

## Efficacy of tobramycin dexamethasone combined with loteprednol in the treatment of anterior uveitis and its impact on serum IgG, IgA, and IgE.

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### Abstract

Objective of the present study is to investigate the efficacy of tobramycin dexamethasone combined with loteprednol for the treatment of anterior uveitis and its impact on serum IgG, IgA and IgE. 72 patients with anterior uveitis were randomly divided into study group and control group. The study group was treated with tobramycin dexamethasone and loteprednol, while the control group was only treated with tobramycin dexamethasone. All patients were followed up for six weeks. The clinical efficacy, healing time, side effects, serum IgG, IgA and IgE changes were compared between the two groups. The clinical efficacy of the study group was significantly better than the control group; the healing time of the study group was shorter than the control group; the incidence of adverse reactions of the study group was 2.78% lower than 16.67% of the control group. There were significant differences between the two groups ( $P < 0.05$ ). After the treatment, the serum IgG and IgE levels in the study group were significantly lower than the control group. However, IgA level was higher in the study group ( $P < 0.05$ ). The efficacy of tobramycin dexamethasone combined with loteprednol for treating anterior uveitis is certainly better than tobramycin dexamethasone alone. The serum IgG and IgE levels were significantly reduced and the serum IgA levels were significantly increased, so it should be widely applied in clinical practice.

**Keywords:** anterior uveitis; tobramycin dexamethasone; chlorine; serum IgG, IgA, and IgE

Accepted January 14 2014

### Introduction

Anterior uveitis is the most common type of uveitis, including mucous membrane inflammation, iridocyclitis and anterior cyclitis and accounting for about > 50% of the total number of uveitis. It can clinically manifest as acute, chronic, granulomatous and non-granulomatous inflammation [1]. The treatment should be performed based on the principle of quickly eliminating the inflammation and preventing posterior synechia. However, it should be first determined whether patients have active inflammation, and then give the patients who are diagnosed with inflammation different medicines based on the severity of the inflammation. Because the vast majority of anterior uveitis is caused by non-infectious factors, treatment with antibiotics is not generally needed; but patients with highly suspected or confirmed pathogen infection should be given an appropriate anti-infective therapy. As for the uveitis caused by non-infectious factors, the effective concentration of the drug can be achieved in the anterior eye segment through local administration; therefore, systemic administration of

the medicine is generally not needed. The commonly used medicines including glucocorticoid eye drops, cycloplegic agent, non-steroidal anti-inflammatory eye drops, anti-viral eye drops, antibiotic eye drops and traditional Chinese medicine [2]. It is reported that loteprednol/tobramycin was significantly less likely to produce elevations in intraocular pressure than was dexamethasone/tobramycin in healthy subjects treated for 28 days. Both loteprednol etabonate/tobramycin and dexamethasone/tobramycin were well tolerated with low risks for systemic and ocular adverse events other than elevation in intraocular pressure for dexamethasone/tobramycin[3]. In this study we combined tobramycin dexamethasone with loteprednol to treat anterior uveitis and investigated the efficacy of this combination and its impact on serum IgG, IgA and IgE.

### Materials and Methods

#### General Information

A total of 72 patients (39 males and 33 females; mean