Patient Comprehension and Recall of Laparoscopic Surgery and Outcomes in a Non-English Speaking Population

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ABSTRACT

Background and Objectives: The purpose of this study was to determine patient recall and comprehension after laparoscopic appendectomy in an underserved population. Laparoscopic surgery can lead to diagnostic uncertainty secondary to poor recall and variable port placement.

Methods: After institutional review board approval, we identified a cohort of patients who underwent laparoscopic appendectomy from 2000 to 2004 at a single institution. We then attempted to contact the patients to conduct a 10-question telephone survey, which determined whether the patient spoke English or Spanish as a primary language, ethnicity, educational level, and questions about recall of perioperative events and diagnoses. If we could not reach the patient, we tried to call back on 2 different occasions.

Results: Between 2000 and 2004, 186 patients underwent laparoscopic appendectomy. Of these, 65% were Hispanic. We found that only 17% of these patients returned for a postoperative visit. Only 19.3% could be contacted by phone. Forty-seven percent of the patients contacted by phone spoke Spanish exclusively. Overall 92% of patients contacted knew what operation they had, and gave their correct diagnosis.

Conclusions: The low percentage of patients available to follow-up makes this study statistically insignificant. However, we believe that fact in itself is important. In Southwestern states, we see a large migrant population. This highlights the need to communicate effectively with the patients at the time of surgery, which we speculate we did based on the percentage of patients that knew their diagnosis.

Key Words: Laparoscopic appendectomy, Patient recall, Hispanic population.

INTRODUCTION

With the advent of laparoscopic surgery, new diagnostic problems are presenting themselves. In the past, if a patient had a right lower quadrant scar, they likely had had an appendectomy. This allowed the diagnosis of appendicitis to be dismissed from the differential in a patient with abdominal pain. The small scars and variable locations left by laparoscopy are less definitive clues to the type of previous operations. Patients often demonstrate poor recall of the exact nature of their previous operations.1,2 We hypothesized that this problem would be magnified in the Spanish speaking population in a border state. Our hospital is located in Phoenix, Arizona and has a high percentage of patients who speak Spanish exclusively. Another problem is that of follow-up in these highly mobile, migrant patients. To determine patient comprehension and outcomes in a county hospital, we conducted a telephone survey and chart review of patients who underwent laparoscopic appendectomy.

METHODS

After Institutional Review Board (IRB) approval, we identified a cohort of patients who underwent laparoscopic exploration for abdominal pain, or laparoscopic appendectomy at our institution from 2000 to 2004. We identified these patients by CPT codes. A chart review was conducted to determine which patients would be contacted by telephone and given the survey. Inclusion criteria were age 18 years and older, exploratory laparoscopy or laparoscopic appendectomy, English or Spanish speaking. Exclusion criteria were current incarceration and minors under 18. We then attempted to contact the patient to conduct a 10-question telephone survey, which determined whether the patient spoke English or Spanish as a primary language, ethnicity, educational level, and questions about recall of perioperative events and diagnoses (Figure 1). The survey was approved by our IRB and was translated into Spanish by the official hospital interpreters. Attempts were then made to contact all patients by telephone. If there was no answer, 2 callbacks were attempted. If the phone was disconnected, the chart review was still conducted for general outcomes but fell out of the questionnaire portion of our study.

We then conducted a review of medical records, which included sex, age, date of operation, diagnosis, a descri-
tion of which organ was removed and whether the patient followed up at the clinic. These results were correlated with the patient’s answers to the telephone survey. An Excel database was used for data entry and to determine the median and mean of the results. No further statistical analysis was performed.

RESULTS

Between the years 2000 and 2004, 186 patients underwent laparoscopic appendectomy. Of these, 66% were Hispanic, 48% were female. We found that only 17% of these patients returned for a postoperative visit. Only 19.3% could be contacted by phone. Forty-seven percent of the patients contacted by phone spoke Spanish exclusively. Overall 92% of patients contacted knew what operation they had and gave their correct diagnosis (see Table 1 for answers to all 10 questions). Our chart review revealed that 89% of the patients operated on had appendicitis. Because the percentage of patients available for follow-up was so low, further statistical analyses was not performed, as these numbers would have no significance.

DISCUSSION

Laparoscopic appendectomy has become widespread in the United States. It has comparable outcomes to those of open appendectomy. However, abdominal access
techniques and trocar locations can be highly variable. This can lead to diagnostic uncertainty if the patient has poor recall. In other studies, patient recall has been demonstrated to be poor after laparoscopic surgery even when a formal educational effort is made. Kriwanek et al. showed that 68% of patients polled had poor recall of surgical risks, although 82% of patients felt like their level of knowledge regarding the surgery was satisfactory. We felt that our Spanish-speaking patients were receiving appropriate information and could give an informed consent, but enabling patients to understand the procedure is a much more difficult goal to achieve, hence, the current study. In spite of our efforts, we had too low a follow-up to do anything more than speculate on the true rates of recall and comprehension following laparoscopic surgery.

The data that stand out the most are the extremely low rates of follow-up. What started out as a project to determine patient recall regarding laparoscopic surgery in a non-English speaking population, turned into an observation regarding patient follow-up or the lack thereof. Only 17% of the patients we operated on returned for a post-operative visit. We could only contact 19.3% of our patients by telephone. There are multiple possible reasons why the patients were unable to be contacted by telephone: patients moving, having their phone service disconnected, or false phone numbers. We believe that this low rate of follow-up is probably representative of urban county hospitals. In Arizona, there is also a large population of Mexican migrant workers that are highly mobile. Another possible explanation of our low follow-up is the fear that Mexican migrants have of being reported to la Migran, or the Immigration and Naturalization Service; if we can contact them, so can the government. This highlights the need to communicate effectively with patients at the time of surgery, as this may be the first and last patient contact.

In Arizona, 26% of the population speaks a language other than English at home, according to the United States Census Bureau. Forty-seven percent of our patients spoke Spanish exclusively. Sixty-five percent of the patients classified themselves as Hispanic, again a higher number than the 25.3% of Hispanics in the state population. When the border area itself is studied, 40% of individuals tend to be monolingual Spanish speakers, whereas less than 25% of medical care providers in the same region are fluent Spanish speakers. Again, this highlights the need to communicate effectively with patients in the initial encounter, because follow-up is likely to be low.

Another interesting fact that stands out is the discordance between patients’ answers regarding the removal of an organ and the removal of the appendix. Twenty-eight percent of patients reported that they did not have an organ removed, but 92% reported that their appendix had been removed. We feel that this is because this question was poorly written, and the patients did not understand that the appendix is an organ.

Murphy et al. in Ireland conducted a study regarding patient recall that we modeled this study after. They performed a telephone survey to determine patient recall after laparoscopic surgery for abdominal pain in a national health service model. They found that with an 84.5% response rate, 73.1% of patients knew their correct diag-

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### Table 1.

| Question                                                                                                | Response          |
|--------------------------------------------------------------------------------------------------------|-------------------|
| 1. Do you speak mainly Spanish or mainly English?                                                      | 47% Spanish       |
| 2. What is the highest grade you finished in school?                                                    | 47% did not complete high school                          |
| 3. During this operation, did you have an organ removed from your body?                                | 28% yes           |
| 4. Was your appendix removed during the operation?                                                     | 92% yes           |
| 5. Did your doctor tell you what caused your illness?                                                   | 33% yes           |
| 6. Was the reason for your operation explained using [Spanish, if primary language]?                   | 89% yes           |
| 7. After the surgery, did a member of the hospital staff explain what they did during your operation using language you could understand? | 70% yes           |
| 8. Did a translator from the hospital help with translating English into Spanish?                      | 28% yes           |
| 9. Did a friend or family member help with translating English into Spanish?                           | 19% yes           |
| 10. Finally, I want to ask you about how much your doctors told you about your operation. Did they tell you... | 33% Too Little; 3% Too Much; 64% About Right |

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nosis and procedure performed. We hypothesized that in a migrant, urban, Spanish-speaking population, we would have a much lower rate of correct patient recall and comprehension. However, although our results were statistically insignificant, we see a trend that both our English- and Spanish-speaking patients had a good understanding and recall of their disease process and surgery.

CONCLUSION

Although our patient follow-up is too poor to draw any conclusions or support the aim of this study, we believe that by counseling the patients (with an interpreter if need be), patient understanding of their medical condition and surgery can be successful. This is especially important because the surgeon’s first encounter with these patients may be the last. As our non-English speaking population grows, surgeons will need to be able to effectively communicate and encourage follow-up. Only through effective communication will diagnostic uncertainty be avoided in the future.

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