyarticular onset and disease course, systemic onset subtype and rheumatoid factor positivity. Current management guidelines for rheumatoid arthritis advocate that aggressive use of disease-modifying agents should be initiated early to minimise joint damage and slow down disease progression. Methotrexate (MTX) is a well established treatment for JIA. Its efficacy and safety has been demonstrated in randomised controlled trials in children with JIA. Data on the use of MTX in Chinese children with JIA is scarce, and the experience among local paediatricians with MTX is limited. The aim of this study is to review the overall clinical characteristics, disease course and outcome of patients who received MTX for JIA in our unit.

Study Setting
Queen Mary Hospital is the teaching hospital for The University of Hong Kong. The Department of Paediatrics and Adolescent Medicine is a tertiary-quaternary care center