

Effects of Bariatric Surgery on Preventing the Progression of Diabetic Retinopathy

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Abstract : Introduction: Bariatric surgery is popular with the rising incidence of obesity. Its well-known benefits include significant and rapid glycaemic control. However, cases of paradoxical worsening in diabetic retinopathy (DR) despite improved glycaemic control have been reported. Purpose: clarification on the evolution of diabetic retinopathy after bariatric surgery. Method: retrospective study of 40 patients with Type 2 diabetes who underwent bariatric surgery in a UK specialist bariatric unit between 2009 and 2011. Pre-operative and post-operative visual acuity (VA), weight, HbA1c and annual DRSS screening results were analysed. Median follow up was 50 months. Results: No significant change in VA was found during the post-operative period. 85% of patients improved HbA1c post-operatively of which 53% achieved non-diabetic HbA1c of <6.1% - despite this, 2 patients developed new DR. First post-operative screening showed 80% of patients experienced no change, 8% improved but 13% of patients developed new DR (1 case with sight-threatening maculopathy). 80% of these cases persisted up to 24 months. The proportion of patients developing new or worse DR fluctuated over time, peaking at the 3rd annual screening with 26% (15% regressed, 56% stable). The probability of developing new or worse DR postoperatively was significantly associated with a high pre-operative HbA1c (>8%) and male gender. Conclusions: bariatric surgery does not guarantee long-term improvement or prevention of DR. Asymptomatic changes in DR occurred up to 5 years postoperatively. We therefore consider it prudent to continue screening in this cohort of patients.

Keywords : bariatric surgery, diabetic retinopathy, obesity, type 2 diabetes mellitus

Conference Title : ICOO 2016 : International Conference on Ophthalmology and Optometry

Conference Location : London, United Kingdom

Conference Dates : February 25-26, 2016