

Abstract

Background

Idiopathic Full thickness Macula hole is an important cause of central vision loss and metamorphopsia in middle aged and elderly predominantly affecting women. Current standard treatment with vitrectomy combined with internal limiting membrane peeling and gas tamponade results in more than 90% anatomical success rate. However post operative visual acuity varies among patients and does not improve to normal. Predicting post operative visual acuity is something patient keen to know pre-operatively. This study aims to assess whether there is an association between pre-operative para hole retinal sensitivity and post operative visual acuity.

Methods

Prospective descriptive study was conducted in 86 patients surgery for macula hole repair. Preoperative visual acuity, age of patient, minimum hole diameter, base diameter and para-hole retinal sensitivity using focusing beam of pascal laser were assessed in all patients preoperatively. All patients underwent standard 25 gauge vitrectomy, dual blue assisted internal limiting membrane peeling and C3F8 gas tamponade. Patients were followed up postoperatively at day 1, two weeks, two months and one year to assess post operative visual outcome. Anatomical success rate of surgery was assessed with OCT macula to see the closure of macula hole. Multiple regression analysis was used to assess correlation between Post operative visual acuity and pre-operative variables.

Results

Majority of patients were females (77%) and age of patient ranged from 50-85 years. Eighty out of 86 patients had anatomically successful surgery after 2 months. Most of the failed surgeries

were large macula holes(83%). Small macula holes had 100% anatomical success. Pre-op visual acuity, minimum hole diameter, base diameter and para hole retinal sensitivity measured with laser spot size had a positive correlation with post operative visual acuity. In multiple regression analysis laser spot size was strongly correlated with post operative visual acuity at 1% level.

Discussion

Macula hole surgery had overall 93% anatomical success rate. Small holes had 100% anatomical success. Failures were associated with large holes. Since there is a strong association between post operative visual acuity and parahole sensitivity, pre-operative assessment of para hole retinal sensitivity can be used as a predictor of post-operative visual acuity in patients undergoing surgical treatment for macula hole repair.