SUMMARY: Ambulatory surgery refers to hospitalization that does not exceed 24 hours, during which a surgical procedure is performed. Inguinal hernia repairs done under local anaesthesia on an outpatient basis are no longer performed exclusively in specialized hernia centers. They are becoming widely accepted by surgeons working in district hospitals, which was significantly contributed to by the publication of the EHS Guidelines on the Treatment of Inguinal Hernia. OBJECTIVE: The objective of this retrospective study is to show local anaesthesia practicability for inguinal hernia repairs through "one-step procedure", being a one-day procedure used in District General Hospital. METHODS: From January 2006 to June 2011, 460 elective surgery procedures were performed on 428 patients with inguinal hernia (396 with unilateral and 32 with bilateral inguinal hernia), using Lichtenstein technique, UHS/PHS, plug repair, and Shouldice technique. All the procedures were performed under local anaesthesia by the same surgeon using "one-step procedure" in ambulatory surgery. The following anaesthetics were used: Lidocaine for intradermal and subcutaneous anaesthesia as well as Bupivacaine/Levobupivacaine for subfascial anaesthesia. RESULTS: From January 2006 to June 2011, 460 surgical procedures were performed on 428 patients with inguinal hernia (396 with unilateral and 32 with bilateral inguinal hernia). The mean age was 58.2 yrs (20-84). All the patients were in the ASA I - III group. In unilateral hernias, the mean operating time using Lichtenstein technique was 38mins (28-56), using PHS/UHS 28mins (22-40), with plug 33mins (27-39) and using Shouldice technique 43mins (32-53). In bilateral hernias, the mean operating time using Lichtenstein technique was 71mins (56-87), and using PHS/UHS 56mins (49-64). The mean hospital stay was 2.9hrs (2-6). The mean distance of residence from the hospital was 23km (1-150). During the course of the surgery, 15 patients (3.5%) had problems such as pain, bradycardia, hypotension, or perspiration. The complications during the mean follow-up of 31 months (1-60) was: 1.4% (6 patients) - a hematoma, 1.87% (8 patients) - seroma, 0.47% (2 patients) - wound infection, 0.23% (1 patient) - chronic pain, and 0.47% (2 patients) - recurrence. Revision due to active bleeding was conducted in two patients (0.47%), after using PHS and Lichtenstein techniques. These were the only patients who were rehospitalized due to complications. CONCLUSION: In hernia repairs on an outpatient basis, "one-step procedure" in local anaesthetic administration is reliable, easy, safe, effective, and the type of the surgical technique is not a determining factor. The success rate and treatment outcome depend on the surgical technique and the surgeon’s experience in using local anaesthesia in ambulatory surgery.

Key words: local anaesthesia; "one-step procedure"; ambulatory surgery; inguinal hernia

INTRODUCTION

Inguinal hernia repair is one of the most frequently performed surgical operations in general surgery. During the procedure young surgeons acquire their skills and master surgical techniques with the assistance of an experienced surgeon. At least, it should be so. However, the-se surgical procedures are relatively often and unjustifiably assigned to young inexperienced surgeons who have not mastered various surgical techniques. In order to be able to repair inguinal hernias effectively, a surgeon ought to have been trained to perform tension (Shouldice) and tension-free (open or laparoscopic) procedures. The majority of surgeons might find the anatomy of the inguinal area difficult to understand. This, along with being unfamiliar with the surgical technique and not being suitably qualified to perform surgical procedures under local ana-
esthesia, can cause a higher incidence of complications and recurrence.\textsuperscript{2,3,4} Inguinal hernia repairs could be performed under general, regional, or local anaesthesia. Local anaesthesia has an advantage over the other types in the following: a lesser need for painkillers postoperatively, a short hospital stay, quick mobilization, peroral administration immediately after the procedure, as well as absence of headache, nausea, vomiting, and urinary retention. In addition, patients unable to undergo an operation under regional or general anaesthesia (ASA IV) could be operated on under local anaesthesia, but ambulatory surgery is not recommended in this case. Inguinal hernia repair under local anaesthesia in ambulatory surgery is still unfamiliar to a lot of surgeons despite the recommendations of the EHS\textsuperscript{5}. The UK is a good example of an advanced country, yet statistical data indicates that inguinal hernia repairs under local anaesthesia are not common practice and that they are performed in highly specialized centres or certain district hospitals where personal effort and enthusiasm of an individual surgeon is a determining factor. The commonest reasons for this are as follows: being insufficiently qualified to use local anaesthesia, being worried about discharging the patient several hours after the procedure, possible complications, a lower degree of comfort and additional stress on the part of the surgeon compared to surgical procedures performed under general and regional anaesthesia, being uninterested or unmotivated, etc.

Surgeons from Shouldice Hospital and Lichtenstein Hernia Institute could be considered to have established the practice of using local anaesthesia in inguinal hernia repairs. The majority of patients undergo such surgical operations in these two highly specialized institutions. However, it is worth mentioning that they differ markedly from one another in hospitalization lengths of stay after such procedures. The system in Lichtenstein Hernia Institute is based on the principle of ambulatory surgery, whereas the hospitalization length of stay in Shouldice Hospital is three to four days although procedures are performed under local anaesthesia.\textsuperscript{5,12-14} In order to maximize anaesthetic effectiveness various anaesthetic agents and different concentrations have been used, aiming for an improvement of anaesthesia, an increase in the degree of patient comfort, prolonged postoperative analgesia, as well as eliminating adverse effects and toxicity of anaesthetic agents.\textsuperscript{9,10,11} It is by no means certain that research on defining the "ideal" anaesthetic agent effective in minimal dosage and with the fewest adverse effects has been concluded.

**METHODS**

In this retrospective study all the surgical operations were performed using "one-step procedure" in local anaesthetic administration, for which the author was trained in Ospedale Umberto I, Mestre, Venice, (Italy). Before their surgery all the patients were informed about the characteristics and techniques of local anaesthesia, and they were all prepared and operated on in accordance with the modified protocol adopted from Ospedale Umberto I. They all signed the written consent to a surgical operation under local anaesthesia.

There is a number of possible limiting factors in surgical procedures under local anaesthesia in ambulatory surgery. These include anatomical reasons (giant scrotal hernia or incarcerated hernia), psychological reasons (refusing an operation under local anaesthesia), and medical reasons (patients with ASA IV score).

All the patients underwent an anaesthetic preoperative assessment, whereby a decision was made as to whether the patient needed preoperative preparation including ECG, glycemia, INR, PTT. Preoperative preparation was a standard procedure in ASA III-IV patients (in Ospedale Umberto I, ECG was recorded only in patients over 50 years of age), while for ASA IV patients ambulatory surgery was unsuitable. Certain patients were premedicated (tablets Flormidal 7.5mg administered perorally), which also depended on the anaesthesiologist's assessment.

353 patients (82.48%) were not premedicated, whereas 75 (17.52%) patients were given premedication. 277 (64.72%) patients did not need preoperative preparation, while 151 (35.28%) patients were examined and assessed according to the anaesthesiologist's recommendation.

The following anaesthetic agents were used: lidocaine-chloride 2% (ampoule 40mg/2ml; Galenika, Serbia) for intradermal and subcutaneous anaesthesia, as well as bupivacaine/levobupivacaine 0.5% (chirocaine ampoule 50 mg/10ml; Abbott Laboratories SA) for subfascial anaesthesia. Lidocaine was used in a 1% concentration (diluted with the same quantity of saline), in doses 20-40ml (depending on whether the hernia was unilateral or bilateral). Bupivacaine/Levobupivacaine was used in a 0.25% concentration (diluted with saline), in doses 20-60ml (depending on whether the hernia was unilateral or bilateral). Bupivacaine was used in 319 (74.53%) patients, whereas levobupivacaine was used in 109 (25.47%) patients. Bupivacaine was replaced with levobupivacaine, the latter having an advantage in a lower percentage of adverse ef-
One step procedure local anaesthesia for inguinal hernia repair in ambulatory surgery conditions

One-step procedure local anaesthesia is accomplished in the following way: a) marking the surgical incision spot with a water resistant marker following the digital examination whereby the superficial inguinal opening spot is located (it is marked with a semicircular line, approximately 3cm in length); b) drawing a line 7cm in length towards the anterior superior iliac spine and marking the site which is a projection of the deep inguinal opening, being approximately 4-5cm far from the previously marked semicircular line (superficial inguinal opening); c) this spot is the place where the whole quantity of the anaesthetic agent (bupivacaine/levobupivacaine) is injected subfascially through a single act ("one-step procedure"), with the onset of analgesia in 10 minutes. (Picture 1)

Local anaesthetic administration, i.e. "one-step procedure", is accomplished in the following way. First, the incision spot is marked (incision 5-7cm in length) in the premedication room (often, since it is time-saving), or on the operating table (seldom). Afterwards, the tip of the spinal needle (22G) is blunted by slowly tapping it against a sterile piece of equipment made of metal. Then, the fascia of the external oblique muscle is penetrated through the skin (the previously marked site which is the projection of the deep inguinal opening), perpendicularly to the horizontal plane (the patient’s body), and a long-lasting anaesthetic agent (20-40ml bupivacaine/levobupivacaine 0.25%) is then injected. Prior to anaesthetic administration, an aspiration test is conducted in order to avoid damaging blood vessels or intravascular anaesthetic administration. It is necessary to blunt the needle for the following reason: when penetrating the fascia, there is weak resistance and a sound phenomenon as soon as the needle penetrates the skin, which confirms that we have reached the right layer into which the anaesthetic should be injected. It is then necessary to wait for 15 minutes since the anaesthetic is a long-lasting one with the onset of analgesia in 10-15 minutes. When this period of time elapses, lidocaine solution is injected intradermally and subcutaneously, whereupon the incision is made and the surgical operation started. (Pictures 2,3)

In bilateral hernias, 40ml lidocaine (20ml for each side) was administered intradermally and subcutaneously, while 60ml (total for both side) bupivacaine/levobupivacaine was administered subfascially. In bilateral hernia repairs, prior to the closure of the fascia of the external oblique muscle on the side that was first dealt with, "one-step procedure" was applied onto the other side in order to save time before the onset of analgesia, whereupon the first operation was completed.

RESULTS

From January 2006 to June 2011, 460 elective surgical procedures were performed on 428 patients with inguinal hernia (396 with unilateral and 32 with bilateral inguinal hernia). There were 16 patients (3.74%) with recurrent hernia. There were 409 male (95.56%) and 19 female patients (4.44%) with the mean age 58.2yrs (20-84). The mean hernia defect size was 3.1cm (1-6) according to the Rutkow-Robbins modification of the Gilbert hernia classification. The mean hospital stay was 2.9hrs (2-6). In unilateral hernias, the mean operating time using Lichtenstein technique was 38mins (28-56), using PHS/UHS 28mins (22-40), with plug 33mins (27-39), and using Shouldice hernioplasty 43mins (32-53). In bilateral hernias, the mean operating time using Lichtenstein technique was 71mis (56-87), and using PHS/UHS 56mins (49-64). ASA score

PICTURES 2
BLUNTING THE NEEDLE

PICTURES 3
ANAESTHETIC ADMINISTRATION

flects, being less cardiotoxic in the first place. Moreover, levobupivacaine (chirocaine) had not been registered and available in the Serbian market.

Throughout the surgery all the patients were closely monitored on sensitive equipment and vascular access was provided. The anaesthesiologist was not present in the operating theatre throughout the operation, but was required to be present in the operating ward in case possible complications occur during the surgery.

TECHNIQUE

"One-step procedure" local anaesthesia is accomplished in the following way: a) marking the surgical incision spot with a water resistant marker following the digital examination whereby the superficial inguinal opening spot is located (it is marked with a semicircular line, approximately 3cm in length); b) drawing a line 7cm in length towards the anterior superior iliac spine and marking the site whi-
Local anaesthetics cause reversible inhibition of the conduction of nerve impulses in peripheral nerves by inhibiting Na+ channels, which consequently causes analgesia at the site of their administration; patients remain conscious and their motoric function is maintained. Local anaesthesia provides postoperative analgesia up to 4 hours provided that long-lasting anaesthetic agents are used. Inguinal hernia repair performed under local anaesthesia in ambulatory surgery is the reality nowadays. Moreover, there is a recommendation of the EHS, whose guidelines define standards in these surgical operations.

As for the choice of the type of anaesthesia and the surgical technique, the crucial factor is the proper selection of patients, which provides a successful outcome of the surgical procedure as well as high patient satisfaction.

Limiting factors in local anaesthesia application include medical, anatomical, or psychological reasons, i.e. physical condition, giant inguinoscrotal hernia or incarcerated hernia, or a refusal by a patient to accept an operation under local anaesthesia. However, certain authors go beyond limits and suggest that it is feasible to perform complex inguinoscrotal hernia repair as well as simultaneous hernia repair under local anaesthesia. A preoperative interview with the patient is essential to the successful outcome of the surgical procedure. It provides patients with valuable detailed information about the surgery, whereupon they decide whether to accept an operation under local anaesthesia. These are the commonest reasons for choosing this type of anaesthesia: discharge from the hospital several hours after the surgery; (unfounded) fear of general and regional anaesthesia; being able to communicate with the surgeon in the course of surgery; positive experience of the patients having undergone such operations. Patient age is not a determining factor in the acceptance of an operation under local anaesthesia. It is widely accepted by younger people who are able to work and seem highly motivated by the prospect of a short hospital stay. Therefore, the key factor in the patient’s acceptance of local anaesthesia is the surgeon’s attitude, i.e. providing the patient with detailed information about the surgery at the right time. All the patients were contacted by telephone on the first postoperative day. Thereafter, they were examined 7 days, 1 month, and 6 months after surgery, then once a year (if the patients did not have any problems, they were mainly contacted by telephone). All the patients were told that they could see the surgeon before the scheduled examinations if it was necessary. Three patients returned for the first follow-up examination only, whereby no abnormality was detected. However, other follow-up examinations were not conducted since the aforementioned patients could not be contacted. It should be mentioned that all the patients were given telephone numbers on which they could reach the surgeon if necessary. 26% of the patients were lost in the follow-up (change of address or telephone number, uninterested patients, death).

Inguinal hernia surgery under local anaesthesia is far more demanding than that performed under general or regional anaesthesia. Apart from using a good surgical technique and being familiar with the anatomy of the inguinal area, the surgeon must have the knowledge and experience in performing operations under local anaesthesia.
Moreover, being familiar with the characteristics of local anaesthetic agents is necessary. Higher incidence of complications and recurrence as well as patient dissatisfaction could be attributed to an inexperienced and insufficiently qualified surgeon. Thus other surgeons might be discouraged from performing surgical operations in ambulatory surgery.

Local anaesthetic administration might cause complications and injuries. Their incidence directly depends on the surgeon’s experience and acquired skills. Every surgeon must be familiar with the characteristics of local anaesthetic agents to be able to use them safely. Maximum dose of lidocaine is 300mg; we have used 20-40ml in 1% concentration. Possible adverse effects of this agent include tremor, blurred vision, nausea, vomiting, drowsiness, hypotension, bradycardia, allergic reactions, and most severely, it might cause heart failure and coma. The recommended maximum single dose of bupivacaine/levobupivacaine is 150mg. Possible adverse effects include hypotension, nausea, postoperative pain, fever, vomiting, anaemia, itching, pain, headache, constipation, and most severely, heart failure. Attention ought to be paid to the fact that the majority of local anaesthetic agents cause vasodilation at the site of administration and their rate of absorption could be high. In case of local anaesthetic overdose or adverse effects it is recommended to use an oxygen mask, while in the most severe cases intubation might be necessary; therefore the presence of the anaesthesiologist in the operating ward is required. Anti-convulsant medications are used if convulsions occur (diazepam 10-20mg IV). In case of extreme hypotension or bradycardia atropine is used (0.5-1.5mg IV). Levobupivacaine (chirocaine) is a long-lasting amidtype anaesthetic agent. It is less cardiotoxic compared with bupivacaine, which was determined during in vivo experiments when intravascular administration was used. Generally speaking, these two anaesthetics do not differ either in terms of the onset or the length of analgesia. In "one-step procedure" the anaesthetic is administered without "eyes controll", which is not the case in the "step-by-step" procedure described by Amid, which is easier and safer to apply and which is used more frequently. Thus the anaesthetic might be inadvertently injected directly into a blood vessel, which might have adverse consequences for the patient. In order to avoid such problems, an aspiration test is necessary to be conducted after placing the needle under the fascia of the m. obliquus externus. The test could be repeated during the anaesthetic administration to ensure the that the needle is not placed intravascularly. Moreover, neurovascular injuries might occur (a. v. et n. femoralis) as well as a hematoma, which is avoided by incremental anaesthetic administration and occasional aspiration tests. Emphasis ought to be placed on the fact that the surgeon’s experience and acquired skills are the most significant factors in anaesthetic administration.

Local anaesthetic agents differ in the onset of analgesia as well as the length of analgesia in the immediate postoperative period. Lidocaine is an amid-type anaesthetic with a rapid onset of action (2-4 mins) and intermediate duration of efficacy (70-140 mins). Maximum dose is 300mg, and the recommended dose is 7mg/kg. In unilateral hernias, 20ml 1% lidocaine administered intradermally and subcutaneously was sufficient in all the patients. As for bupivacaine/levobupivacaine, it is a long-lasting amid-type anaesthetic (200 mins), with the onset of action 10-15 mins. Maximum dose is 200mg, and the recommended dose is 2mg/kg. The quantity per side ranged from 20 to 40ml, while in bilateral hernias the total quantity of the anaesthetic was 60ml in 0.25% concentration. In some patients 20ml bupivacaine/levobupivacaine was sufficient for subfascial anaesthesia, whereas some other patients needed larger quantities. Therefore the practitioner’s decision, based on his experience, was to increase the dose of the anaesthetic to 30-40ml in certain cases of unilateral hernias. The aforementioned dose is far below the maximum limit and it provided a high degree of patient comfort as well as favourable conditions for the surgeon. Because of variation in pain threshold different doses of anaesthetics were used. In some patients it was necessary to add an anaesthetic intraoperatively (lidocaine 1% ranging from 1 to 5ml was used). These patients were given 20ml bupivacaine/levobupivacaine and a larger dose of subfascial anaesthesia (30-40ml) ensued. In 22 patients (5.14%) additional anaesthesia was required after opening the fascia of obliquus externus and it was administered in the following way: in 8 patients (1.87%) into the area of n. iliohipogastricus (Lichtenstein - 3 patients; PHS/UHS - 2 patients; Shouldice - 2 patients); in 4 patients (0.93%) into the area of ilioinguinalis (Lichtenstein - 2 patients; Shouldice - 1 patient); 4 patients into the area around the spermatic cord base (Lichtenstein - 2 patients; Shouldice - 1 patient); in 6 patients during the course of opening of fascia transversalis (Shouldice hernioplasty). Patients 60-84 years of age had a higher pain threshold; additional anaesthesia was necessary in 4 patients (0.93%). In 18 patients (4.21%) 20-60 yrs additional anaesthetics were administered. Furthermore, patients 60-84 yrs had a significantly lower level of preoperative anxiety and tension compared with patients 20-40 yrs. Premedication (Flormidal tablets 7.5mg perorally) was given to 75 patients (17.52%). This data confirms the importance of a preoperative interview which provides us with a detailed insight into the psychological state of the patient, whereupon we choose the type of anaesthesia. Local anaesthesia is not the ideal choice for patients with a high level of preoperative anxiety.

The patients were admitted to hospital on the day of surgery or the evening before (depending on the distance of residence, maximum 150km, or due to residence in the countryside, where irregular traffic precluded patients from arriving at the hospital in time for surgery). 34 patients (7.94%) were hospitalized the evening before. These patients are also included in the study since their postoperative hospitalization did not exceed 6 hrs. 304 patients (71.03%) were given antibiotic prophylaxis 30 mins preoperatively (the second generation cephalosporins), whereas 118 patients (27.57%) underwent surgery without prior antibiotic prophylaxis.
antibiotic administration. The decision about not giving antibiotic prophylaxis was in accordance with the EHS Guidelines, with the exception of certain cases (protection against endocarditis and patients with diabetes)

In this study, inguinal hernia repairs were performed using two tension-free techniques (Lichtenstein, UHS /PHS and plug) and one tension technique (Shouldice). The choice of the technique depended on medical criteria, the surgeon’s decision, and the availability of appropriate mesh products. Lichtenstein technique was used in 190 pts (41.3%), PHS/UHS was used in 225 pts (48.91%), Shouldice was used in 37 pts (8.04%), while plug technique was used in 8 patients (1.74%) with recurrent hernias. The following criteria were satisfied during the course of surgery: a small skin incision (5-7 cm); minimal dissection of the spermatic cord; and dissection of the hernia sac without opening. These criteria considerably decrease the incidence of intraoperative and postoperative pain. Immediately before hospital discharge all the patients were given a single dose of NSAID parenterally. They were all given advice about peroral administration of NSAID if necessary. Since patients returned for postoperative examinations 7 and 30 days after surgery (with the exception of the patients with complications who had examinations more frequently), and since they were contacted by telephone on postoperative day 1 as well as 1 year after surgery, we had a detailed insight into their condition (this refers to the patients with whom it was possible to maintain contact). None of the patients used painkillers over one month, with the exception of the patient who had chronic pain which disappeared spontaneously 7 months after surgery (peroral administration of NSAID and sedatives).

Intraoperatively 15 patients (3.5%) had the following complications: hypotension - 6 patients; bradycardia - 9 patients. Twelve patients were given 0.5 mg atropine IV, whereas in 3 patients the complication disappeared spontaneously. Thereafter, the surgery was continued and no further complications occurred.

Postoperative communications were: 1.87% seroma, 1.4% hematoma, 0.47% infection and 0.4% reoperation on an outpatients bases. Two patients (0.47%) had a recurrence; in one patient the recurrence (following Shouldice procedure) was repaired using Lichtenstein technique (the recurrence occurred 3 years after surgery), while in the other the recurrence followed Lichtenstein technique and was repaired using plug repair (the recurrence occurred after 4 years). None of the patients required urinary catheter drainage, this being another significant advantage of local anaesthesia.

Finally, emphasis ought to be placed on the fact that all the operations were performed in ambulatory surgery using "one-step procedure" in the District General Hospital, while hernia repairs performed under local anaesthesia using "step-by-step procedure" in specialized hernia repair centres is common practice.

**CONCLUSION**

The presented data suggests that "one-step procedure" in local anaesthetic administration is a safe, effective, and efficient method easy to master. Being part of a surgical procedure performed by a suitably qualified and experienced surgeon, it provides patients with maximum comfort intraoperatively as well as complete satisfaction after an inguinal hernia repair in ambulatory surgery. Furthermore, one ought to disregard the financial effect or economic benefits to the institutions in which hernia repairs under local anaesthesia are performed.

**SUMMARY**

**TRETMAN PREPONSKIH KILA U USLOVIMA AMBULANTNE HIRURGIJE PRIMENOM "ONE STEP PROCEDURE" ZA OPERACIJE PREPONSKIH KILA U USLOVIMA AMBULANTNE locke**

Termin ambulantna hirurgija podrazumeva hospitalizaciju u trajanju do 24 sata, u toku koje se obavi hirurška procedura. Operacije preponskih kila u lokalnoj anesteziji u uslovima ambulantne hirurgije nisu više rezervisane samo za specijalizovane centre za operaciju kila, već postaju prihvaćene i od hirurga u regionalnim bolnicama. Tome je značajno doprinelo objavljivanje EHS vodiča za tretman preponskih kila. Cilj ove retrospektivne studije je da prikaže mogućnosti tehnikе lokalne anestezije primenom "one step procedure" za operacije preponskih kila kao ambulantne procedure u regionalnoj opštoj bolnici. 428 pacijenata sa 460 jednostranih i 32 obostranih preponskih kila je elektivno operisano primenom Lichenstein tehnike, PHS/UHS-a, plug tehnike i Shouldice procedure u periodu januar 2006. - jun 2011. godine. Sve operacije su uradjene od strane jednog hirurga, u lokalnoj anesteziji primenom "one step procedure" u uslovima ambulantne hirurgije. Korišćeni anestetici su: lidokain za intradermalnu i subkutanu anesteziju i bupivakain/levobupivakain za subfascijalnu anesteziju. U periodu januar 2006. - jun 2011. operisano je 428 pacijenata sa 460 preponskih kila (396 jednostranih i 32 obostranih). Prosečna starost pacijenata je bila 58,2 godine (20-84). Svi pacijenti su bili u grupi ASA I-III. Prosečno vreme trajanja operacije za jednostrani kile iznosilo je za Lich-enstein tehniku 38 minuta (28-56), za PHS/UHS 28 mi-nuta (22-42), kod plug tehnike 33 minuta (27-39) i za Shouldice tehniku 43 minuta (32-53). Kod obostranih kila prosečno vreme operacije za Lichenstein tehniku bilo je 71 minut (56-87), a za PHS/UHS tehniku 56 minuta (49-64). Prosečno vreme hospitalizacije je iznosilo 2,9 časova (2-6). Prosečna udaljenost mesta boravka operisanih pacijenata od bolnice iznosila je 23 km (1-150). 15 (3,5%) pacijenata je u toku operacije imalo tegobe koje su se manifestovale bolom, bradikardijom, hipotenzijom i preznojavanjem. Incidenca komplikacija u toku srednjeg follow-up perioda od 31 mesec (1-60) bila je: pojava hematom kod 1,4% (6 pacijenata), serom kod 1,87% (8 pacijenata), infekcija rane kod 0,47% (2 pacijenata), hronični bol kod 0,23% (1 pacijent) i pojava recidiva kod 0,47% (2 pacijenta). Reintervencija...
zbog pojave hematóma-aktivnog krvarenja je uradjena kod 2 (0,47%) pacijenta (nakon PHS i Lichenstein procedure) i to su jedini pacijenti koji su rehospitalizovani zbog pojave komplikacija. "One step procedure" za administraciju lokalnog anestetika je pouzdana, lako izvodljiva, efektivna i sigurna metoda za operacije preponskih kila u uslovima ambulantne hirurgije i nije uslovjena primenom samo jedne operativne tehnike. Uslov za uspešnost procedure i ishod lečenja je dobra operativna tehnika i iskustvo hirurga u primeni lokalne anestezije u uslovima ambulantne hirurgije.

Ključne reči: lokalna anestezija; "one step procedure"; ambulantna hirurgija; preponska kila

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