Infectious and Noninfectious Endophthalmitis After Intravitreal Bevacizumab

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ABSTRACT

Aims: The aim of this study was to evaluate the rate of infectious and noninfectious endophthalmitis after an intravitreal injection of bevacizumab.

Methods: This clinical interventional case-series study included 1218 intravitreal injections of 1.5 mg of bevacizumab consecutively performed for 684 eyes with exudative age-related macular degeneration. Among the injections were 534 reinjections. Follow-up after each injection was at least 4 weeks.

Results: One (1) eye developed an infectious endophthalmitis 3 days after a second injection. In none of the other eyes, were signs of an infectious or noninfectious endophthalmitis observed with the cellular infiltration or amorphous opacification of the vitreous as marked by the Tyndall phenomenon in the anterior chamber, retinal infiltration, or pain.

Conclusions: The rate of infectious endophthalmitis after an intravitreal injection of 1.5 mg bevacizumab may be approximately 1:1000, similar to injections of other drugs available thus far.

INTRODUCTION

ANY INTRAOCULAR INTERVENTION is associated with the risk of an infectious endophthalmitis. Intravitreal injections of drugs exhibit the additional risk of a toxic reaction to the injected substance. Because of a current change in paradigm to consider the vitreous cavity as a drug reservoir for the medical treatment of macular diseases, intravitreal injections of drugs, particularly of bevacizumab and ranibizumab, have exponentially increased in frequency within the last year for the therapy of exudative age-related macular degeneration (AMD) and macular edema of various etiologies.1-5 Whereas reports have been accumulating about the risk of a postinjection of endophthalmitis after the intravitreal application of triamcinolone acetonide (TA),6,7 information about the same risk after an intravitreal injection of bevacizumab have been scarce to date. It was, therefore, the aim of this study to evaluate the rate of postinjection infections and toxic inflammations after an intravitreal injection of bevacizumab.

METHODS

This clinical retrospective study included all 1218 intravitreal injections of bevacizumab given
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Two (2) weeks after silicone oil removal, the patient’s visual acuity improved to 0.2, with the retinal pigment epithelium attached and no longer showing signs of an exudative maculopathy. A microbiological culture taken during vitrectomy did not reveal a causative organism.

In none of the other eyes were signs of an infectious or noninfectious endophthalmitis observed, such as the marked Tyndall phenomenon in the anterior chamber (> ++), inflammatory cells in the anterior chamber of the vitreous cavity, or a marked amorphous opacification of the vitreous as a sign of a toxic reaction.

CONCLUSIONS

In conclusion, the rate of infectious endophthalmitis after an intravitreal injection of bevacizumab (1.5 mg) was approximately 1 per 1000 injections. This number is similar to intravitreal injections of other drugs, such as triamcinolone and ranibizumab.5–7 Compared with other drugs applied intravitreally, intravitreal bevacizumab may not be associated with a higher rate of intraocular noninfectious inflammation.

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