Long term patient-reported benefit from ptosis surgery

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Abstract

Purpose To assess the long term impact of ptosis surgery on health-related quality-of-life using the Glasgow Benefit Inventory (GBI) patient-reported outcome measure.

Patients and methods A retrospective case note review was carried out on all patients who had undergone ptosis surgery (6 November 2008 to 5 December 2010) by one surgeon at Royal Bournemouth Hospital. Patient demographics, surgical technique, and complications were recorded. The GBI questionnaire data was obtained by telephone interview.

Results A total of 62 ptosis operations (33 right, 29 left, of which 18 were bilateral) on 44 patients; 20 male, 24 female were included. Median age 77 years (range: 17–95 years). One wound dehiscence occurred, but no redo ptosis procedures were required. GBI data was obtained on 32 patients (45 ptosis procedures) at a mean follow-up period of 42.8 months postoperatively (range 31–67 months). The mean total GBI score for ptosis surgery was +21.36 (range 0–58.33; 95% confidence interval: 17.28–25.43, $P < 0.05$).

Conclusion Patients derived a highly significant benefit to their health-related quality-of-life from ptosis surgery measured by the GBI that was maintained for up to 5 years.

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Introduction

Budget pressure has led to the classification of many oculoplastic procedures as non-essential by clinical commissioning groups and surgeons require robust evidence of clinical and cost effectiveness to justify the provision of these services. At present, the only oculoplastic procedure approved by NICE is endoscopic dacryocystorhinostomy (DCR).

This study aims to demonstrate that benefits from ptosis surgery as measured by positive

Glasgow Benefit Inventory (GBI) scores persistent in the longer term.

Patients and methods

The study included all patients who had undergone ptosis surgery by one surgeon between 6 November 2008 and 5 December 2010 at Royal Bournemouth Hospital. Demographic and surgical data collected by retrospective case note review included age at surgery, sex, previous eyelid surgery, surgical technique, and complications.

Surgical technique

All patients underwent anterior advancement of the levator aponeurosis under a local anaesthetic with standard technique.

The GBI

The GBI questionnaire, described in detail by Smith *et al*¹ was completed by telephone interview. It consists of 18 questions with responses scored on a five-point Likert scale ranging from a large deterioration to a large improvement in health status.

The GBI results in a total score (range –100 to +100) but can be further divided into: (i) a general subscale (12 questions), (ii) a social support subscale (3 questions), and (iii) a physical health subscale (3 questions). The GBI scores were calculated as recommended in the GBI manual² and data was compiled and statistical analysis performed using Microsoft Excel (Microsoft Corporation, Redmond, WA, USA).

Results

A total of 62 consecutive ptosis operations (33 right, 29 left, of which 18 were bilateral) were performed on 44 patients (20 male; 24 female) between 6 November 2008 and 5 December

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2010. The median age was 77 years (range: 17–95 years). Complications consisted of one wound dehiscence but no redo ptosis procedures were required.

GBI data was obtained on 32 patients (45 ptosis procedures) at a mean follow-up period of 42.8 months postoperatively (range 31–67 months) representing a completion rate of 73%. Of the remaining patients, eight had died and four patients were not contactable for interview. The results are displayed in Figure 1. The mean total GBI score for ptosis surgery was +21.36 (range 0–58.33; 95% confidence interval: 17.28–25.43, $P < 0.05$).

Discussion

Surgeons should provide robust evidence of effectiveness to justify the provision of services. Commissioners may be more influenced by evidence of quality-of-life benefit than surgical success alone. This study aimed to show that benefits resulting from ptosis surgery are maintained in the longer term.

There are a number of methods of assessing ptosis surgery outcomes. The resting position of the upper eyelid is dependent on many factors including patient animation, anxiety, and head tilt. Measurements of eyelid position are subject to both inter- and intra-observer variability³ and digital photographic measurements are also subject to variability and error.⁴ Retrospective case notes-based reviews are subject to error owing to incomplete data sets and inter-observer measurement variability. An alternative approach using a patient-reported outcome was chosen as the primary measure for this study.

A number of tools have been developed to measure patient benefit from medical interventions which include scores assessment of clinical outcome, activities of daily living and functional ability and global quality-of-life. There are now over 800 examples of such questionnaire-

based tools on the Mapi Institute 'Quality of Life Instruments Database' (available from: <http://www.mapi-institute.com>). In our study, subjective outcomes were recorded using the GBI, which was originally developed for otorhinolaryngological interventions.² This index is designed for post-intervention outcome reporting and may be administered face-to-face, by telephone or postal interview. It measures the change in outcome rather than subtracting preoperative and postoperative scores and has been validated for oculoplastic procedures including DCR,^{5–9} ptosis,¹⁰ entropion, and ectropion surgery.¹ When stated, follow-up in these studies ranged between 6 and 37 months following surgery.

In our study patient data was obtained at a mean follow-up period of 42.8 months and maximum 67 months postoperatively. Our completion rate was comparable but lower to that in the study by Smith *et al*¹ (79%) which reflects the longer follow-up period in this series. The mean total GBI score for ptosis surgery was +21.36 (range 0–58.33; 95% confidence interval: 17.28–25.43, $P < 0.05$), and mean subscale scores of 31.48 (general), 1.11 (physical), and 1.11 (social) are all comparable to the findings for ptosis surgery in the study by Smith *et al*.¹

The accuracy of responses to questions regarding surgery performed a significant time previously may be reduced and are subject to potential limitations including subjective responses, distractions, and interview style. However, poor visual function or ptosis recurrence will result in a low GBI score at any time postoperatively. It can be concluded therefore that the intervention has resulted in a sustained benefit. Mahroo *et al*¹⁰ has also shown stability of patient-perceived benefit up to 32 months postoperatively.

The overall success of any medical or surgical intervention cannot be judged by technical success alone and quality-of-life issues must also be considered.

Figure 1 Graph showing GBI scores following ptosis surgery.

This study provides further evidence of the effectiveness of ptosis surgery in the improvement of health-related quality-of-life, which is maintained in the longer term. This evidence may help oculoplastic surgeons to justify the continued provision of ptosis surgery services.

Summary

What was known before

- Oculoplastic surgery produces positive patient-reported outcomes.

What this study adds

- Positive patient-reported outcomes in ptosis surgery are maintained up to 67 months postoperatively.

Conflict of interest

The authors declare no conflict of interest.

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