ORIGINAL ARTICLE

Patient perception and knowledge on total joint replacement surgery

KW Cheung 張堅穎
SL Chung 鍾舒璐
KY Chung 鍾廣賢
KH Chiu 趙國慶

Objectives To study patients' perceptions and knowledge about total joint replacement surgery.

Design Cross-sectional survey.

Setting University teaching hospital, Hong Kong.

Patients Three hundred consecutive patients with the diagnosis of osteoarthritis or inflammatory arthritis attending the out-patient clinic from June 2010 to May 2011.

Main outcome measures Patients' knowledge and how they got the knowledge about total joint replacement surgery, and concerns about the outcome of such operations.

Results Whilst 94% of the patients knew about total joint replacement surgery, 77% obtained such knowledge from their friends and relatives. The three most common concerns related to this type of operation were whether they might: be wheelchair bound after surgery (64%), need to be taken care of by others for more than 3 months (61%), and have post-surgery complications (54%). Most of them recognised the advantages of the surgery, 82% knew about good pain relief after surgery, and 87% realised that total joint replacement surgery could improve their mobility. Patients did not have a realistic idea regarding the survival of the prosthesis; 41% thought the prosthesis might last for less than 10 years and 34% had no idea about its longevity.

Conclusion Patients did recognise the advantages of total joint replacement surgery in treating arthritis. However, they had many concerns about its outcome that warrant clarification. Public education on these aspects is necessary to address concerns, and may be achieved in cooperation with the media.

New knowledge added by this study

- Patient knowledge about the ramifications of total joint replacement is insufficient.

Implications for clinical practice or policy

- More education, especially through the media, could enhance patient knowledge and address concerns about the procedure.

Key words
Arthroplasty, replacement, knee; Knee joint; Knee prosthesis; Postoperative complications; Treatment outcome

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Department of Orthopaedics and Traumatology, The Chinese University of Hong Kong, Prince of Wales Hospital, Shatin, Hong Kong
KW Cheung, FRCSEd(Orth), FHKAM (Orthopaedic Surgery)
SL Chung, MPhil (Orth)
KY Chung, FRCSEd(Orth), FHKAM (Orthopaedic Surgery)
KH Chiu, FRCS, FHKAM (Orthopaedic Surgery)

Correspondence to: Dr KW Cheung
Email: kwcheung@ort.cuhk.edu.hk

Introduction

Total joint replacement surgery has had great success in the last 40 years. The reported survival of total hip and knee replacement has been more than 90% at 15 years.[1-7] Such surgery has been performed in Hong Kong for more than 30 years and has become one of the commonest orthopaedic operations. In 2010, more than 3000 total hip replacement surgeries were performed in hospitals run by the Hospital Authority.[8] Even though it is a common operation, patients have little knowledge about the procedure and no local study had addressed patient perceptions on the subject. This study therefore aimed to study patient knowledge about total joint replacement surgery, as well as their access to such knowledge and perspectives about the procedure.

Methods

This was a cross-sectional survey undertaken from June 2010 to May 2011. Three hundred consecutive patients attending the orthopaedics clinic in the Prince of Wales Hospital were

病人對人工關節置換術的看法及認識

目的 研究病人對人工關節置換術的看法及認識。

設計 橫斷面研究。

安排 香港一所大學教學醫院。

患者 2010年6月至2011年5月期間所有到門診部應診的300名退化性關節炎或風濕性關節炎病人。

主要結果測量 病人對人工關節置換術的認識，他們從何處認識這手術，以及病人對手術的期望及顧慮。

結果 94%受訪病人曾聽聞人工關節置換術，77%是從親屬或朋友處聽聞的。受訪病人對手術最常見的三項擔憂是：手術後不能走動而需要長期坐輪椅（64%）、手術後需要別人照顧多於三個月（61%）及手術引起的併發症（54%）。大部份受訪病人知曉人工關節置換術的好處：82%認為人工關節置換術能減輕痛楚、87%則認為人工關節置換術能改善他們的活動能力。受訪病人不知曉人工關節的壽命，41%認為人工關節的壽命少於十年，另34%對人工關節的壽命更是毫無頭緒。

結論 大部份受訪病人認識人工關節置換術的好處，但需要釐清他們對這手術的擔憂及顧慮。公眾教育或與媒體合作都是可行的方法。

the subjects. All of them were newly referral cases to our clinic, none of whom refused to participate in the survey. The patients had a clinical diagnosis of either osteoarthritis of the hip or knee, or avascular necrosis of the hip, and all were assessed by orthopaedic surgeons. They all had plain X-rays to confirm they met radiological criteria for total joint replacement. They all had either Ahlbäck grade III or above primary or secondary osteoarthritis of hip or knee osteoarthritis,[9] or Ficat stage IV avascular necrosis of the femoral head.[10] All of them had limitation of activity level, a walking interval of less than 1 hour, and difficulty getting up and down stairs, but they had no history of any type of joint replacement surgery. The orthopaedic surgeons did not provide any information about hip or knee replacement before the survey. The patients answered a questionnaire consisting of eight questions conducted by a research fellow in a separate consultation room in the out-patient clinic. The research fellow facilitated filling out of the questionnaire (Box; the Chinese version of the questionnaire is shown in the Appendix) by the patients and answered any queries immediately. After completing the questionnaire, the orthopaedic surgeons answered all their queries on hip or knee replacement.

BOX. Questionnaire

(1) Have you ever heard of total joint replacement (hip or knee) surgery?
(2) Where did you get the information about total joint replacement surgery?* †
(3) What is your concern about total joint replacement surgery?* † (need to give priority if more than one answer)
(4) How can total joint replacement surgery help you?* †
(5) How long do you think the rehabilitation takes after total joint replacement surgery (able to walk with or without walking aid independently)?†
(6) How long do you think the prosthesis can last?†
(7) Do you think the prosthesis needs to be changed regularly?† (If yes, please specify when should the prosthesis be changed)
(8) If you need total joint replacement surgery in the future, what sources can help you to know more about this surgery?* †

* Can have more than one answer
† Open answer allowed

Results

Among the 300 patients enrolled in the study, 86 were male and 214 were female; there was a 100% response rate to all eight questions. The mean age of the patients was 67 (range, 33-89) years. In all, 115 (38%) of the patients were scheduled for total joint replacement. The responses to the questionnaire are summarised in the Figure.

Discussion

This was the first study conducted to assess patient knowledge and perception of total joint replacement surgery in Hong Kong. In this patient sample, 94% had some idea of total joint replacement surgery, more than 80% of them realised it could improve their mobility and offer pain relief. Nearly half of the patients realised that such surgery could improve range of motion of the diseased joint and correct limb deformity. Thus, they had a good knowledge on the expected outcomes of total joint replacement. The majority (77%) had obtained such information from friends, relatives, or their neighbourhood; only 40% got such information from a doctor. The other source of information was the media, including newspapers, television, and radio. Evidently, 76% wanted more information on total joint replacement surgery from the television and only 65% preferred obtaining such information from a doctor. This indicated that the media (especially television) is crucial for patient education and perceptions.

Patients realised that total joint replacement surgery could relieve their symptoms, but had much concern about outcomes. In all, 64% worried about being crippled after total joint replacement surgery, and that postoperatively 61% were concerned that they might need prolonged bed rest (>3 months), experience pain, and could be too old to withstand the operation. Yan et al[11] reported that in Hong Kong there had been an increase in the proportion of elderly patients (>80 years) undergoing total joint replacement surgery from 4.8 to 13.8% over the last 10

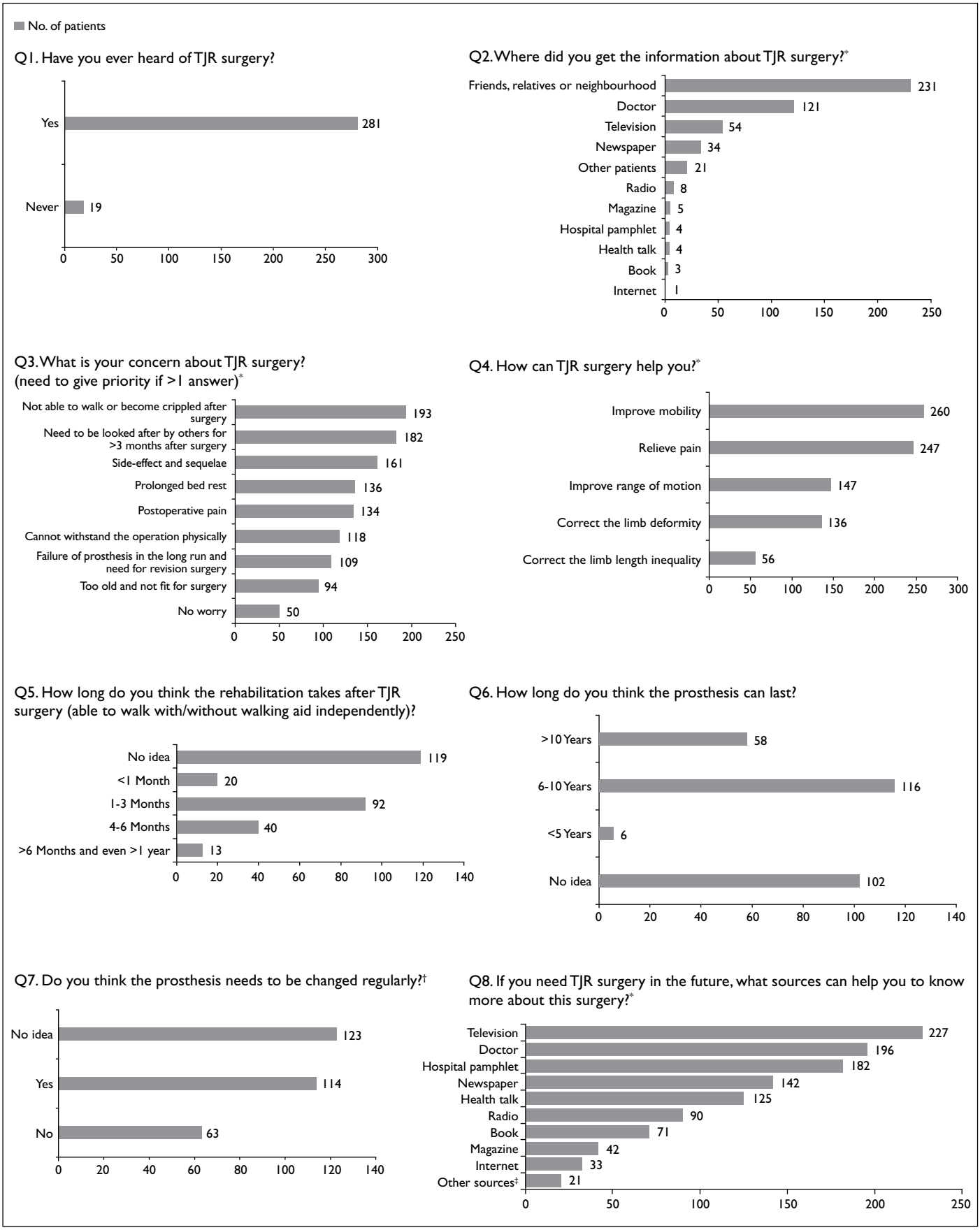

FIG. Results of the questionnaire on total joint replacement (TJR) surgery

* Can choose more than one answer

† Among those who thought that the prosthesis needed to be changed regularly, the mean time to change the artificial joint was 10 years

‡ Other sources include poster, advertisement, elderly centre, family member, and friends

years. Moreover, over the last 20 years, the average life span had gradually increased,[12] such that there were more and more elderly patients who were deemed to require total joint replacement surgery. Furthermore, the outcome of total joint replacement surgery in older patients (aged >80 years) was comparable to that in younger subjects. However, older patients needed more detailed preoperative assessment to minimise the complications.[13]

This study showed that patients had a good understanding of the outcome and benefits of total joint replacement surgery. Most of them recognised the advantages of the surgery, 82% knew about good pain relief after surgery, and 87% realised that total joint replacement surgery could improve their mobility. It also revealed some misunderstandings about rehabilitation and long-term outcomes. Thus, 40% had no idea about the duration of postoperative rehabilitation, 31% thought it would take them 1 to 3 months to walk independently with or without walking aids, 13% thought they might need 4 to 6 months, and 4% thought the period could exceed 6 months. Evidently, they worried that total joint replacement surgery needed a very long rehabilitation phase and even prolonged hospitalisation. In 2009, the average length of stay in our acute hospital unit was 8 days, and the average length of stay in the rehabilitation hospital was 16 days.[14] Patients could walk independently with or without a walking aid upon discharge, and the whole rehabilitation phase took less than 1 month. Patients might need outpatient physiotherapy for another 1 to 2 months after discharge. This study showed that patients misunderstood that the rehabilitation phase after total joint replacement surgery was very long, and some even worried about prolonged hospitalisation (lasting a few months).

Most of the patients realised that the artificial joint had limited longevity; 41% thought that the prosthesis could last for less than 10 years, 34% had no idea how long the prosthesis could last, and only 19% thought that it could last more than 10 years. This indicates that patient understanding on the longevity of the prosthesis was insufficient, and could well pose a hindrance to relative young and suitable patients, especially those aged <65 years. Worry about the longevity of the prosthesis may cause them to put off undergoing total joint replacement surgery, even though they might be very disabled and enduring a poor quality of life. In fact, the long-term survival of total joint replacement surgery is very good; the 10-year survival of total knee replacement using revision surgery for aseptic loosening as an endpoint for older individuals (≥65 years) and young patients (<65 years) were 94.8% and 97.7%, respectively.[1] The 13.3 years' mean survival of total hip replacement using revision surgery for aseptic loosening in young patients (<60 years) was 98%.[15] The long-term results of total knee and hip replacement were very good and could reassure patient concerns about the longevity of the artificial joints. However, more public education to deliver this message to the public is necessary.

This study was conducted in a pre-selected group of patients, who had been treated by general practitioners or other orthopaedic surgeons, and could have already obtained information on total joint replacement from such sources. Moreover, it did not aim to compare knowledge in different groups of patients. The study actually showed a knowledge deficit in a selected patient group. The knowledge deficit might be even more severe in the general public, but a larger scale survey is necessary to confirm this possibility.

Conclusion

Patients could recognise the advantages of total joint replacement surgery for treating arthritis. However, they had many concerns about the outcome of such surgery, which needed clarification. Public education especially with the cooperation of the media is necessary to deal with this issue.

Appendix

Additional material related to this article can be found on the HKMJ website. Please go to <http://www.hkmj.org>, search for the appropriate article, and click on **Full Article in PDF** following the title.

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APPENDIX. Chinese version of the questionnaire

病人對人工關節置換術認識之問卷調查

日期 _____ 性別 男 / 女 年齡 _____

(1) 你聽聞過人工關節（膝或髖）置換術（換骹手術）嗎？
_____ 有 _____ 沒有

(2) 你從以下途徑得到關於人工關節置換術的資料？（可選多於一項）
_____ 報紙
_____ 雜誌
_____ 電視
_____ 收音機
_____ 互聯綱
_____ 親戚朋友、隔離鄰舍
_____ 病友
_____ 醫生
_____ 醫院單張
_____ 健康講座
_____ 書本
_____ 其他（請説明）_____

(3) 你最擔心換骹手術的是甚麼？（可選多於一項）
_____ 術後需要卧床太久（如選這項請説明心目中時間 _____）
_____ 術後不能走動（跛）而需要坐輪椅
_____ 術後需要別人照顧（多於3個月）
_____ 手術期間及術後疼痛
_____ 自己身體承受不了手術的風險
_____ 年紀太大而不適合做手術
_____ 手術有迸發症或後遺症
_____ 更換了的關節不能持久而需要翻修
_____ 其他（請説明 _____）

(4) 你認為換骹手術有甚麼好處？（可選多於一項）
_____ 減少痛楚
_____ 增加活動能力（可行遠一點或時間長一些）
_____ 改善關節活動圍
_____ 矯正關節變形情況
_____ 改善長短脚情況
_____ 其他（請説明 _____）

(5) 你認為換骹手術的康復需要多久？
_____

(6) 你認為人工關節（人工骹）一般壽命有多久？
_____

(7) 你認為人工關節（人工骹）有需要定期更換嗎?
_____沒有 _____有（如選有請説明年期 _____）

(8) 如果你將來有需要進行換骹手術, 你認為有甚麼途徑可以幫助你認識更多？（可多於一項）
_____