Cost savings of new local immunosuppressive treatment for inflammatory eye diseases

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Introduction
Non-infectious inflammatory eye diseases are common. When topical treatments fail, systemic immunosuppressants are usually necessary. These treatments are very expensive, taking up a significant portion of the departmental drug budget. They also carry many side effects and require frequent monitoring. If these systemic immunosuppressants can be given locally, the treatment costs and side effects may be significantly reduced. Due to the lack of appropriate preparation facilities in HA in the past, these systemic immunosuppressants are generally not available for local use. With the recent improvement of these facilities, one of these systemic immunosuppressants, namely methotrexate, is now available to treat a variety of non-infectious inflammatory eye diseases.

Objectives
To assess the cost-effectiveness, safety and efficacy of intravitreal methotrexate in the treatment of non-infectious inflammatory eye diseases.

Methodology
Retrospective review of outcomes in the use of sterile preparations of intravitreal methotrexate (400 mcg) injections in the treatment of a variety of non-infectious inflammatory eye diseases without systemic involvement. Outcomes include 1) cost-effectiveness, as compared to the systemic use of immunosuppressants in the past, 2) safety profile (development of ocular toxicities, blood picture profile, renal and liver functions), 3) efficacy (visual acuity improvements and reduction in inflammation).

Result
Ten patients with a variety of non-infectious inflammatory eye diseases were treated with intravitreal methotrexate. The annual cost per patient receiving systemic immunosuppressants was estimated to be around HK$780 - $104650 depending on the number, class and dose of the immunosuppressant(s) used. The annual cost of intravitreal methotrexate injection was estimated to be HK$269, which was significantly lower than that with the use of systemic immunosuppressants in the past. None of these patients developed ocular and/or systemic toxicities. The average improvement of visual acuity was 2.3 lines and 7 out of 10 patients had reduction in inflammation. Thus the use of intravitreal methotrexate appears to be highly cost-effective and of great benefit to the drug budget in HA.