



Service Priorities and Programmes Electronic Presentations

Convention ID: 78

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Introduction of Bangerter Filters into HA for the Treatment of Amblyopia in Children

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Keywords:

Amblyopia

Bangerter Filters

Introduction

Amblyopia is the most common cause of visual impairment in children. Patching and atropinisation are the conventional treatments for unilateral amblyopia. Bangerter Filters have been reported in many countries to be effective and safe as well as improve patients' treatment compliance. It is not available in Hong Kong until recently. KWC Ophthalmology Centre is the first Centre in Hong Kong to introduce its use and evaluated its efficacy and safety in combination with other conventional treatments such as patching and atropine.

Objectives

1. To comply with HA strategic goal of adopting modern treatment options with a proven track record of improving clinical outcomes by the introduction of Bangerter Filters in the treatment of amblyopia. 2. To comply with HA strategic goal of the developing new models of service delivery by combining the use of Bangerter Filters with patching and/or atropine.

Methodology

KWC Ophthalmology Centre patients who underwent amblyopia treatment with the use of Bangerter Filter from June 2014 to December 2015 were recruited. Efficacy outcome, such as improvement in visual acuities, and safety outcome such as iatrogenic occlusion amblyopia were analysed. Patients were divided into three groups (mild, moderate, severe) according to the severity of amblyopia for the purpose of analysis.

Result

Results: Seventy-seven children aged between 2.8 years and 9.6 years (mean age 5.39 ± 1.56 years) underwent Bangerter Filter therapy during the study period. Mean treatment duration with Bangerter Filter was 10.3 ± 2.76 months (range 4-15 months). The mean number of lines of improvement visual acuity in patients with severe, moderate and mild amblyopia was 2.09 ± 1.20 , 2.10 ± 1.13 , 1.07 ± 0.92 lines respectively. Improvement in visual acuities were statistically significant ($P < 0.001$). None of these 77 patients developed iatrogenic occlusion amblyopia during the study period.

Conclusions: KWC Ophthalmology Centre was the first Centre in Hong Kong to

introduce Bangerter Filter in the treatment of amblyopia in children. This complies with HA strategic goals of adopting modern treatment options with a proven track record of improving clinical outcomes and developing new models of service delivery.