

Rates and risk factors for unforeseen visits to the emergency room after thoracic surgery

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ABSTRACT

A deterioration in the quality of care can be indicated by unanticipated visits for treatment after surgery. The aim of this study was to estimate the percentage of thoracic surgery patients who visit the emergency room within six months of discharge and to identify the causes of those visits. Also noted were the risk factors for post-

thoracic surgery visits to the emergency room. A multivariate regression analysis was carried out to find possible risk variables for repeat visits to the emergency department.

Key Words: *Hepatobiliary; surgical care; oncology; Brest cancer; vascular surgery*

INTRODUCTION

To determine the risk variables for pain-related return to the emergency department, a subgroup analysis of patients who reported pain during the emergency department visit was conducted. The majority of these trips may have been avoided by better pain management in the patients who suffered an unanticipated return to the emergency department.⁴ Only one study, to our knowledge, has examined emergency department visits following thoracic surgery, with a 6.3% return rate after a follow-up of 30 days⁸, yet that study only included participants who Underwent thoracotomy-based surgery. The purpose of the current study was to estimate the percentage of patients having thoracic surgery who visit the emergency department within six months of being discharged. Additionally, the cause and risk factors for emergency department visits following thoracic surgery were determined, with a special emphasis on follow-up visits for pain. The data publication and study plan were approved. Because there were so many patients, the Ethics Committee decided to forego obtaining written consent from them before publishing the study's findings. In accordance with policy, all patients got standard care. There were no further procedures done, and the patient didn't have any extra material taken. Based on the patient's requirement as determined by the attending doctor on the ward, morphine was employed, and pills were

prescribed for 7 to 10 days. Patients were advised to call the thoracic surgeon or pulmonologist between being discharged and going to the outpatient clinic. The patient was told to contact the outpatient clinic or go to the emergency department if these specialists were unable to resolve the issue over the phone. The patient was instructed to go to the emergency department if the complaint was serious or came up at a time when the outpatient clinic was closed. The referring pulmonologist was given responsibility for further follow-up. Each visit for patients who returned to the emergency department on different occasions was examined. Each patient's chart was reviewed using the electronic medical record system to gather data on their demographics, type of surgery, use of epidural anesthesia, length of stay following surgery, pain scores on a visual analog scale during admission, at discharge, and in the emergency department, complications during the index visit, clinical information at discharge, pain medication taken at discharge, date, and reason for emergency department visit, and treatment received at the emergency department. The patients who visited the emergency department after discharge and the patients who did not were compared based on these factors. The frequency of emergency department visits for patients within 6 months of thoracic surgery was the main research outcome. The secondary outcomes were the causes and danger signs for subsequent emergency department visits. SPSS version 23 was used to conduct the statistical analysis.

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Descriptive analysis was used to describe baseline attributes. The Student's unpaired t-test was used to compare regularly distributed data, while the Mann-Whitney U test was used to examine non-normally distributed data. The c2 test was utilized to compare categorical variables. Five categories were used to categorize the causes of emergency department visits: postoperative pain, dyspnea, malaise, wound issues, and other (all symptoms that did not fall into one of the other specified categories and that have little clinical relevance for the operation of interest). When a patient visited the emergency department, we looked to see if they had mentioned any of these symptoms. There was a link between the pain scores on the ward and univariate comparisons of patients who returned to the emergency department with and without pain. In comparison to those returning to the emergency department without discomfort, patients with pain had considerably higher VAS scores both during their hospital stay and at release. A higher probability of pain-related emergency department visits was also present in younger patients. Odds ratio calculations of the variables linked to emergency department visits because of postoperative discomfort. The probability of a postoperative pain-related emergency department visit increased generally with each year of younger age in patients. Patients who underwent thoracotomy surgery were at a higher risk of needing to attend the emergency department due to postoperative pain. Additionally, patients who experienced less effective pain treatment were much more likely to visit the emergency department after surgery. For instance, patients had a higher chance of visiting the emergency department for a postoperative pain-related incident for every point on the VAS scale reported on the ward. After discharge, the Kaplan-Meier curve of the time to pain-related emergency department visits is shown. In this study of patients who underwent thoracic surgery, it was discovered that a significant number of them visited the emergency department within six months of the procedure. One of the symptoms displayed by one of those individuals was postoperative discomfort, along with dyspnea and wound issues. Younger patients, those who underwent thoracotomy surgery, and those who experienced worse pain relief on the ward had a higher probability of returning to the ED for any cause, according to a multivariable analysis. Patients who visited the emergency department again due to postoperative pain shared the same risk factors. This is explained by the fact that more than 50% of patients who visited the emergency department again complained of postoperative pain. Over one-third of this cohort required readmission. Patients were substantially more likely to visit the emergency department with postoperative pain if their pain treatment on the ward was worse (as measured by the ward's lowest pain score). According to the findings of this series, patients who have high pain scores on the ward should receive the appropriate counseling before being released. The patients returned to the emergency department within 14 days of discharge, according to the Kaplan-Meier curve of time to pain-related emergency department visits following discharge. The likelihood exists that the patients who returned due to pain didn't get enough painkillers before, during, or after discharge. Our data indicate that for patients who return Compared to discharge, the emergency department utilized fewer opioids for individuals not visiting the emergency department, which also implies a deficiency of painkillers due to a shortage of prescriptions and inadequate patient

education in pain management compliance. This is crucial because, as shown by our results, the severity of pain in the initial few days following thoracic surgery predicts the presence of discomfort six months later. 11 Patients must visit the outpatient clinic 10 to 14 days after being discharged, according to the outpatient care protocol. Surprisingly, 43% of patients who returned to the emergency department for pain did so within the first two weeks and thought that their burden was too great to wait until their visit or be managed by the surgeon, pulmonologist, or primary care doctor over the phone. Notably, 57.0% of the patients returned following their outpatient clinic consultation, raising serious concerns about the viability of longer-term pain management plans. However, given new research on the issue of addiction to painkiller use, pain treatment solutions should be carefully crafted. 12 However, those pain-related trips might have been prevented with better pain management techniques. More forceful postoperative pain management might lead to a decrease in chronic discomfort According to other studies, the use of epidural anesthetic had no effect on the frequency of pain-related visits to the ED. The high frequency of technical failures and potential rebound pain after terminating treatment with epidural analgesia may be connected to the apparent lack of effect of epidural analgesia on the onset of chronic pain. Education of patients regarding pain expectations is also important and could lessen the degree of discomfort that is felt. The evaluation of pain and other postoperative problems, as well as how they affect everyday living, should get better. The recently validated worldwide quality of life questionnaire for people with lung cancer is a potential tool for this. E-health post-discharge pain management is a second choice for better postoperative pain control. The patient is given the ability to take charge of their own care in this way. Numerous studies on e-health treatments have been published, and the majority of these find that e-health is superior to simply face-to-face perioperative care in terms of clinical patient-related outcomes. An integrated comprehensive care program that coordinates home care and hospital-based clinical services for patients undergoing major thoracic surgery was examined by Shargall and colleagues¹⁷, underscoring this point. Despite the fact that the hospital length of stay (LOS) appeared to be lower than in our trial, the readmission rates were comparably high, pointing to the necessity for more radical measures than intensive patient monitoring by establishing a strong health care network after release. The results support the need for improved home monitoring and channels for patient-doctor communication, which might be supplied by health programs. Younger patients had a higher risk of having to visit the ED after surgery. The younger age and increased postoperative mortality the literature provides a thorough description of pain scores. Younger patients, according to Behman and associates who received an open liver resection had a higher greater postoperative discomfort is reported. In a related discovery, Berglund and colleagues found that younger patients had much more postoperative pain following arthroscopic knee surgery. This is significant since continuous opioid usage following lung resection is similarly linked to a younger age. The results of our study are in line with recent literature, despite the fact that postoperative pain rates in the ED seem to be high. Numerous studies have revealed that following different forms of surgery, pain is a highly frequent indication for ED visits. According to Finnegan and

colleagues⁶, the patients who had complete hip and knee replacement surgery visited the emergency department again and one in four of those patients complained of pain. Later readmission occurred among the patients who went back to the ED. This shows that by merely taking readmission rates into account, the true prevalence of unexpected postoperative hospital visits may be underestimated. The findings of this study demonstrate that policymakers should take into account the frequency of ED visits combined with readmission rates as a sign of the quality of care as only the 30-day readmission rate is currently employed as an end measure for care quality. The frequency and danger signs of post-thoracotomy ED visits. Shaffer and colleagues⁸ observed a lower incidence than we did in our study, after a 30-day follow-up. This might be explained by the fact that our group is younger, which is a factor linked to ED visits. Since VATS is a widely utilized technique, just allowing thoracotomies during surgery will underreport the true incidence in a thoracic surgery clinic. This research could offer guidance on how to enhance postoperative

patient care following thoracic surgery and lower healthcare spending. It is important to be aware of some study limitations. First, due to a lack of information regarding their care or release from the facility, patients who did not receive follow-ups at the collaborating hospitals were excluded. This Exclusion might have marginally distorted our findings. That is a slim chance that some patients went back to a different facility ED at a distant site, however, the patient was still monitored by the affiliated medical centers. But we hypothesize that this is a very few patients, considering that the patients who were advised to return to the hospital's emergency department were acted upon. This study's second drawback is its retrospective nature, which could have impacted the data's accuracy. We would anticipate that this effect would be minimal. We did not exclude any patients based on their surgical indications, and the indications for thoracic surgery were not mentioned.