

**Dr. Egle KUBILIUTE, MD, Ernest MARGELIS, MD, prof. Mindaugas KIUDELIS, MD**

Lithuanian University of Health Sciences

Kaunas Hospital of Lithuanian University of Health Sciences

Hospital of Lithuanian University of Health Sciences Kaunas Clinics

## Predicting risk factors for immediate acute pain after minimal invasive inguinal hernia repair

### Introduction

Acute postoperative pain remains one of the most common problems, even after laparoscopic or endoscopic hernia repair. Avoiding predictive factors for acute pain after surgery or prescribing additional analgesia for a patient who has risk factors that cannot be removed can be one of the options to reduce acute postoperative pain. However, there is a lack of clinical studies that evaluate the predictive factors of postoperative pain after transabdominal preperitoneal (TAPP) and totally extraperitoneal (TEP) surgeries.

### The Aim

To identify independent risk factors predicting immediate acute pain after laparoscopic and endoscopic inguinal hernia repair.

### Patients and Methods

A prospective, randomized clinical trial was carried out by randomizing patients into 2 groups (TAPP and TEP). Pre-operative and peri-operative findings were recorded. Postoperative pain was evaluated 3 hours after surgery using the Visual Analog Scale (VAS) when the patient was moving. Nonsteroidal anti-inflammatory drugs (Ibuprofen<sup>®</sup>) were prescribed only when the pain was greater than 3 points. Groups of patients who felt mild pain (VAS 0–2) and patients who felt average or severe pain (VAS 3–10) were compared.

### Results

A total of 132 male patients were included in the study. Disease duration of more than 1 year, smoking, and TAPP surgery significantly increase the risk of moderate and strong pain 3 h after surgery. Conversely, shorter duration of symptoms and physical occupation decrease the risk of acute pain score greater than 3 according to the VAS.

Factor	VAS 0–2 (n = 92)	VAS 3–10 (n = 73)	p-value
Duration of Symptoms			
<1 year (n = 104)	<b>71 (68%)</b>	<b>33 (32%)</b>	<b>0.033</b>
>1 year (n = 61)	<b>16 (27%)</b>	<b>45 (73%)</b>	<b>0.021</b>
Smoking			
Smokers (n = 83)	<b>65 (78%)</b>	<b>18 (22%)</b>	<b>0.034</b>
Non-smokers (n = 82)	<b>23 (28%)</b>	<b>59 (72%)</b>	<b>0.032</b>
Occupation			
Mental (n = 31)	12 (40%)	19 (60%)	> 0.05
Combined (n = 48)	25 (52%)	23 (48%)	> 0.05
Physical (n = 86)	<b>55 (64%)</b>	<b>31 (36%)</b>	<b>0.027</b>
Surgery type			
TAPP (n = 85)	<b>32 (38%)</b>	<b>53 (62%)</b>	<b>0.018</b>
TEP (n = 80)	<b>61 (76%)</b>	<b>19 (24%)</b>	<b>0.017</b>

### Conclusions

Duration since groin hernia appearance, smoking, physical occupation, and TAPP technique are possible predictive factors for acute postoperative pain after minimally invasive inguinal hernia repair. We suggest that for patients who have those predictors, some factors can be avoided, or additional analgesia can be used even before pain appears.