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Review

SERRATUS ANTERIOR PLANE BLOCK FOR ANALGESIA IN MASTECTOMY

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SUMMARY – The incidence of breast cancer in women is on the rise, but the survival rate has increased due to the progress of medicine, especially if the disease is detected early. One of the imperatives is the patient's quality of life after treatment. Inadequately treated acute postoperative pain leads to a worse treatment outcome and the development of chronic pain. The incidence of chronic pain after surgical treatment of breast cancer is high and negatively affects the quality of life of patients in the long term. Serratus anterior plane block (SAPB) is a relatively new ultrasound-guided regional analgesia technique. SAPB represents an alternative to an epidural, and to paravertebral and intercostal blocks. This review aims to describe serratus anterior plane block for breast surgery and emphasize their short- and long-term benefit. For this review, we searched MEDLINE in November 2022 to identify metanalyses, randomized controlled trial systemic reviews, and reviews published in the last five years. The search for metanalyses yielded 4 results; 12 results were found for randomized controlled trials; 5 results for reviews; and 4 results for systematic reviews. When employing SAPB in patients after mastectomy, good analgesia is achieved in the early postoperative period and the incidence of chronic pain is reduced, thus improving quality of life.

Key words: *mastectomy; ultrasound-guided; serratus anterior plane block; multimodal treatment; opioid; postoperative pain*

Introduction

Breast cancer is the most common cancer in women, and lung and colon cancer are among the three most common cancers worldwide[1,2]. Modified radical mastectomy is one form of breast cancer treatment. Advances in medicine have increased the survival rate, especially if the disease is detected early. Patients often suffer from severe acute postoperative pain after such surgeries. Inadequately treated acute postoperative pain leads to negative psychological and physiological consequences, which is why adequate pain control is one of the imperatives during treatment. It is well known that there is a high incidence of chronic pain after the surgical treatment of breast cancer, which negatively affects the quality of life of patients in the long term[3]. The incidence of chronic postoperative pain after mastectomy is about 50%[4].

Numerous factors influence chronic pain, and adequate intraoperative and postoperative analgesia is one

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of the modifying factors. Inadequately treated acute pain leads to a worse treatment outcome and, in the long term, to a worse quality of life.

This review aimed to describe serratus anterior plane block (SAPB) for breast surgery and to emphasize its short- and long-term benefits.

Serratus anterior plane block (SAPB)

With the development and implementation of regional anesthesia and analgesia in daily clinical practice, SAPB has taken up a significant role as part of multimodal analgesia for numerous surgical procedures. SAPB is a relatively new ultrasound-guided technique of regional analgesia, first described by Blanco et al[5].

This block, along with pectoral blocks (PECS I and II), is an alternative to an epidural, paravertebral and intercostal block and is used in hemithorax operations, thoracotomy, breast surgery and rib fractures. The block is performed in the axillary region in the central axillary line. The anatomical orientation is the serratus anterior and latissimus dorsi muscles, between which the thoracodorsalis artery is located. The block is achieved by applying local anesthetic between their fascia where the target nerves are located (lateral cutaneous branches of intercostal nerves Th3-Th9, long thoracic nerve, thoracodorsal nerve and intercostobrachial nerve). The breast is innervated by the lateral and cutaneous branches of the second to sixth intercostal nerves.

Methods

For this review, we searched MEDLINE in November 2022 to identify metanalyses, randomized controlled trials, systemic reviews and reviews published in the last five years. The search keywords were "serratus anterior plane block" and "breast", in combinations. Inclusion and exclusion criteria are shown in Table 1.

Results

We identified 19 studies according to the stated inclusion and exclusion criteria. This literature review was focused on metanalyses, randomized controlled trials, reviews and systematic reviews. The search for metanalyses yielded 4 results, 12 results for randomized controlled trials, 5 results for reviews and 4 results for systematic reviews. The results are presented in Table 2 and Table 3.

Discussion

The benefits of regional analgesia in treating intraoperative and postoperative pain are unquestionable, as well as in preventing the development of chronic pain[14]. Numerous studies have confirmed the effectiveness of SAPB as multimodal analgesia for thoracotomy, breast, hemithorax and rib fracture surgeries[6,25,26]. Research conducted by Tang et al. showed that ultrasound-guided SAPB ensures effective control of acute pain in the early postoperative period[13]. In addition to reducing pain in the early postoperative period, SAPB reduced the prevalence of chronic postoperative pain six months after surgery. In addition, the length of stay in the post-anesthesia care unit (PACU) was reduced, and the consumption of opioids during the first 24 hours after surgery and the occurrence of postoperative vomiting and nausea was reduced. SAPB has been demonstrated to improve the quality of life in the postoperative period as well as patient satisfaction[14].

Numerous regional and neuraxial analgesia techniques are used to reduce pain after mastectomy. Ultrasound-guided SAPB is considered safe and easy to

Table 1. Inclusion and exclusion criteria

	Inclusion criteria	Exclusion criteria
Article Category	• Metanalysis • Randomized Controlled trial • Review • Systematic review	• Letters • Editorials
Keywords	• Serratus anterior plane block • Breast	
Date of publication	• 2017-2022	• Before 2017
Language	• English	• All other

Table 2. Results for metanalysis

Authors, year	Aim	Description of methodology	Summary of results	Conclusion
Hu NQ et al. (2021)[6]	Assess the safety and efficacy of SAPB for postoperative analgesia after breast surgery.	A systematic literature search was performed using Embase, PubMed, Web of Science, and the Cochrane Library.	Patients treated with SAPB exhibited a significantly lower postoperative opioid consumption, whereas no difference was observed in intraoperative opioid consumption. SAPB significantly decreased postoperative nausea and vomiting and reduced pain scores during the postoperative period.	SAPB was safe and effective after breast surgery to relieve postsurgical pain.
Singh NP et al. (2022)[7]	Synthesize available data from randomized controlled trials comparing pain-related outcomes following various regional techniques for major oncologic breast surgery.	A systematic review and network meta-analysis included PubMed, Embase Scopus, Medline, Cochrane Central, and Google Scholar.	The SUCRA values of the interventions for 24-hr resting pain score were continuous. Compared with the placebo, the continuous paravertebral block and SAPB had the highest estimated probability of decreasing 24-hr resting pain scores. Cluster ranking analysis combining 24-hr resting pain scores and opioid use showed that most regional analgesia techniques were more effective than no intervention or placebo.	Continuous paravertebral block and serratus anterior plane block had a high probability of reducing pain 24 h after major oncologic breast surgery.
De Cassai A et al. (2022)[8]	Synthesize comparisons for the relative efficacy of different regional and local analgesia techniques in a unilateral mastectomy. Postoperative opioid consumption at 24h, postoperative pain at extubation, 1, 12, and 24h, postoperative nausea, and vomiting.	Systematic Review with network meta-analysis included PubMed, Scopus, and the Cochrane Central Register of Controlled Trials.	All investigating nine techniques were associated with less opioid consumption compared with controls. The greatest mean difference was related to deep SAPB. The greatest reduction in pain score was associated with the interpectoral-pecto-serratus plane block at 12 h postoperatively and with superficial SAPB at 24 h. Interpectoral-pecto serratus plane block resulted in the greatest statistically significant reduction in postoperative nausea/vomiting compared with placebo/no intervention.	All techniques were associated with superior analgesia and less opioid consumption than controls. No single technique was identified as superior to others. In comparison, local anesthetic infiltration does not offer advantages over multimodal analgesia alone.
Luo G et al. (2022)[9]	Compare the analgesic effects and adverse events of different regional block techniques after breast surgery and VATS.	A systematic review and network meta-analysis included PubMed, Embase, and Cochrane databases.	A total of 21 clinical trials, including 1,284 patients and 6 different regional block techniques; paravertebral block, pectoral nerve block, SAPB, ICNB, erector spinal plane block, and thoracic epidural anesthesia. SAPB may be the most effective regional block technique for relieving postoperative pain, while ICNB had the lowest probability of nausea and vomiting.	Of the 6 different techniques, SAPB is the best in relieving postoperative pain, whereas ICNB is least likely to cause nausea and vomiting. Considering that different scales and measurement methods were used, this may lead to a deviation of the combined effects.

Table 3. Results for randomized controlled trial, review and systematic review

Authors, year	Aim	Description of methodology	Summary of results	Conclusion
Shi K et al. (2021)[10]	Compare the effect of different volumes of ropivacaine injected to deep SAPB in patients undergoing breast surgery. Compare the effect of different volumes of ropivacaine injected to deep serratus anterior plane in breast surgery patients.	The randomized, double-blind trial included 60 patients undergoing breast surgery divided into 3 groups, and they received deep SAPB with 10, 20, and 30 mL of 0.5% ropivacaine, respectively, 30 minutes after the block. The cutaneous sensory was tested by cold stimulus in the craniocaudal direction along the midaxillary line. It was used NRS over 24 h after surgery. The cases of rescue analgesia and the prevalence of adverse events were also recorded.	The blocked dermatomes were 3 [3, 4], 6 [5, 7], and 7 [6, 8] in the R10, R20, and R30 groups, respectively (R10 vs. R20, P<0.001; R10 vs. R30, P<0.001; R20 vs. R30, P=0.005). The area under the curve of R10 group was significantly higher than the R20 and R30 groups.	The study compared the blocked dermatomes after SAPB with the volume of 10 mL, 20 mL, and 30 mL of ropivacaine and found that as the injection volume increased, the blocked dermatomes also increased. A volume of 20 mL 0.5% ropivacaine achieved similar analgesia compared with the volume of 30 mL, but both were better than the volume of 10 mL.
Xiao YK et al. (2021)[11]	Observe the early effectiveness and safety of serratus anterior plane block combined with general anesthesia and patient-controlled SAPB in early postoperative recovery in breast cancer.	A randomized control trial involved 84 patients undergoing radical mastectomy. The patients were divided into three groups: the SAPB + general anesthesia + patient-controlled SAPB group (PCSAPB group), the SAPB + general anesthesia + patient-controlled intravenous analgesia group (PCIA group), and the general anesthesia + PCIA group (control group), with n = 28 cases in each group.	The VAS of the three groups were compared before and after the operation, and the anxiety visual analog scale (AVAS) scores after the operation were compared among the three groups. The total number of postoperative analgesic pumps in the PCSAPB group was significantly lower than in the control group. The incidence of adverse reactions in the three groups was statistically significant.	The combination of SAPB, general anesthesia, and patient-controlled SAPB reduced pain and adverse events, alleviated anxiety, and improved early postoperative recovery quality among breast cancer patients after a modified radical mastectomy.
Abdallah FW et al. (2021)[12]	Investigate the efficacy of deep SAPB as an analgesic adjunct for patients undergoing breast surgery.	The study randomly allocated 40 patients undergoing simple or partial mastectomy with sentinel node biopsy to receive either a pre-operative deep SAPB (serratus group) or a placebo injection (sham group) in addition to systemic analgesia.	There were no differences in the quality of recovery-15 scores between patients in the serratus and control groups. The study was unable to detect differences in any of the secondary analgesic outcomes examined.	The addition of a deep SAPB to systemic analgesia does not enhance the quality of recovery in patients undergoing ambulatory breast cancer surgery.
Tang W et al. (2021)[13]	Evaluate the analgesic efficacy and safety of a new SAPB for postoperative pain of mastectomy.	A randomized controlled trial included 87 female breast cancer patients aged 30-81 years scheduled for unilateral modified radical mastectomy. Participants receive either general anesthesia plus SAPB or general anesthesia alone. A single injection of 20 ml of 0.5% ropivacaine was administered into the fascial plane between the pectoralis major and the serratus anterior in the SAPB group. In the Control group, no block intervention was applied.	Breast cancer patients in the SAPB group had lower VAS pain scores than the Control group during the early postoperative period (1 h and 6 h after modified radical mastectomy), both at rest and with movement. The propofol consumption was similar in the two groups, and the consumption of sufentanil and remifentanil in the SAPB group was significantly lower than in the control group.	SAPB significantly attenuated postoperative pain and decreased opioid consumption in breast cancer patients undergoing modified radical mastectomy.

Qian B et al. (2021)[14]	To determine whether ultrasound-guided SAPB is associated with decreased prevalence of chronic postsurgical pain (CPSP) after modified radical mastectomy.	A randomized, double-blind, placebo-controlled study enrolled 198 patients aged 18-65 years with American Society of Anesthesiologists physical status I to II, undergoing unilateral modified radical mastectomy. Patients receive SAPB with 30 ml of 0.5% ropivacaine (SAPB group) or 0.9% normal saline (Control group).	Preoperative SAPB with 0.5% ropivacaine reduced the prevalence of CPSP at 3 postoperative months from 51.7% to 25.6%. The prevalence of CPSP was reduced at 6 months from 41.6% to 18.9%. SAPB decreased the area under the curve of the NRS over 24 h, shortened the length of post-anesthesia care unit stay, reduced postoperative 24-h morphine consumption and the occurrence of postoperative nausea and vomiting, and improved quality of recovery and patient satisfaction.	Preoperative SAPB with ropivacaine improved acute postoperative analgesia and quality of recovery and decreased the prevalence of CPSP at three and 6 months after modified radical mastectomy.
Arora S et al. (2022)[15]	Compare the efficacy of SAPB with the thoracic paravertebral block (TPVB) for postoperative analgesia after breast cancer surgery.	A total of 40 adult ASA physical status I - II female patients undergoing radical mastectomy were randomly allocated into two groups to receive either ultrasound-guided TPVB or SAPB with 0.4 mL.kg-1 0.5% ropivacaine 30 min before surgery. All patients received standardized general anesthesia for surgery. Injection diclofenac and tramadol were used for postoperative rescue analgesia. The time to first rescue analgesia, total analgesic consumption in the first 24 hours, postoperative pain scores and any adverse effects were recorded.	The time to first rescue analgesia was significantly longer in the SAPB group than in the TPVB group. Total diclofenac consumption in 24 hours was also less in the SAPB group. Postoperative pain scores were significantly lower in the SAPB group than in the TPVB group. The incidence of PONV was also less in the SAPB group.	The SAPB was more effective than the thoracic paravertebral block for postoperative analgesia after breast cancer surgery.
Edwards JT et al. (2021)[16]	Investigate the difference in opioid consumption and postoperative analgesia between superficial and deep SAPB for patients undergoing mastectomy.	A randomized prospective trial included 64 women, >18 years of age, ASA I-III, undergoing single or bilateral mastectomy, with and without lymph node biopsy and tissue expander reconstruction. It was used either superficial or deep SAPB by an ultrasound-guided technique in addition to multimodal analgesia. The primary outcome was opioid consumption in the first 24 h. Secondary outcomes were pain scores, satisfaction scores, the incidence of PONV, length of stay, and block performance time.	Subjects who received a deep SAPB required 30% less oral morphine equivalents (OME) (113.5 mg vs. 147 mg) and reported lower pain scores. There were no significant differences in satisfaction scores, the incidence of PONV, LOS, or block performance time between the two groups.	There was a significant difference in opioid consumption between the deep and superficial SAPB groups. Subjects in the deep SAPB group had lower pain scores at 12 h; however, the difference was not statistically significant at other time points. While both the superficial and the deep SAPB can be used for postoperative analgesia in patients undergoing mastectomy. This study suggests that the deep SAPB may improve analgesia to a greater degree than the superficial SAPB, as shown through decreased opioid consumption of 30% over a 24-h period post-block.

Gabriel RA et al. (2021)[17]	Investigate whether the newer serratus block provides comparable analgesia to the decades-old paravertebral technique.	A randomized controlled non-inferiority trial included subjects undergoing unilateral or bilateral non-mastectomy breast surgery who were randomized to a single-injection serratus or paravertebral block in a subject-masked fashion (ropivacaine 0.5%; 20 mL unilateral; 16 mL/side bilateral). The authors used NRS.	Within the recovery room, pain scores for participants with serratus blocks had a median of 4.0 vs. 0 for those with paravertebral blocks. The difference in morphine equivalents did not reach statistical significance for superiority, with the serratus group consuming 14 mg vs. 10 mg for the paravertebral group.	Serratus blocks provided inferior analgesia compared with paravertebral blocks. Paravertebral blocks appear superior to serratus blocks for postoperative analgesia after non-mastectomy breast surgery without a dramatic improvement in the safety profile for serratus blocks.
Wang HJ et al. (2019)[18]	To compare the perioperative effects of ultrasound-guided SAPB and ESPB in radical mastectomy.	A randomized controlled non-inferiority trial included 150 patients undergoing radical mastectomy divided into the SAPB, ESPB, and control groups. Patients in SAPB and ESPB groups received corresponding blocks before induction of general anesthesia. The control group received routine general anesthesia. Patient-controlled intravenous analgesia (PCIA) was performed in all the patients postoperatively. The VAS score was compared among the three groups. The intraoperative dosages of propofol and remifentanil, press times, and sufentanil cumulative dosage of PCIA 48 hours after the operation, postoperative rehabilitation indicators, and adverse effects were compared.	In all the 3 groups, the VAS scores at rest and coughing increased first and then decreased from 2h to 48h after the operation. The VAS scores in SAPB and ESPB groups were lower than in the control group, whereas no significant difference was observed between SAPB and ESPB groups. The intraoperative dosages of propofol and remifentanil in the SAPB and ESPB groups were lower than in the control group. The press times and sufentanil cumulative dosage of PCIA after operation were also lower than those in the control group.	Both SAPB and ESPB can provide good and safe analgesia for radical mastectomy, with equivalent performances in analgesia and adverse effect.
Baytar Ç et al. (2022)[19]	Determine the effect of ultrasound-guided SAPB on intraoperative opioid consumption in patients undergoing oncoplastic breast surgery under general anesthesia.	This study was a prospective, randomized controlled trial that included 44 patients, aged 18 to 75 years with ASA I to III, undergoing elective oncoplastic breast surgery. Patients receive SAPB with 20 mL of 0.25% bupivacaine + general anesthesia (group SAPB) or only general anesthesia (group control). The primary outcome was assessing the effect of SAPB on intraoperative remifentanil consumption. Patients were assessed for emergence time, hemodynamic parameters, doses of rescue drugs used to control hemodynamic parameters, and duration of stay in the recovery room.	Preoperative SAPB with 0.25% bupivacaine reduced intraoperative opioid consumption. Emergence time was significantly shorter in group SAPB compared to group control. There were no significant differences between the groups' doses of rescue drugs used for systolic blood pressure and heart rate.	Preoperative SAPB with bupivacaine reduced intraoperative opioid consumption and shortened the recovery unit's emergence time and duration of stay and hemodynamic stability was maintained without block-related complications.

Matsumoto M et al. (2018)[20]	The study compared general anesthesia with or without SAM block + PECS I during radical mastectomy with axillary node dissection and breast reconstruction using evaluations of pain, opioid consumption, side effects, and serum levels of interleukin (IL)-1beta, IL-6, and IL-10.	A prospective, randomized controlled trial included 50 patients who were randomized to general anesthesia only or general anesthesia associated with SAM block + PECS I (25 per group).	The association of SAM block + PECS I with general anesthesia reduced intraoperative fentanyl consumption, morphine use, and visual analog pain scale scores in the post-anesthetic care unit (PACU) and at 24 h after surgery. The anesthetic protocol decreased side effects and sedation 24 h after surgery compared to patients who underwent general anesthesia only. IL-6 levels increased after the surgery compared to baseline levels in both groups, and no differences in IL-10 and IL-1 beta levels were observed.	Protocol improved the outcomes of mastectomy, highlighting the importance of improving mastectomy protocols and focusing on the benefits of regional anesthesia.
Abu Elyazed MM et al. (2020)[21]	Investigate the efficacy of combining the pecto-intercostal fascial block (PIFB) and Pecs II block for perioperative analgesia following modified radical mastectomy (MRM).	A prospective randomized study includes 60 women undergoing unilateral MRM who were randomly divided into 2 groups. The Pecs II group received Pecs II block using 20 mL bupivacaine 0.25% between the serratus anterior and the external intercostal muscles, and 10 mL bupivacaine 0.25% between the pectoralis major and minor muscles, together with sham PIFB using 15 mL normal saline solution in the interfascial plane between the pectoralis major muscle and the external intercostal muscle. PIFB-Pecs II group received the same Pecs II block combined with PIFB using 15 mL bupivacaine 0.25%.	The median time to the first morphine dose was significantly longer in the PIFB-Pecs II group than in the Pecs II group. The median cumulative morphine consumption was higher in the Pecs II group than in the PIFB-Pecs II group. Intraoperative consumption of fentanyl was significantly lower in the PIFB-Pecs II group than in the Pecs II group. The VAS for the first 12 postoperative hours was lower in the PIFB-Pecs II group than in the Pecs II group at rest and on moving the ipsilateral arm. The dermatomal block on the lateral chest wall was comparable between the 2 studied groups. PIFB-Pecs II provided extensive sensory block on the anterior chest wall, whereas Pecs II block failed to achieve any sensory block.	Pecs II and PIFB combination provides better perioperative analgesia for MRM than Pecs II alone.
Xie C et al. (2021)[22]	Briefly describe the anatomy, operation, drug selection, block range, and clinical application of SAPB.	This Review was reorganized upon the research of SAPB from 2013 to 2020.	Under ultrasound guidance, SAPB not only reduces the amount of opioids during the perioperative period but is also easy to operate and has a good analgesic effect, making it an alternative for painless and comfortable medical treatment.	SAPB is a simple and safe regional block technology. Its safety and effectiveness have been greatly improved under the guidance of ultrasound, which is worthy of popularization in clinical practice.

Sharma R et al. (2022)[23]	Research provides the latest summary on the use and efficacy of chest wall blocks in cardiothoracic and breast surgery, rib fracture-related pain, and persistent postsurgical pain.	Review according to keywords: Breast analgesia; Cardiothoracic analgesia; Chest wall blocks; Erector spinae plane block; Paravertebral block; Regional anesthesia; Serratus anterior plane block.	In breast surgeries, paravertebral blocks, SAPB, and pectoral nerve blocks effectively control pain while minimizing opioid use and related side effects. Rib fracture regional analgesia options have also expanded and continue to improve. Advances in regional anesthesia have tremendously improved multimodal analgesia and contributed to enhanced recovery after surgery protocols.	Perioperative analgesia in patients undergoing chest wall procedures such as cardiothoracic and breast surgeries or analgesia for rib fracture trauma can be challenging due to several factors: the procedures are more invasive, the chest wall innervation is complex, and the patient population may have multiple comorbidities increasing their susceptibility to the well-defined pain and opioid-related side effects. These procedures also carry a higher risk of persistent pain after surgery and chronic opioid use making the analgesia goals even more important.
Ueshima H et al. (2019)[24]	Research provides the latest summary on the use and efficacy of PECS I, PECS II, and serratus plane block.	Review according to keywords: pectoral nerve (PECS) block; chest wall block; breast cancer surgery; perioperative pain management.	In conjunction with general anesthesia, the pectoral nerve (PECS) block can decrease an additional analgesic in the perioperative period for breast cancer surgeries.	PECS block is an effective analgesic tool for the anterolateral chest. In particular, the PECS block can provide more effective analgesia for breast cancer surgery.

perform. Compared to thoracic paravertebral block (TPVB), the need for rescue analgesics is reduced with SAPB, as is the time until the first administration of rescue analgesics. Postoperative VAS scores were lower in the SAPB group compared with the group in which TPVB was performed, as was the incidence of vomiting and nausea[15]. Chong et al. conducted a systematic review and metanalysis which analyzed the effectiveness of SAPB and performed a comparison with TPVB. The survey included 1,260 respondents. With both blocks, there was a significant reduction in postoperative pain during 24 hours, a reduction in opioid consumption and a reduced incidence of nausea and vomiting. Still, these two techniques had no significant difference in the measured parameters[27].

Erector spinae plane block (ESPB) is one form of regional analgesia for mastectomies. In the study conducted by Wang et al., there was no significant difference in analgesia between the group that underwent SAPB and the group that underwent ESPB. In both groups, a statistically significant difference in pain intensity was achieved compared with the control group, where regional analgesia was not applied[18]. Adequate control of postoperative pain improves functional recovery and patient satisfaction[28].

Serratus anterior plane block is an interfascial block. The assumption is that a larger volume of local anesthetic leads to a more significant sensory blockade, which potentially means a greater possibility of developing complications. To determine which volume provides optimal analgesia, the authors compared the effectiveness of 10, 20 and 30 mL of 0.5% Ropivacaine. As the volume increased, the number of blocked dermatomes increased as expected. The analgesic effect of 20 and 30 mL of local anesthetic was similar but better than 10 mL, which is why it was concluded that the optimal volume is 20 mL of local anesthetic[10].

A metanalysis that included 13 studies and 826 patients found that using ultrasound-guided SAPB leads to a significant reduction in opioid consumption in the postoperative period and a reduced incidence of nausea and vomiting[6].

Conclusion

As a part of multimodal analgesia, serratus anterior plane block provides effective and safe intraoperative and postoperative analgesia in patients after mastectomy. SAPB reduces the possibility of developing chronic pain and thereby improves patient quality of life in the long term.

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Sažetak

SERRATUS ANTERIOR PLANE BLOK ZA ANALGEZIJU KOD MASTEKTOMIJE

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Incidencija karcinoma dojke kod žena je u porastu ali napretkom liječenja povećana je stopa preživljena naročito ako se bolest otkrije u ranom stadiju. Jedan od imperativa je kvaliteta života bolesnice nakon liječenja. Neadekvatno liječena akutna poslijeoperacijska bol dovodi do lošijeg ishoda liječenja i razvoja kronične boli. Incidencija kronične boli nakon operativnog liječenja karcinoma dojke je visoka i dugoročno negativno utječe na kvalitetu života bolesnica. Serratus anterior plane block (SAPB) je relativno nova ultrazvukom vođena tehnika regionalne analgezije a predstavlja alternativu epiduralnim, paravertebralnim i interkostalnim blokovima.Cilj ovog pregleda je opisati serratus anterior plane block za mastektomiju i naglasiti njegovu kratkoročnu i dugoročnu korist. Za potrebe ovog rada proveli smo pretragu MEDLINE baze do studenog 2022. kako bismo identificirali meta-analize, sistemske preglede, randomizirana kontrolirana ispitivanja i preglede objavljene u posljednjih pet godina. Pretraživanjem meta-analiza dobili smo 4 rezultata, za randomizirano kontrolirano ispitivanje 12 rezultata, za preglede 5 rezultata i za sustavni pregled 4 rezultata.

Primjenom SAPB kod bolesnica nakon mastektomije postiže se dobra analgezija u ranom poslijeoperacijskom periodu te se smanjuje pojavnost kronične boli i na taj način poboljšava se kvaliteta života.

Ključne riječi: *Mastektomija, Ultrazvukom-vođen, Seratus blok, Multimodalno liječenje, Opioidi, Postoperativna bol*