Patient preference for the management of trigger digit

Karen Joughin MD, Steven J McCabe MD

St John Hospital, St John, New Brunswick, and University of Louisville, School of Medicine, Louisville, Kentucky, USA

K Joughin, SJ McCabe. Patient preference for the management of trigger digit. Can J Plast Surg 1993;1(3):141-142.

Steroid injection and surgery are both accepted treatment options for trigger digit. The objective of this study was to determine which modality patients would prefer when given a choice of treatments, the strength of their preference and factors that may influence their preference. A probability trade-off technique was used in 151 subjects. On average, subjects selected injection over surgery and would do so with a probability of success by injection as low as 57%. If the probability of cure by injection was less than 57%, surgery would be the preferred method of treatment, on average. A bimodal distribution of patient preference showed that some patients may strongly prefer either surgery or injection, with many patients preferring surgery even with a high expected cure rate of the first injection. Age, gender and previous experience with injections or surgery did not correlate with preference. Patients with trigger digits should be presented with unbiased information about treatment and be allowed to take part in the selection of the type of treatment they receive.

Key Words: *Hand surgery, Patient education, Patient preference, Probability, Surgery, Trigger digit*

Préférence des patients pour le traitement du doigt-gachette

RÉSUMÉ : L'objectif de cette étude a été de déterminer la modalité thérapeutique préférée des patients lorsque le choix leur est donné, leur degré de préférence et les facteurs aptes à l'influencer. Une technique de sélection en fonction des probabilités a été utilisée chez 151 sujets. En moyenne les sujets ont choisi l'injection plutôt que la chirurgie, et ce, avec une probabilité de succès aussi faible que 57 %. Si la probabilité de guérison avec l'injection était présentée à moins de 57 %, les patients optaient en moyenne pour la chirurgie. Une distribution bimodale quant à la préférence des patients a révélé que certains patients préféraient de beaucoup soit l'une des modalités, soit l'autre, plusieurs d'entre eux choisissant la chirurgie malgré le taux élevé de guérison associé à une première injection. Aucune corrélation entre âge, sexe, et expérience antérieure d'injection ou de chirurgie n'a été établie avec les préférences. Les patients atteints de doigt-gachette doivent recevoir une information neutre sur le traitement et participer au choix du traitement qu'ils recevront.

Trigger digit is a common disorder that is usually treated with one of two methods: steroid injection or surgical release. Injection of a steroid into the region of the first annular pulley is a successful method of treatment, with an expected resolution of triggering in up to 80% of patients after a single injection (1,2). It is also convenient and has a low morbidity rate. Surgical release of the pulley, while having almost uniform success, has more morbidity and is less convenient for the patient. The initial treatment provided is the result of a complex combination of factors, including the preference of the treating surgeon.

The purpose of this study was: to determine which treatment for trigger digit surrogate patients would prefer when given standard patient information before making a treatment choice; to measure the strength of their preference; and to identify patient characteristics that would influence the preference.

METHODS AND PATIENT POPULATION

The probability trade-off technique used in this study has been described by Llewellyn-Thomas et al (3).

One hundred and fifty-one surrogate patients were randomly selected from the waiting room of the family medical centre at a large urban hospital. All subjects were of a middle class, multicultural population (mean age 50 years, 58% female). None had trigger digit.

All subjects were given standard information cards. These cards were developed by discussion with several hand surgeons and were made to portray the usual clinical information the surgeon would relate to the patient before treatment of this disorder was begun. The information cards also included the anatomy and pathophysiology of trigger digit and a description of both methods of treatment, with the probable success rate and complication rate. The expected success rate of surgical release was stated as approximately 99%. The stated probable success rate for steroid injection was initially chosen by random selection for each subject and then changed as the trade-off procedure was started.

After reviewing the cards and comparing the probabilities for success, the patients were asked to imagine that they had

Correspondence and reprints: Dr Steven J McCabe, Christine M Kleinert Institute for Hand and Micro Surgery, One Medical Center Plaza, Suite 850, 225 Abraham Flexner Way, Louisville, Kentucky 40202 USA. Telephone (502) 561-4238, Fax (502) 562-0326

Figure 1 Distribution of switch points. A low switch point represents a subject more willing to try injection. A high switch point represents a subject with a preference for surgery. Many subjects chose surgery above the clinically realistic 'cure rate' by injection of about 80%

a trigger digit and to choose their preference for treatment. The interviewer refrained from discussing the condition with the patient and answered questions using similar prefabricated information cards. The stated probable success rate for injection was then adjusted with the probability trade-off technique to balance the variable success rate of injection with the inconvenience and morbidity of surgery. If the subject initially chose surgery, the expected success rate by injection was increased by 10% to make injection relatively more attractive, and the subject was asked to choose again. This process was repeated until the preference for treatment changed. If the subject initially chose injection, the expected success rate for injection was lowered by 10% to make it less attractive, and the subject was asked to choose again. As above, this process was repeated until the preference changed. The percentage at which the subject changes preference is called the switch point and represents the lowest cure rate by injection the subject requires to choose that option. The switch point indicates the point where the subject equates the lower success rate of the injection to the higher morbidity and inconvenience of surgery.

After the switch point was determined, a questionnaire was administered to all subjects to gather demographic data (age, sex, and their positive or negative history with injections and surgery). The distribution of switch points, the mean switch point and 95% confidence interval were calculated. Associations between demographic features and switch points were calculated using regression analysis.

RESULTS

The distribution of switch points (Figure 1) was bimodal, with a mean of 57% (95% confidence interval, 52%, 63%). There was a slight negative correlation between age and switch point (-0.2), showing that people tend to avoid surgery as their age increases. No significant associations were found between sex and prior positive or negative experience with surgery or injection.

DISCUSSION

If subjects strongly favoured injection, or conversely strongly disfavoured surgery, they chose injection over surgery even if injection had a low probability of success. If subjects valued the greater efficacy of surgery, they may have chosen surgery even with relatively high expected success following injection.

The probability trade-off technique used in this study is a recognized technique to study preferences between two choices (4). It has been used to study treatment preference in cancer patients and their decisions to enter research trials (3). In our study, no patient actually had trigger digit, which may have influenced the decision-making process. The choice of treatment options may be different when medical situations are hypothetical or real, as has been the case with life-threatening illness (5). The magnitude of the morbidity of trigger digit surgery and injection are extremely low by comparison, however, so the trade-off technique, with surrogate patients, should suffer much less under these circumstances. Furthermore, the potential disadvantage of using surrogate patients must be weighted against the advantages of the trade-off approach. This study used patients who did not have trigger digit, and hence would have no expectation about treatment of the disorder. This allowed the efficient study of a large number of patients, using predetermined, unbiased information, delivered in a standardized fashion.

The switch point in the present study represented the lowest probability of treatment success by injection the patient would need to choose injection over surgery. The wide distribution of switch points is interesting and represents the wide variation of preference in the population. The mean switch point of 57% is well below the expected 60% to 80% cure rate by the first injection that has appeared in the literature (6-8), supporting the use of injection as the first choice of therapy. However, the bimodal distribution has a large number of patients who would choose surgery even with an expected cure rate following the first injection at or higher than the clinically expected rate of about 80%.

This shows that patients may strongly prefer surgery or injection for the treatment of trigger digit and should be given an unbiased presentation of both treatment options and the opportunity to take part in the decision for treatment.

REFERENCES

- Freiberg A, Mulholland RS, Levine R. Nonoperative treatment of trigger fingers and thumbs. *J Hand Surg* 1989;14A:553-8.
- Panayotopoulos E, Fortis AP, Armoni A, Dimakopoulos P, Lambiris E. Trigger digit: The needle or the knife? *J Hand Surg* 1992;17B:239-40.
- Llewellyn-Thomas HA, Thiel EC, Clark RM. Patients versus surrogates: Whose opinion counts on ethics review panels? *Clin Res* 1989;37:501-5.
- Health Sciences Research Group. Studying patients' preference in health care decision making. *Can Med Assoc J* 1989;147:859-64.
- O'Connor AMC, Boyd NF, Warde P, Stolbach L, Till JE. Eliciting preferences for alternative drug therapies in oncology: Influence of treatment outcome description, elicitation technique and treatment experience on preferences. *J Chron Dis* 1987;40:811-8.
- Clark DD, Ricker JH, Maccollum MS. The efficacy of local steroid injection in the treatment of stenosing tenosynovitis. *Plast Reconstr Surg* 1973;51:179-80.
- Newport ML, Lane LB, Stuchin SA. Treatment of trigger finger by steroid injection. *J Hand Surg* 1990;15A:748-50.
- Rhoades CE, Gelberman RH, Manjarris JF. Stenosing tenosynovitis of the fingers and thumb. *Clin Orthop* 1984;190:236-8.