Patient expectations for hallux valgus surgery

CC Tai, S Ridgeway, M Ramachandran, VA Ng, N Devic, D Singh
Department of Trauma and Orthopaedic Surgery, Barnet General Hospital, Barnet, Hertfordshire, United Kingdom

ABSTRACT

Purpose. To determine preoperative patient expectations and their relative importance for hallux valgus surgery using a patient-derived questionnaire, and whether such expectations are influenced by age, gender, or occupation.

Methods. Two patient-derived questionnaires were developed using open-ended interviews. The 19 most commonly stated expectations were included in the Patient Expectation Questionnaire: 2 related to improvement in appearance, 2 to pain reduction, and 15 to functional improvements in performing daily and recreational activities. The top 9 expectations were included in the Patient Priority Questionnaire for prioritising.

Results. 153 eligible patients aged 16 to 79 (mean, 47) years completed the questionnaires; 29 (19%) aged less than 40 years, 84 (55%) aged 40 to 60 years, and 40 (26%) aged more than 60 years. 86% were women and 81% were Caucasian. 62% were housewives or retired pensioners. Overall, the most important expectation was improved walking, followed by reduced pain over the bunion and wearing daily shoes. These expectations varied according to age and gender but not occupation.

Conclusion. Patient expectations differ from those of surgeons, and vary according to patient age and gender. Understanding preoperative patient expectations is crucial to achieve better clinical outcomes and satisfaction by selecting the most appropriate operation for each patient.

Key words: hallux valgus; metatarsophalangeal joint; patient satisfaction; treatment outcome

INTRODUCTION

Corrective surgery for hallux valgus is a common procedure with more than 130 surgical options reported. Clinical studies have predominantly evaluated the perception of outcomes by surgeons. Surgical outcome assessment (based on clinical scoring systems such as American Orthopaedic Foot and Ankle Society or Bonney and MacNab) are often made with little regard to patient expectations. A high percentage (25–33%) of patients remain dissatisfied at follow-up, even when there is an improvement in the hallux valgus angle and a decrease in pain, suggesting that patients have different expectations from surgeons. Patients are often dissatisfied with the surgical results because of a lack of understanding about their expectations. Patients whose expectations are more fulfilled report significantly higher satisfaction. Expectations are the best predictors of patient satisfaction. It is important to understand the preoperative expectations of patients and the relative importance of such expectations when planning surgery. We
aimed to determine preoperative patient expectations and their relative importance using a patient-derived questionnaire, and whether such expectations are influenced by age, gender, or occupation.

MATERIALS AND METHODS

This prospective study was conducted in 3 phases between 2001 and 2003.

Phase 1
Baseline information was obtained for assembly of the draft questionnaire. 40 patients fluent in English who were at least 16 years old were asked by an independent evaluator the following open-ended questions: “What are your expectations of the upcoming surgery?” and “How important is each expectation?” All patients were assured anonymity and their future consultations or waiting time for surgery were not affected. Expectations were selected when cited by >10% of patients or when they represented important functional changes after surgery.

Phase 2
The draft questionnaire was tested in a pilot study by administration to 30 newly recruited patients according to the same criteria. The importance of each expectation was rated on a 10-cm visual analogue scale. Other expectations not listed in the questionnaire but deemed important by the patients were also recorded.

Phase 3
The 19 most commonly stated expectations were included in the Patient Expectation Questionnaire: 2 related to improvement in appearance, 2 on pain reduction, and 15 on functional improvement in performing daily and recreational activities (Table 1). The top 9 expectations were included in the separate Patient Priority Questionnaire for patients to prioritise (Table 2). The relationships between expectations and patient characteristics were assessed by multiple linear regression analysis.

RESULTS

Both questionnaires were sent to 192 eligible patients. Of the 164 (85%) who replied, 2 refused to participate and 9 did not complete either questionnaire. The remaining 153 patients (mean age, 47 years; range, 16–79 years) were analysed. 29 (19%) of them aged <40 years, 84 (55%) aged 40 to 60 years, and 40 (26%) aged >60 years. 86% were women and 81% were Caucasians. 62% were housewives or retired pensioners, others included carpenter (n=1), porter (n=1), teachers (n=3), nurses (n=4), students (n=4), drivers (n=4), machine operators (n=5), hairdressers (n=7), unemployed persons (n=8), catering or shopkeeper/assistants (n=10), clerical workers or receptionists (n=11).

In the Patient Expectation Questionnaire, the 10 of 19 most important expectations in descending order

| Expectations | Patient Expectation Questionnaire |
|--------------|----------------------------------|
| Improved appearance | Narrower foot |
| Improved appearance | Straighter toe |
| Reduced pain | Over the bunion |
| Reduced pain | Over other toes |
| Wearing | Dress shoes |
| Wearing | Wider shoes |
| Wearing | Daily shoes |
| Improved daily and recreational activities | Walking |
| Improved daily and recreational activities | Running |
| Improved daily and recreational activities | Jumping |
| Ability to work | |
| Sport/fitness/health | Gardening |
| Housework/child caring | Driving |
| Driving | Entering a car |
| Driving | Hill climbing |
| Driving | Stair climbing |
| Squatting | |

| Expectations | Patient Priority Questionnaire (in descending order) |
|--------------|-----------------------------------------------|
| Reduced pain (over the bunion) | Improved walking |
| Improved walking | Wearing (daily shoes) |
| Wearing (daily shoes) | Improved sport/fitness/health |
| Improved sport/fitness/health | Wearing (dress shoes) |
| Wearing (dress shoes) | Reduced pain (over other toes) |
| Reduced pain (over other toes) | Improved appearance (straighter toe) |
| Improved appearance (straighter toe) | Improved ability to work |
| Improved ability to work | Improved appearance (narrower foot) |
Patient expectations for hallux valgus surgery were (1) improved walking, (2) reduced pain (over the bunion), (3) wearing (daily shoes), (4) improved sport/fitness/health, (5) wearing (dress shoes), (6) reduced pain (over other toes), (7) improved running, (8) improved ability to work, (9) improved stair climbing, and (10) improved appearance (straighter toe). These expectations also received the highest number of 8 to 10 scores (Fig.).

Patient expectations differed depending on their age. In those aged <40 years, the 3 most important expectations were improved walking, reduced pain (over the bunion), and wearing (dress shoes). In patients aged 40 to 60 years, pain reduction (over the bunion) was more important than others. In patients aged >60 years, improvement in overall mobility (walking, stair climbing, and squatting) appeared more important. They seemed to have more pain on other toes than the bunion, probably because of reluctance to seek treatment (Table 3).

The importance of each expectation also differed between men and women. The most important expectation for both sexes was improved walking, followed by improved ability to work for men and reduced pain (over the bunion) for women. Improved appearance (straighter toe or narrower foot) was considered a more important expectation in women (Table 4).

Patient occupation did not correlate with the importance of each expectation or its priority. This was probably because 62% of the patients were housewives or pensioners, whose lifestyle and activity level was less affected. More even distribution of occupations was needed to draw further conclusions.

DISCUSSION

Across all disciplines of medicine, patients’ perspectives in terms of functional status, importance of symptoms, and expectations of treatments are
included in the process of treatment selection and outcome assessment.¹⁰–¹⁴ Patient expectations are strongly related to their outcome assessment, which is closely linked to the requests for elective and possibly costly treatments.¹⁵ Assessment of patient expectations has become important, and emphasis has shifted from a technical success alone to patient satisfaction and quality of life.

In hallux valgus surgery, there is a difference between appraisal of results by patients and clinical results.¹⁶ One study reported that 90% of patients were satisfied although 23% of the feet still had a hallux valgus angle of >30°.¹ In a study comparing Keller’s arthroplasty and distal metatarsal osteotomy, around 25% of patients were dissatisfied regardless of the operation type.¹⁷ In a study comparing the long-term results of a soft tissue realignment procedure (McBride) and Mitchell osteotomy, improper case selection may have resulted in failure; careful understanding of patient expectations increased the success rate.¹⁸ Patient perception of surgical success depends more on preoperative expectations rather than on clinical outcome.

Only a few studies have systematically measured preoperative patient expectations. In one study, patients were asked the expected durations of recovery, returning to work, exercise or wearing shoes.¹⁹ In another, the main patient expectation was a pain-free great toe while wearing conventional shoes, but the influence of sex, age, or occupation was not assessed.²⁰

In our study, each age-group had specific expectations. Regardless of age, most patients selected pain reduction over the bunion as their top priority in the Patient Priority Questionnaire, because this was the main symptom that affected their mobility and daily activities. Patients aged 40 to 60 years were more concerned with pain reduction over the bunion. In those aged >60 years, pain over other toes was a main complaint; surgeons should discuss this problem with patients before surgery, and if necessary avoid Keller’s procedure that may cause metatarsalgia.²¹ Selection of operations that address the pain and daily wearing of shoes rather than achieving aesthetic effect is important, especially in older patients who have a lower priority on physical appearance. As the pain over the bunion appeared to be the major concern for most patients, a simple bunionectomy may be enough to achieve satisfactory results.⁶

| Table 3 | The 10 most important expectations in different age-groups in descending order |
|---------|---------------------------------------------------------------------------------|
| Priority | Age-groups (years) |
|         | <40 (n=29) | 40–60 (n=84) | >60 (n=40) |
| 1       | Improved walking | Reduced pain (over the bunion) | Improved walking |
| 2       | Reduced pain (over the bunion) | Wearing (daily shoes) | Wearing (daily shoes) |
| 3       | Wearing (dress shoes) | Improved walking | Improved sport/fitness/health |
| 4       | Improved running | Improved sport/fitness/health | Improved stair climbing |
| 5       | Wearing (daily shoes) | Wearing (dress shoes) & reduced pain (over other toes) | Reduced pain (over other toes) |
| 6       | Improved ability to work | - | Improved squatting |
| 7       | Improved sport/fitness/health | Improved appearance (straighter toe) | Reduced pain (over the bunion) |
| 8       | Wearing (wider shoes) | Improved running | Improved ability to work |
| 9       | Reduced pain (over other toes) | Improved ability to work | Wearing (dress shoes) |
| 10      | Improved driving | Improved stair climbing | Wearing (wider shoes) & hill climbing |

| Table 4 | The 10 most important expectations according to gender in descending order |
|---------|---------------------------------------------------------------------------------|
| Priority | Female (n=132) | Male (n=21) |
| 1       | Improved walking | Improved walking |
| 2       | Reduced pain (over the bunion) | Improved ability to work |
| 3       | Wearing (daily shoes) | Wearing (daily shoes) |
| 4       | Improved sport/fitness/health | Improved sport/fitness/health |
| 5       | Wearing (dress shoes) | Reduced pain (over the bunion) |
| 6       | Reduced pain (over other toes) | Improved stair climbing |
| 7       | Improved running | Improved driving |
| 8       | Improved appearance (straighter toe) | Improved squatting |
| 9       | Improved stair climbing | Improved running & reduced pain (over other toes) |
| 10      | Improved appearance (narrower foot) | - |
All expectations in the questionnaires were determined by patients not clinicians. Patient-derived instruments are intrinsically valid and include a broad spectrum of items that might not be readily apparent to clinicians (e.g. unattainable expectations cherished by patients). Such instruments could thereby facilitate educating patients about realistic aspirations and limitations of the operation.

It took less than 10 minutes for the patients to complete both questionnaires because simple, brief terms were used to address symptom-related and functional expectations. The questionnaires could: (1) provide a simple means of obtaining a comprehensive evaluation that otherwise require a lengthy interview, (2) allow patients to specifically state their expectations from surgery rather than state their goals in vague, non-specific terms, (3) provide the surgeons a template to guide a formal consultation and discuss whether patient expectations were realistic and attainable, (4) facilitate patient-surgeon joint assessment of fulfilment of expectations during follow-up, and (5) enhance the patient-surgeon relationship by providing patient-centred care.

For future research, personality factors should be studied by including appropriate items in the questionnaires with interviews. Further assessments should also include the degree of preoperative disability and its influence on expectations. Further study should enable follow-up to establish any correlation between patient satisfaction and preoperative expectations.

Patient expectations differ from those of surgeons, and vary according to patient age and gender. Many algorithms have been devised to help clinicians decide which type of procedure will produce the best results, but do not consider the spectrum of patient expectations about various symptoms. It is recommended that surgeons address expectations during preoperative counselling in the form of a questionnaire to enhance postoperative satisfaction.

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