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Patients' experiences of laparoscopic fundoplication in day surgery

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Abstract

Previous research has concentrated mainly on surgical aspects and postoperative complication rates after day surgery laparoscopic fundoplications (LF), due to gastrooesophageal reflux (GERD) and less on patients'experiences and nursing care aspects. A qualitative study was conducted aimed at investigating patients' experiences of day surgery LF. The very first patients who had day surgery LF ($n = 7$) were interviewed. The findings demonstrate that patients with GERD experience limitations in their daily lives and feelings of social handicap. At discharge after day surgery, amnesia was experienced and the respondents did not recall important information about the operation given by the surgeon. Experience of postoperative pain varied greatly. All respondents experienced dysphagia, vomiting, distension and bloating. The need for additional pain medication, additional follow-ups by the Advanced Medical Home Care team and extended preoperative information was expressed. However, the great majority felt that returning home on the same day as the operation was positive.
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1. Introduction

Gastro-oesophageal reflux (GERD), has in a Swedish based study been reported by 15–20% of the population [1] and symptoms like heartburn, regurgitation and chest pain are common [2]. In a US-based study, 36% of the population was identified as having one episode of heartburn per month while 7% reported heartburn problems every day [3]. Sometimes complications such as oesophageal ulcer, oesophageal stricture, Barrett's oesophagus, malignancy and aspiration arise following long-term problems with GERD.

Traditionally, patients with GERD were treated symptomatically with dietary changes and antacids. Antireflux surgery, by means of laparoscopic fundoplication (LF) has been demonstrated to be superior to symptomatic treatment of GERD [3].

LF is in most cases today carried out on hospitalised patients who receive hospital care for about 1–2 days post-operatively. Although, complications such as dysphagia and bloating are reported [4], such a surgical procedure helps the patient to escape keeping to a diet and lifelong antacids medication [5].

Day surgery LF, is quite rare but there are some studies reporting on its efficiency [6–9]. Milford and Paluch [6] demonstrated that LF can safely be performed as a day surgery procedure if analgesic and anaesthetic management are tailored to minimize nausea and provide adequate pain control. Trondsen [8] reported that 31 of their 45 investigated patients were satisfied with day case LF. This type of surgery also results in a large national economic benefit due to fewer antireflux medications at less cost after LF and shorter hospital stay. Bloomston et al. [3] who investigated 100 patients showed that LF increased the patients' quality of life in relation to daily life activities such as food and sleep habits. For example, pre-operatively, coffee drinking aggravated 58% of patients' symptoms and after LF,

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83% of the patients reported no symptoms when drinking coffee. Ninety-one per cent of the patients avoided certain foods before LF for fear of exacerbating their reflux and 91% found it necessary to alter their sleeping habits before the operation to avoid symptoms. After surgery, 78% of the patients no longer abstained from such foods and 82% were able to return to their normal sleeping habits.

At the Huddinge University Hospital, a pilot study investigating patients who have undergone day surgery LF is ongoing. These patients come to the hospital in the morning, are operated on before noon and are discharged from the hospital the same afternoon. On the evening of the day of surgery and on the following morning, a nurse from the Advanced Medical Home Care team (AMHC) visits the patient in his/her home. The patients can reach the AMHC by phone 24 h a day and can have a visit within 30 minutes if needed. On the second postoperative day, a physician at AMHC calls the LF patient and decides whether to discharge the patient from the AMHC or not.

Day surgery LF is a rare procedure and studies so far have focused on surgical aspects and postoperative complication rates following LF, and less on patients' own experiences and nursing care aspects. The aim of this study was to explore the patients' experiences related to this type of day surgical procedure.

2. Methods

In this study a qualitative design was chosen since the intention was to explore variations of experiences of day surgery LF that may not be captured in a questionnaire. As the aim study was not to apply preconceived hypotheses in order to produce generalized data but focus on individuals' experiences, a qualitative approach can provide an illustrative description of previous unexplored phenomena [10], and engender a deeper understanding of patients' experiences in undergoing a new type of operation in this case LF performed in a day surgery setting.

The study was conducted at the department of surgery at a university hospital in Sweden. The very first patients, who were about to have LF performed in day surgery (2 women and 5 men) were recruited to the study via the hospital's outpatient surgery department. The age range was 31–67 years. They were asked about participation by the researcher at the time of the preoperative visit 1 week prior to surgery, when the surgeon, anaesthetist and nurse did the patient assessment.

The inclusion criteria for day surgery LF were that the patients must be American Society of Anaesthsiologists (ASA) grade I–II, have a positive attitude to a day surgical procedure and the company at home of an adult person during the first post-operative night. The patients received verbal and written information about the aim of the study, how it would be conducted as well as the surgical procedure and post-operative care. They also received the surgeon's name and telephone number. To fulfil the criteria for discharge from the hospital, the patients must be able to drink, void and not be in pain.

The main investigator (CB) collected the data during the period from February 2000 until October 2001. Interviews, lasting about 60 minutes, took place 1 week after the operation in an undisturbed environment in a room adjacent to the surgical department. They were audio-taped with the consent of the respondents and transcribed in their entirety. Each interview began with the question: 'What was your experience of having key-hole fundoplication as a day surgery procedure?' After that, the informants freely described how they experienced living with reflux disease, being cared for before the operation, the operation itself, and the first week afterwards. In response to how the informants described their situation, only clarifying questions were posed. According to Lincoln and Guba [11] data collection can be concluded when facts start to be repeated and when the researcher notes that themes and examples are no longer being enlarged upon. This occurred after seven interviews.

After having read through the text, categories were created through the repeated reading of meaningful text. Thereafter sentences were coded and important phrases and sensory impressions that arose during the interviews were written in the margins. Comments were written in the margins in order to draw further attention to important statements and to differentiate the themes. Categories, subcategories and themes were created through this procedure and by repeatedly going through the text. In order to provide additional elucidation quotations have been used [12].

2.1. Ethical considerations

All individuals' integrity was maintained throughout the study and they were informed that they could withdraw at any time from the study without any consequences for their future treatment and care. The study was approved by the Ethical Committee at the study hospital.

3. Findings

The respondents described different problems related to GERD as they experienced it before the operation, the day of surgery and how they felt during the first post-operative week at home. After coding and categorization of the interview statements, the following five main categories emerged:

- Living with GERD
- Anxiety and memory loss—experiences at the hospital on the day of surgery
- Pain and dysphagia—common experiences at home the first week after surgery
- A wish for a delayed period of follow-up by the AMHC
- Return to the activities of daily life

3.1. Living with GERD

Some patients had had problems due to GERD since they were young and others for no more than 3 years. Despite the disease duration, the patients had demanded antacid medication for heartburn for several years. All the respondents felt very motivated to have the operation to escape life-long medication. One man who had had problems for more than 40 years stated:

> I have had heartburn since I was young and often took bicarbonate until I underwent gastroscopies. Then I was prescribed another medication so I managed for a while. Ever since I was young I have had to vomit and then return home after having dinner out with friends. I understood that something was wrong. It got worse and worse and the physicians talked about gastritis.

A 55-year-old male builder's heartburn started when he was 20 and did military service:

> I was prescribed antacid medication but it only helped for a few hours and then the heartburn relapsed and I couldn't sleep at night. The heartburn started 30 minutes after having a meal and did not end before I was in a deep sleep at night.

A car repair-man who normally worked lying on his back in a horizontal position under the instrument panel and under cars stated:

> When I lay there on my back under a car, I often felt nauseous and I had to go and vomit and I haven't slept on my right side the latest five years.

One woman also had had heartburn for many years but she did not want to take medication for the rest of her life:

> I have had heartburn, it was burning, burning, burning. I didn't want to take omeprazole for the rest of my life. I read an article about heartburn. It was about a person who got cancer in her throat (after heartburn) I thought, why must I have heartburn if it is not necessary so I prefer to have an operation.

Some of the patients experienced the disease as socially handicapping because of difficulties in having dinner late in the evenings due to increased heartburn:

> I work as a computer consultant and I am often eating out with customers. As soon as I was stressed or ate late in the evenings, I had acid regurgitation, heartburn and experienced a pressure behind my chest, it hurt a lot. I think I had my first gastroscopy when I was sixteen.

The patients had undergone several gastroscopies and feared the disease to be malignant. One man experienced the following:

> I have had many gastroscopies, I didn't like it. I would rather have one more operation than a gastroscopy. I had tissue changes in my oesophagus, severe inflammation. If it is not cured, it can become cancer and I must take this medication for years because of my heartburn. Now it is marvellous to go to bed without heartburn.

3.2. Anxiety and memory loss—experiences at the hospital on the day of surgery

Some patients felt anxious before the operation but as these patients were the first to be operated on in the morning and the waiting time was short they could manage without tranquillizers:

> I felt anxious before the operation but I didn't want to show it. . .I said to the nurse that I didn't feel particularly encouraged.

Another man had a similar experience:

> I was a little bit anxious. Key-hole technique, I don't know what it is like. I don't know at all how they do it.

Some of the patients experienced amnesia after the operation and did not remember the information given by the surgeon on discharge:

> It is good to have a relative present who is alert because I did not remember much. I felt very bad when I was discharged. I really was swaying even though my wife was with me. I had pain, was dizzy and tired.

A woman shared the following with us:

> I felt funny, but at the same time everything was so obscure. I really don't remember anything. I had so much anesthesia left in my body, I remember very, very little.

Before discharge from the post-operative ward, the patients are expected to pass urine:

> It was very distressing not being able to pass urine by myself. They had to put in a urethral catheter before I went home.

Some of the patient's relatives were not satisfied that the patients were discharged the same day as the surgery was performed:

> My wife thought it was strange that I was discharged the same day as the operation.

3.3. Pain and dysphagia—common experiences at home the first week after surgery

After discharge and back home, the respondents were tired, experienced discomfort and a varying degree of pain. All of them had been prescribed medication for pain relief which was sent home in bags intended for the evening of the operation and the next day. One woman described pain in her shoulders, especially the left one:

> I thought it was OK until the evening when the effects of the anaesthesia had worn off and then I got a terrible pain in my shoulders especially the left one. When they came from AMHC, in the evening, they gave me morphine. I only could lie down in one position. I could not stand up, sit or move. The pain made me scream. It was unbearable. I still have pain after a week and I need pain medication.

And as described by a man:

> I felt pain in my heart and I thought it was my heart failing, but nothing happened. I had unclear pain in my stomach but it was only that day. I slept badly too. You sleep badly if you have pain. I felt miserable.

A man described pain related to breathing:

> It was painful to eat and take deep breaths even after one week. I have not full capacity yet, when I breathe I feel pain in my back over the lungs. I can take half breaths but I don't need more pain medication than what was sent home. But the first night after the operation I should have had something for nausea.

Dysphagia was a common problem experienced by all the patients during the first week after the operation. Before the operation the patients received information about eating small portions, to chew cachous, and not to eat too big pieces of meat that might get stuck. After the operation, the tissues are swollen. All of the patients experienced that it was not possible to eat as before the operation. Their food habits had to be changed. Most patients ate fluids and light meals for 3–4 days post-operatively:

> It's the food that is the problem. I can't recommend anyone to eat normal food. When I started eating on the third day, it was still hard to swallow even though I chewed more. The first meal lasted one hour and by then I felt bad.

One woman said that having a meal took a longer time than before surgery. It was difficult to swallow and chew:

> When I have swallowed twice it begins to hurt. Maybe I have not chewed enough. I have to stop. What I have swallowed comes up. It must come otherwise I can't eat or swallow anything. If I eat too fast it sticks and I swallow and swallow. After a while it ends with vomiting. The food does not go down it stops by the cardia. I have to chew and chew and drink until it is like gruel.

One man said that he began to work after a week and his problem was to have lunch. It was necessary to eat slowly, eat small portions and he had to leave some hours between meals so the stomach was empty before eating the next meal:

> When I began to eat more normal food it was problematic. I ate too much and it stuck. You have to be patient and learn to eat slowly. When I swallowed a too big piece of food it stopped down there. I have started to work. I used to eat a normal lunch but even a shrimp omelet is too much. I had to stop the car and vomit. It must be some time between meals and one has to learn to live with feelings of hunger.

One woman related almost the same experience:

> If a meal is too big, it doesn't work out well. Yesterday after I had had lunch, I had to go out and vomit. You have to realize that you must eat slower.

One woman thought about the future and wondered:

> Will the stomach expand so I can eat a little bit more. It would be fun to eat a three course meal again. Now I have only space for the first dish. I chew very carefully because it is very tight and the tissues are still swollen. One sandwich and I am full up. For several days I have eaten two sandwiches and one banana. There is no room for more because in that case I start to feel nauseous.

Several patients experienced problems with belching after a meal:

> My doctor described with an illustration, the procedure of this operation. He said there is a little pocket in the stomach of no use, which they stitch. I think it has something to do with the pressure. I would like to have it explained. I can't belch when my stomach is empty. This is something that I miss after the operation.

The patients experienced distention and bloating:

> I can't belch, that is unpleasant. You feel swollen. It did hurt a little and I was bloated. I took Microlax and it helped. I have rather more flatulence now.

Some patients experienced hiccups during the first postoperative week:

> I had hiccups when I drank something cold and than felt pain in my chest.

Weight loss depending on the difficulties in eating was reported by some of the patients:

> I feel it on my jeans. I have got thinner round my waist and my hips.

Another man had the same experience:

> I'm not hungry at all, I eat because I have to I have reduced my weight much since last week.

3.4. A wish for a delayed period of follow-up by the AMHC

Most of the patients were satisfied with the follow-up procedure by the staff from AMHC. They thought that they had received the care they expected. One patient was dissatisfied and wanted a delayed period of follow-up by AMHC as she suffered from prolonged pain:

> I would have preferred one more visit on the fourth day by AMHC. I had severe pain so it would have been good if they had come once more.

When the patients had questions about their operation, they did not know where to turn. They wanted to talk to the surgeon and not to the staff at the AMHC:

> Well, I received an information sheet from the AMHC about where to phone if I needed that, but do they have anything to do with my operation? I don't know whom to contact.

3.5. Return to activities of daily life

The patients are put on sick leave following LF of between 1 and 4 weeks depending on their type of work. If that period is not enough, the responsible surgeon has to be contacted for continued sick leave. None of the patients included in this study had recovered entirely after 1 week. A computer consultant had been on sick leave 1 week at the time of the interview:

> I had decided to work the day after the operation because I do not need to move much at work, no heavy lifting but I wouldn't have managed because of the pain.

All patients after six weeks have a return visit to the surgeon who had carried out the operation:

> I didn't know that I had a return visit after six weeks. Maybe they had told me and I had forgotten. I would have appreciated to meet the doctor one week after the operation to ask about the wounds and the infection and ask about why I had pain when breathing. I still have a terrible pain.

Despite his problems, a man stated that his parents had not understood what kind of procedure he had gone through:

> I have told them that it was a key-hole surgery but I don't think they have understood that it was a real operation but a smaller procedure. In their opinion, they thought that I should have had a return visit earlier due to my breathing problems, so I didn't have to worry so much. After six weeks, is there anything more to improve than take a look at the wounds? I would have liked information sooner if something was wrong. I have an extra incision, a sixth one and why are there bruises round the bandages?

Most of the patients felt that 1 week to recover and to be able to return to work was not enough:

> Entirely recovered is too much to say. I think it takes time before I can lift heavy things. I think I wait until the wounds are healed and I don't feel anything when I sneeze or cough. I can't say I am entirely recovered after a week it is too early but I feel all right when I do nothing.

The great majority of the patients were satisfied with the day surgery LF and felt that returning home on the same day as the operation was positive:

> It is easier for my relatives to visit me in my own home instead of at the hospital and for me, it's more comfortable to rest in my own environment.

4. Discussion

Over the past 10 years, the use of laparoscopic techniques has revolutionized surgery by means of benefit to patients and for economical reasons. Several studies investigating surgical technique and postoperative complications following day surgery LF have been undertaken [6,8,9] but studies focusing on quality of life and well-being after this type of procedure are rare. The aim of this study was to explore patients' own experiences of living with GERD and of the procedure performed in day surgery. This has to our knowledge not been performed before. Since the intention of this study was to explore variations in experiences of day surgery that may not be captured in a questionnaire, a qualitative design was chosen. Through their own stories, the patients included in this study conveyed in-depth knowledge concerning what it is like to undergo LF in a day surgery setting. Although the sample size is small, we find the results to be a valuable contribution to knowledge about patients' experiences of this operation.

Living with GERD has in this study been shown to affect patients' work life and social contacts and they were all positive to undergo surgery. Our patients had suffered from heartburn for several years and they demanded antireflux medication for acid reflux. Before LF, heartburn has been reported to be the most severe problem among patients suffering from GERD [3]. Following LF, extensive cost savings have been reported due to significant decrease in reflux medication usage [3]. This was also the case with our patients as none of them expressed any need for antacid medication postoperatively.

A well documented problem following general anaesthesia is amnesia [13,14] but this has not specifically been reported following day surgery procedures. In the present study, amnesia was a common and frustrating experience among our patients. Problems with amnesia have also been reported by patients who have undergone day case laparoscopic cholecystectomy [15]. We therefore recommend that the relatives picking up the patients, listen to the discharge instructions before leaving the hospital.

The patients in the present study experienced varying degrees of pain after the operation. Some of them were completely satisfied with the pain medications sent home for the first postoperative day. Others experienced a relapse of the pain on the third day, when there was no pain medication left. One of our patients still had distressing abdominal pain 1 week after the operation. Several other authors have also reported on pain following day surgery LF [6–9]. Trondsen et al. reported that five of their 41 patients were dissatisfied with day-case treatment because of excessive pain [8]. It is therefore of outmost importance for the patients to have access to adequate pain management and to the surgeon in charge [16].

Nausea and vomiting are other common symptoms after LF [6,8,9]. One of our patients experienced distressing nausea and would have liked antiemetic medication for the first night at home. In the study by Trondsen et al. [8], it was reported that one individual of 41 was admitted directly from the outpatient department because of nausea and six other patients reported significant nausea and vomiting. Milford and Paluch [6] reported that three of their patients failed to meet the discharge criteria due to complaints of unresolved nausea and 12 patients of 54 requested antiemetic agents.

Another problem expressed by one of our patients was transient urinary retention which was psychologically disturbing. This early common post-operative complication has also been described by Milford and Paluch [6].

Problems related to food intake were another common problem experienced by all patients in our study. All of them had to change their food habits. For some, gruel was the only food possible to swallow during the first week to avoid abdominal pain and vomiting. Other authors [6,8,9] have also reported dysphagia problems following LF, although in a quantitative way. Narain et al. [9] reported that dysphagia occurred in 13% and Bais et al. in 15% of their patients [17]. Trondsen et al. reported that one patient was readmitted on day five because of dysphagia and inadequate oral nutrition [8].

Patients planned for laparoscopic surgery need appropriate and timely delivered patient education. Sensory information given from the patients' perspective, like how it was going to feel, smell and look, have shown to reduce anxiety pre-operatively [18]. Hathaway [19] demonstrated that patients with great anxiety needed

more sensitive than technical information and Bailey and Clarke [20] found that combined sensory and technical pre-operative information helped the patients to use their own stress and coping strategies before an operation.

Our patients were given thorough information pre- and post-operatively both oral and written. However, the information did not seem to be perceived by the patients to be sufficient. In our study the patients requested more information about the implications of the laparoscopic technique and how life was going to be in the future. Trondsen et al. demonstrated that the majority of their patients were satisfied with the information given pre-operatively [8].

Despite the problems experienced by our patients, the majority preferred being in their own homes following this procedure rather than staying in hospital overnight.

5. Conclusions

A number of problem areas were expressed by the patients, e.g. pre-operative anxiety, post-operative amnesia, experience of pain, need for additional pain medication, feelings of nausea, vomiting, dysphagia, distension, bloating, wish for additional information about wound care and wish for further telephone follow-up by AMHC.

In further research, these issues need to be considered in planning and delivering nursing care. As this is a qualitative study describing patients' own experiences of day surgery LF, it is not apparent from this study how frequent these experiences are. It is therefore of great importance to investigate the frequency, intensity and distress of the described problems/symptoms. This will be investigated in an upcoming quantitative study on a larger group of patients following day surgery LF.

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