



Knee arthroscopy prospective observational study of patient information

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Abstract

Introduction Arthroscopy is especially well suited to outpatient implementation, as procedures are less heavy for the patient. Few studies, however, have focused on patient information and understanding in arthroscopic and outpatient surgery. The aim of the present study was to perform a prospective assessment of the information received by the patient concerning outpatient arthroscopic surgery. The study hypothesis was that there is room for improvement in information.

Materials and methods A prospective descriptive observational cohort study was made of the means of information available to patients, their understanding of arthroscopic surgery and their satisfaction with the information delivered. Inclusion criteria consisted in scheduled outpatient arthroscopic surgery in whatever joint.

Results Fifty consecutive patients responded to the study questionnaire. Forty-eight (96%) considered that the surgeon had provided sufficient oral information. Twenty-nine (58%) considered that they had received sufficient written information. Forty-four (88%) reported searching on the Internet. Twelve (24%) had sought testimony and advice from someone who had undergone similar surgery. Eighteen (36%) had sought information from their community physician. Four (8%) had called back or taken a new appointment with the surgeon to get more information. Five (10%) attributed lack of information to lack of time in the preoperative consultation. Three (6%) considered the information to have been too technical for good understanding of the procedure.

Discussion The present study showed that this cohort, which was relatively young compared to patients undergoing implantation, was notably autonomous in their search for information. They mainly sought information in general-public medical information websites, rather than from their community physician or specialist.

Conclusion It is important to improve patient information, and specific tools should be implemented ahead of outpatient arthroscopic surgery.

Level of evidence Four observational studies.

Keywords Questionnaire · Information · Arthroscopy · Outpatient · Internet

Introduction

Indications for arthroscopy are increasingly broadening. It is especially well suited to outpatient management [1], as procedures are less heavy for the patient. Improved surgical techniques, with shorter operative time, and progress in anesthesia, with multimodal [2] and locoregional anesthesia [3], enable outpatient management of more and more procedures. Shorter hospital stay [4] is, however, a problem for the surgeon, who has little time before and after the operation to provide the patient with the requisite information. Several months may go by between the preoperative consultation and surgery, and it is important for the surgeon to be able to

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explain again to the patient what the operation and postoperative course will consist in. Likewise, short hospital stay makes it difficult, organizationally, for the surgeon to see the patient to explain the procedure.

Patient information quality ahead of surgery has been studied in several specialties: gynecology by Greene [5], head and neck by Chan [6], vascular by Bowers [7] and ophthalmology by Mednick [8]. It has also been the focus of several studies in orthopedics, both general [9] and prosthetic [10, 11]. Few studies, however, have focused on patient information and understanding in arthroscopic and outpatient surgery.

The present study consisted in a prospective assessment of patient information in outpatient arthroscopic surgery. The study hypothesis was that there is room for improvement in this field.

Materials and methods

Review board approval for the study was obtained (No. 2017/CE25). A prospective descriptive observational cohort study was conducted from November 2017 to March 2018. Consecutive patients were prospectively questioned ahead of surgery about the means of information they used, their understanding of arthroscopic surgery and their satisfaction with the information delivered. All patients meeting the inclusion criteria were included, with no refusals. This was a single-center multi-surgeon study, with surgeons blind to their patients' participation.

Information covered diagnosis, surgical procedure, risk of postoperative complications and postoperative care, delivered orally by the senior surgeon as usual in the preoperative consultation. There was no written support specific to arthroscopy; no websites were indicated unless the patient specifically asked. There was, however, a written support concerning surgery in general and complications, outpatient admission and anesthesia.

A dedicated questionnaire was drawn up, intended to be simple and quick to complete (Fig. 1). It was made for this study in order to assess the patients' expectations and understanding. It comprised nine closed questions and one open question to assess satisfaction with the information delivered and investigated patients' need to look for various outside sources of information. It further assessed the patient's understanding and opinions on how to improve the information. Patients were included on the day of surgery, before their operation, by a surgeon other than the one who would be operating on them and filled out the questionnaire during the preoperative wait time. The study was purely observational: the information was not specifically modified for the study.

The inclusion criteria comprised: scheduled outpatient arthroscopic surgery in whatever joint; fluency in French and mental capacity to respond to the questionnaire; age over 16 years, with parental authorization for minors (< 18 years). Exclusion criteria comprised: the absence of preoperative planning consultation, as in the case of trauma surgery; arthroscopic tibial plateau fracture reduction; arthroscopic treatment for infection, such as joint lavage for septic osteoarthritis in native knee; association to open surgery such as ligament reconstruction or correction osteotomy; extra-articular endoscopy (e.g., carpal tunnel). Arthroscopic revision of arthroscopic or open surgery was not an exclusion criterion.

Assessment concerned questionnaire responses. There were no missing data. Statistical analysis used Excel™ software (Microsoft, Redmond, USA). Results were reported as mean \pm standard deviation and range for quantitative variables. Sample size was calculated for an 80% confidence level and 10% margin of error; as the center managed slightly fewer than 500 procedures per year meeting the inclusion criteria [4], the minimum inclusion number was set at 38, although in fact 50 patients were included, so as to enhance representativeness [12].

Results

Fifty consecutive patients responded to the questionnaire. All those who were asked to do so agreed. The series comprised 38 men (76%) and 12 women (24%), with a mean age of 37.5 ± 13.04 years (range 16–64 years).

Table 1 reports the various procedures.

Concerning satisfaction, 48 patients (96%) considered the oral information sufficient and 29 (58%) considered the written information sufficient (Fig. 2).

Concerning complementary information, 45 patients (90%) sought extra information to that provided by the surgeon. Forty-eight (88%) looked on websites. Twelve (24%) sought testimony and advice from someone who had undergone a similar operation. Eighteen (36%) asked their community physician for information. Four (8%) telephoned to their surgeon or took another appointment to get more information. These data are shown in Fig. 3.

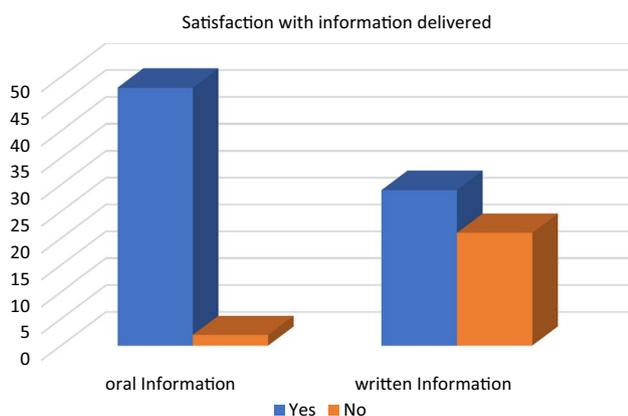
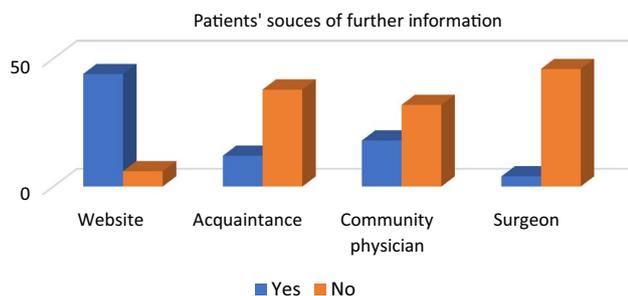
Concerning the patients' understanding of the procedure, 35 (70%) thought they had understood the difference between arthroscopic and open surgery. Responses to the open question describing the procedure showed that eight patients (16%) had not understood the procedure at all, while the others had partly understood; only 16 (32%) were able to use proper arthroscopy terms such as "camera," "minimal incision," etc., showing that they understood the difference between arthroscopic and open surgery. Figure 4 shows patients' understanding of the procedure.

- 1- Did you receive sufficient oral information about the operation?
- Yes
 No
- 2- Did you receive sufficient written information about the operation?
- Yes
 No
- 3- Did you look for information about the operation on the Internet?
- Yes
 No
- 4- Did you ask for information or explanations from people you know who had undergone the same operation or other arthroscopic surgery?
- Yes
 No
- 5- Did you ask for information or explanations about the operation from your family doctor?
- Yes
 No
- 6- Do you think you have understood the difference between arthroscopic surgery and what we call “open” surgery?
- Yes
 No
- 7- Could you describe in a few words the arthroscopic operation you are going to have?
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- 8- If you feel you lacked information ahead of surgery, was this due to lack of time in consultation with your surgeon?
- Yes
 No
- 9- If you feel you lacked information ahead of surgery, was this because the surgeon’s explanations were too technical?
- Yes
 No
- 10- Did you phone your surgeon or take another appointment to get more information about the operation?
- Yes
 No

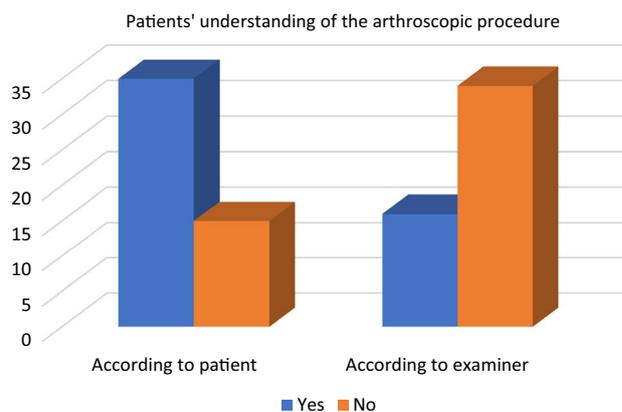
Fig. 1 Questionnaire filled out by patient ahead of surgery

Table 1 Types of procedure

	Number of procedures (total = 50)
Lower limb	45
ACL repair	17
Meniscal	21
ACL + meniscus	5
Cartilage	2
Upper limb	5
Shoulder instability	1
Rotator cuff	4

**Fig. 2** Satisfaction with oral and written information**Fig. 3** Patients' sources of further information

Concerning patients' explanations for insufficient information, five (10%) blamed lack of time in the preoperative consultation. Three (6%) considered the information too technical to be properly understood.

**Fig. 4** Patients' understanding of the arthroscopic procedure

Discussion

Patient information ahead of arthroscopic surgery is as yet poorly codified and assessed, despite the growth of arthroscopic and outpatient surgery [4]. Patients often mistakenly consider it as “benign” surgery, although in fact, like any operation, it incurs potential risks and complications [13]. Unlike in lower limb prosthetic surgery [10], few studies have assessed patients' understanding ahead of arthroscopic procedures.

The present cohort, which was relatively young compared to patients undergoing prosthetic surgery, was notably autonomous in their search for information. They mainly turned to general-public medical websites, rather than asking their community physician or specialist. The present findings were more extreme than those of Gupte [14], who in 2002 reported on patients' use of the Internet to enhance their information: 52% of the 398 patients who consulted in orthopedics had gleaned information from the Net, including 12.3% who had specifically looked into their own orthopedic pathology. Worryingly, 20% of the latter had come up with opinions contradicting those their surgeon expressed in consultation. 35.7% of the patients would have liked to have a consultation on line, testifying to their trust in this media. This was also studied by Cassidy et al. [15], who showed the importance of the Internet in patients' search for information regarding orthopedics; they stressed the poor quality of the information available in websites and the need for the orthopedic community to set up reliable sites for patients. This is the case, for example, of the Orthogate website [16], which was originally designed as a database for training for residents and orthopedic surgeons but which also contains a lot of information for the general public. Likewise, the “Persomed” files on the website of the French Society of Orthopedic Surgery and Traumatology (SoFCOT) include documents on arthroscopy, which need to be prospectively assessed.

Cornoiu [17] demonstrated the efficacy of multimedia supports for patients' assimilation of pre- and postoperative information on knee arthroscopy. In a series devoted to arthroscopic knee surgery, patients were found to be more receptive to information received via a multimedia support than to the classical oral information plus written booklet; multimedia support here comprised texts, oral explanations and photographs and 3D animations. Patients receiving this multimedia support showed better understanding not only preoperatively but also at 6 weeks postoperatively, testifying to good memorization of information delivered in this way. This is in agreement with Egekeze's report [18] of the importance of stimulating several sensory modalities (hearing, vision and touch) in patient education; 67 patients undergoing corticosteroid injection for osteoarthritis of the knee were divided into three groups according to whether information was delivered orally, visually and/or tactilely: understanding assessed on a validated questionnaire was better when all three senses were stimulated.

Larobina [19], in a study of heart surgery, reported that 80% of patients wished to be informed of all risks associated with the procedure (coronary bypass or angioplasty). Intraoperative risks differ greatly between cardiac and arthroscopic surgery, but the study does testify to patients' need for as much information as possible, however, hard it may be to listen to and to imagine. The article also showed patients' difficulty is describing clearly the objective of the operation, partly due to their lack of knowledge and medical vocabulary. These findings are to be compared with the 30% rate of patients who failed to understand the difference between arthroscopic and open surgery in the present study.

The wait time between consultation and surgery was studied by Coudane [20], who considered it unnecessary; it was not studied in the present series.

In the present series, a large number of patients felt they had not received enough written information, which may account for deficient understanding. Moreover, the written information provided mainly concerned general complications, hospital admission and anesthesia rather than arthroscopic surgery as such. For example, our hospital provides no specific illustrated booklet. Patients usually know the correct name for the operation and understand the principle objective but do not mention the specific contribution of arthroscopy.

Michalski [21] also showed the interest of multimedia supports in patient education, notably for patients with a low educational level; the means of providing information should be tailored to the individual patient. Interestingly, Madan [22] studied the memorization of postoperative information; in a series undergoing knee arthroscopy, patients were informed of the lesion assessment on postoperative day 0; surprisingly, 38.8% had no recollection of this at the 3-week postoperative consultation. Memory quality was related to the order in which

patients were operated on, being poorest when they were scheduled last; the authors' explanation was that the anesthetic impaired memory and that, so far as possible, the information provided by the surgeon should be reiterated. In the present study, it would have been interesting to assess patients' postoperative understanding of the procedure they had undergone.

The present study had several limitations. Firstly, it was purely descriptive, neither comparative nor interventional. Secondly, memory bias is very probable in this kind of study; inclusion straight after consultation could have limited this bias but would not have been objective regarding the rate of resort to other means of information. Thirdly, the impact of the interval between consultation and surgery was not analyzed, whereas it would be useful to know whether this affects patients' behavior or memory.

It is essential to improve patient information, considering the litigation issues, orthopedic surgeons are confronted with [23]. The number of suits against surgeons keeps increasing, notably due to patients' misunderstanding of their operation and its risks [24]. This could be reduced by improving informed consent. Communication between surgeon and patient is fundamental to a successful management. The low rate of patients telephoning their surgeon or taking a new appointment is certainly related to the difficulty of contacting the surgery team.

Conclusion

Improving patient information is important, and it seems necessary to have specific tools in the case of outpatient arthroscopy. Patients' understanding of the procedure is essential to the process of informed consent. The deficit in written information reported in the present series could easily be remedied by a booklet or a website devoted to arthroscopic surgery, as, for example, in prosthetic surgery.

Author contributions RE was involved in study design, investigations, article writing and surgery. VV was involved in investigations and article writing. GV was involved in article writing and surgery. EE was involved in study design, investigations, article writing and surgery. SD was involved in study design, reediting, surgery and supervision. SB was involved in study design, reediting, surgery and supervision.

Compliance with ethical standards

Conflict of interest SB is a consultant for Zimmer, outside of the present study.

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