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Review

Inflammatory eye disease: Pre-treatment assessment of patients prior to commencing immunosuppressive and biologic therapy: Recommendations from an expert committee

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ABSTRACT

Aim: To outline recommendations from an expert committee on the assessment and investigation of patients with severe inflammatory eye disease commencing immunosuppressive and/or biologic therapy.
Method: The approach to assessment is based on the clinical experience of an expert committee and a review of the literature with regard to corticosteroids, immunosuppressive drug and biologic therapy and other adjunct therapy in the management of patients with severe sight-threatening inflammatory eye disease.
Conclusion: We recommend a careful assessment and consultative approach by ophthalmologists or physicians experienced in the use of immunosuppressive agents for all patients commencing immunosuppressive and/or biologic therapy for sight threatening inflammatory eye disease with the aim of preventing infection, cardiovascular, metabolic and bone disease and reducing iatrogenic side effects.

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1. Introduction

Inflammatory eye diseases (IED), such as uveitis and scleritis, are a significant cause of blindness and visual impairment worldwide [1–5]. Although corticosteroids remain the mainstay of initial therapy and are effective in the rapid control of IED, the common occurrence of significant side effects related to prolonged systemic corticosteroid therapy and the loss of disease control as the steroid dose is decreased, often necessitates the use of additional immunosuppressive agents [6]. In addition, a proportion of patients have severe ocular disease that is resistant to corticosteroid therapy [7,8]. The drugs most commonly used as corticosteroid-sparing agents include: azathioprine, methotrexate, mycophenolate and cyclosporine, whilst tacrolimus and cyclophosphamide are used infrequently [8]. All these drugs are associated with the potential for significant side effects and important drug interactions [9]. Recently, biologic agents, including antibodies against cytokines, such as tumor necrosis factor-α, IL-1β, IL-6, anti B (anti-CD20) and T cell antibodies like IL-2R, as well as the cytokine IFN-α have become available to treat patients with uveitis and other inflammatory eye diseases [10,11].

The aims of immunosuppressive therapy in patients with IED include: the preservation and/or recovery of vision, relief of associated symptoms, and maintenance of the patient's quality of life. Importantly, this should lead to the prevention of complications of their underlying disease combined with prevention of drug-related adverse events and complications, particularly those from unnecessary high maintenance doses (>7.5 mg/day) of corticosteroid therapy [6,12].

An essential component in achieving these aims is a careful and considered assessment and planning process. Such an assessment would normally be carried out in parallel with investigations into the etiology of the patient's inflammatory eye disease and typically after the commencement of high dose systemic corticosteroid therapy, as the majority of patients present with acute vision-threatening inflammation that requires urgent therapy. There are previous publications and reports of the evaluation and assessment of patients before starting immunosuppressive or biological therapy, although there have been no systematic reviews or expert guidelines developed for patients with IED [8,13].

The primary objective of these recommendations is to assist ophthalmologists and physicians caring for patients with IED and provide a framework to help guide baseline information gathering about patients prior to commencing systemic immunosuppressive therapy. These recommendations are summarized in Table 1 and are designed for physicians and members of the clinical team caring for patients with IED who require systemic immunosuppressive and/or biologic therapy and are not meant to be prescriptive or essential in all cases. It is the responsibility of the treating ophthalmologist or internist to decide on the appropriate investigations for the individual patient, and such considerations will be based on experience, socioeconomic and geographical considerations, as well as availability of tests and cost.

1.1. Methodology

A 12-person panel of physicians and scientists with expertise in ophthalmology, pediatrics, infectious disease, rheumatologic disease, research, and the use of immunosuppressive drugs in patients with IED, drafted the initial recommendations, which were subsequently reviewed by members of an extended panel.

1.2. Evidence

Published clinical study results and adopted recommendations from other expert bodies, including the American College of Rheumatology (ACR) [14] and Centre for Disease Control (CDC), where relevant. Recommendations were rated according to the quality and strength of available evidence and relevant guidelines developed by other expert committees.

1.3. Process

The panel was convened in September 2015 and communicated regularly through March 2016. Subgroups of the panel summarized and presented available information on specific topics to the full panel; recommendations and ratings were determined by group consensus.

Table 1
Summary of recommendations.

1. Prior to commencing long-term systemic immunosuppressive or biologic therapy, patients should have a comprehensive and individualized pre-treatment evaluation (Table 2) to prevent or minimize therapy and disease-related complications.
2. An extended consultative approach to management of patients with associated systemic disease is recommended.
3. Patients treated with high-dose and prolonged systemic corticosteroids (>3 months) should have a baseline bone density and fracture risk assessment, which should be repeated at regular intervals in patients on long term glucocorticoid therapy. Patients with evidence of significant bone loss and/or osteoporosis should have treatment to prevent further bone loss as early as possible after commencing corticosteroid therapy (Fig. 1).
4. Special considerations are essential in the pre-treatment assessment and management of children, pregnant women and older patients.
5. Review of infection risk and immunization status should be made prior to commencing systemic therapy. Established evidence-based international guidelines, such as the CDC guidelines, should be followed in assessing and managing immunization in patients with IED being treated with systemic immunosuppressive and biological therapy.
6. Evidence-based data and recommendations from expert committees should be used in selecting appropriate systemic therapy for patients with IED and this should inform the pre-treatment assessment.
7. Regular review, monitoring, patient education and preservation of quality of life are essential components of therapy.