



Keywords

Dropped Nucleus,
Postoperative Inflammation,
Retinal Detachment,
Vitreotomy

Received: May 29, 2016

Accepted: June 8, 2016

Published: June 21, 2016

The Relationship Between Lens-Induced Inflammation and Retinal Detachment After Vitrectomy for Dropped Nucleus

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Citation

Hacı Koç, İbrahim Koçak, Faruk Kaya, Hakan Baybora. The Relationship Between Lens-Induced Inflammation and Retinal Detachment After Vitrectomy for Dropped Nucleus. *American Journal of Ophthalmology & Visual Science*. Vol. 1, No. 1, 2016, pp. 6-10.

Abstract

The aim of this study was to investigate the relationship between postoperative inflammation (after cataract surgery) and retinal detachment (RD) after vitrectomy performed for dropped nucleus by evaluating a retrospective case series. Medical records of the patients who underwent pars plana vitrectomy (PPV) due to the development of dropped nucleus after cataract surgery by phacoemulsification between 2003 and 2014 in three different centers were retrospectively reviewed. The mean age of 79 patients with dropped nucleus enrolled in the study was 67.04±7.36 years (range, 51-82 years); 51.9% were female. Retinal tear was present before PPV in 5 of the patients. Proliferative vitreoretinopathy was present in 6 of 9 patients with RD; 8 patients underwent PPV surgery for twice and 1 patient underwent PPV surgery for three times. Postoperative inflammation after cataract surgery was occurred in 25 (35.7%) patients as 1+, 18 (25.7%) patients as 2+, 19 (27.1%) patients as 3+ and 8 (11.4%) patients as 4+. 2 (22.2%) patients, 2 (22.2%) patients, 3 (33.3%) patients and 2 (22.2%) patients with RD have intraocular inflammation as 1+, 2+, 3+ and 4+ respectively. After cataract surgery lens-induced inflammation may attribute to development of retinal detachment. In order to minimize RD development, it should be paid attention to the removal of maximum lens cortex by vitreous cutter before ultrasonic fragmentation during vitrectomy, creating PVD, using low fragmentation power and high aspiration level, scanning the periphery of fundus for peripheral retinal tears and maximum control of postoperative inflammation.

1. Introduction

Currently, cataract surgery is one of the most common surgeries and is safely performed in the majority of patients [1]. Cataract surgery, which is known to be performed since the ancient times, has significantly evolved recently along with the availability of intraocular lenses and the use of phacoemulsification technique [2]. Technological advancements have improved the outcomes of cataract surgery and reduced the complications. Intra-operative posterior capsular rupture has been reported as the most common complication among rare serious complications and this may lead to vitreous loss or a dropped nucleus and to an increase in the risk of post-operative cystoid macular edema or retinal detachment (RD) [3]. Retinal tears or RD may develop intra-operatively during cataract surgery, in the early postoperative period, or after removal of