



**VŠEOBECNÁ FAKULTNÍ
NEMOCNICE V PRAZE**



**1. LÉKAŘSKÁ
FAKULTA**
Univerzita Karlova

Zkušenosti s blokovou anestezií při implantaci S-ICD

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KOMPLEXNÍ
**KARDIO
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Implantace S-ICD v celkové anestezii

Výhody

Bezbolestný výkon

Větší komfort pro operátora

Nevýhody

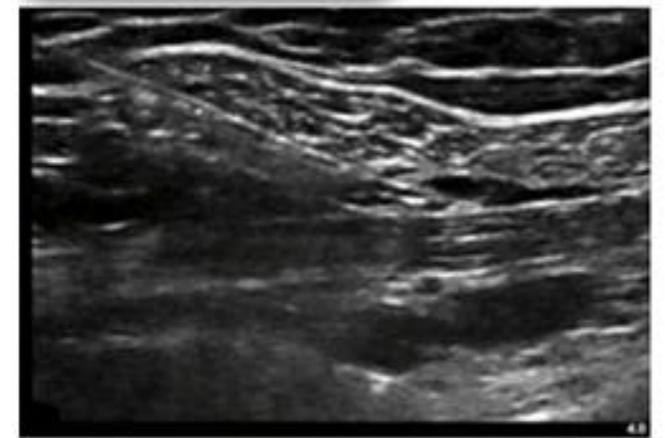
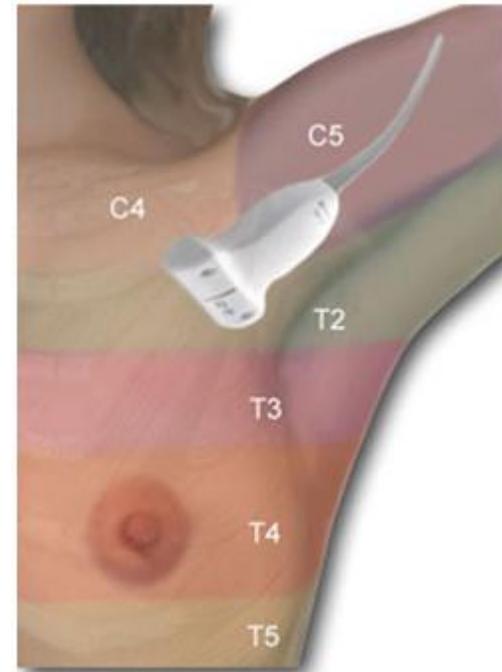
Rizika celkové anestezie

Zajištění anesteziologického týmu

Original Article

Serratus plane block: a novel ultrasound-guided thoracic wall nerve block

R. Blanco,¹ T. Parras,² J. G. McDonnell³ and A. Prats-Galino⁴





EMBLEM™ MRI
S-ICD System

Implant Best Practices

EMEA Version 3

8 | Anaesthesia and Pain Control Options when Implanting S-ICDs

8.4 Truncal Plane Blocks

8 | Anaesthesia and Pain Control Options when Implanting S-ICDs

8.4 Truncal Plane Blocks

Truncal plane blocks, including the serratus anterior plane block (SAPB) and the superficial parasternal intercostal plane block (PIPB), are quick and easy to administer (5–10 minutes)^{22, 23, 27–29} by a trained provider. Both regional blocks should be administered up to 15 minutes before the S-ICD implant procedure to provide, depending on the local anaesthetic used, up to 20 hours of anaesthesia.

SAPB anaesthetises the lateral branches of intercostal nerves from the T2 to T9 level, the N. thoracodorsalis, N. thoracicus longus (from the plexus brachialis) and the Nn. intercostobrachiales, with excellent results.^{22, 23, 27–30}

PIPB also provides long-lasting anaesthesia to the anterior cutaneous branches of the intercostal nerves T2–T6, which is the area along the sternum required for the defibrillator lead placement.^{23, 29}

Figure 25. Ultrasound-guided SAPB²⁸

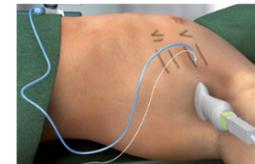


Image courtesy of Dr Droghetti

Ultrasound-guided SAPB²⁸

1. With the patient in a supine position, starting at the clavicle, count the ribs inferiorly and laterally, down to the fifth rib in the mid-axillary line. The latissimus dorsi (superficial and posterior), teres major (superior) and serratus muscles are then easily identifiable by ultrasound overlying the fifth rib.
2. Insert the needle into the plane under ultrasound guidance, with the probe in an anteroposterior direction.

Ultrasound-Guided PIPB²⁹

1. Perform ultrasound-guided PIPB with four separate injections of 3–5 mL of local anaesthetic (e.g. 0.375% levobupivacaine), at the most cranial and caudal (second and fourth) intercostal space into the interfascial compartment between pectoralis major and intercostal muscles at the level of the external intercostal membrane.^{23, 29}

Ensure that the anaesthesia is administered between the muscle layers and not directly into the muscle.

2. Inject saline solution to open the fascia, followed by injection of anaesthetic solution.



SAPB, serratus anterior plane block

tion of anaesthesia into interfascial plane between and serratus anterior²⁸



terior plane block

the needle is in the as the probe so that alised.

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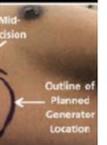
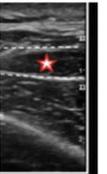
tion with the patient is articularly when using nesia techniques, as it ient at ease and may overall experience nce of the device.²⁹

the areas to which the ia is to be delivered: ial interfascial plane the serratus anterior and latissimus dorsi muscles.

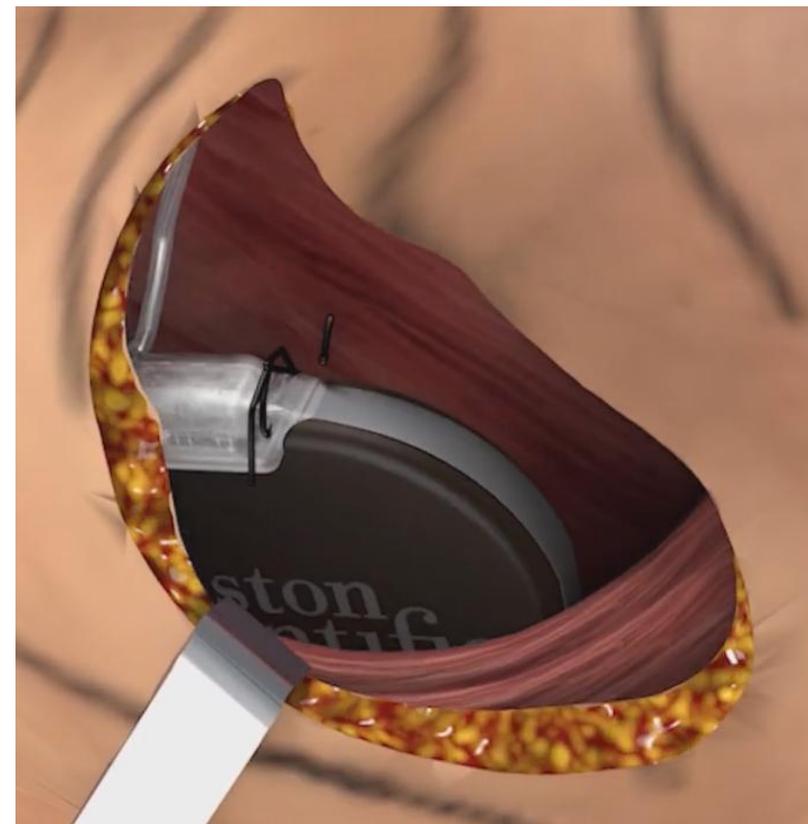
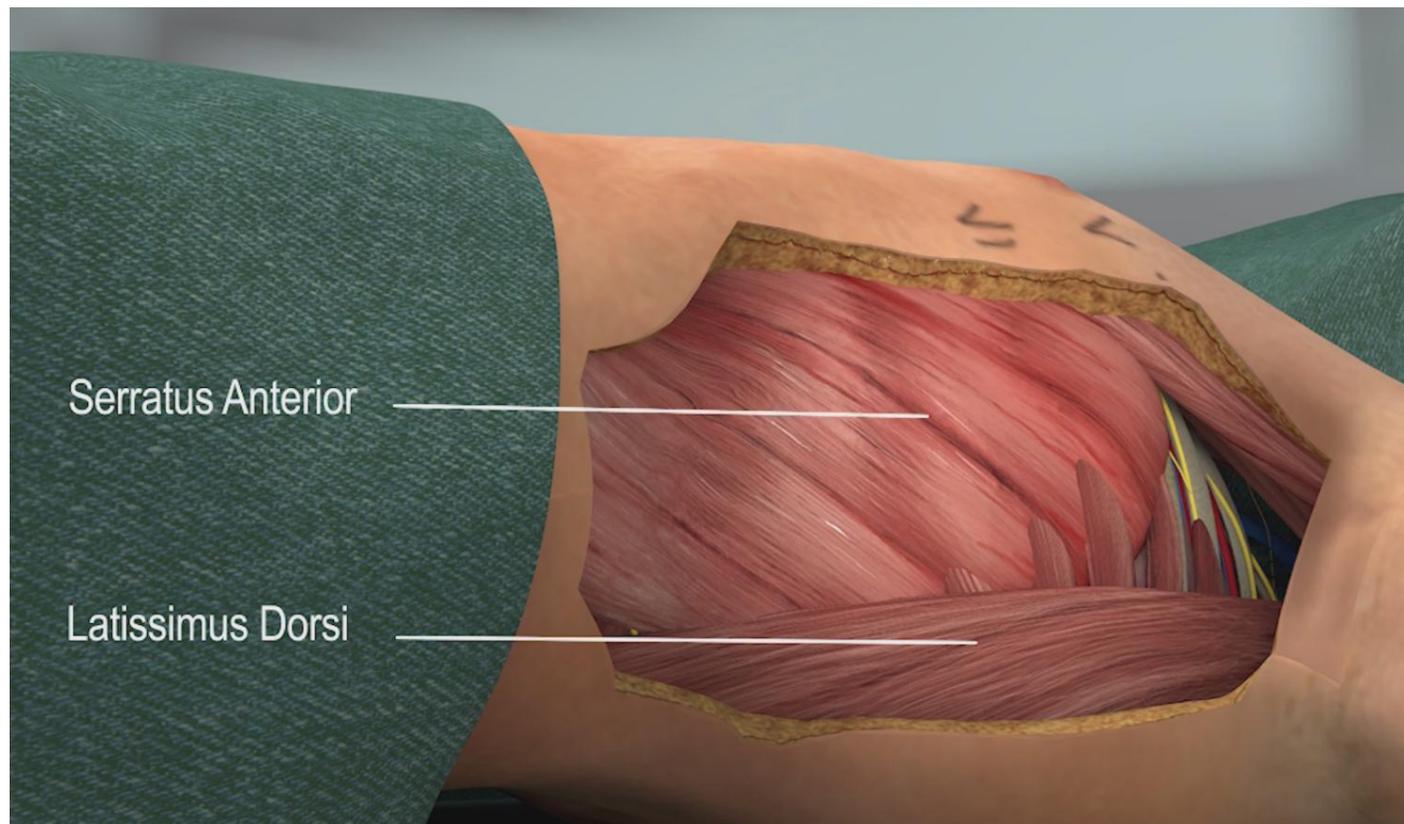
f truncal r anaesthesia ne if this ate option ot able to sthesia or ents who may aesthetic.³¹

to see related visit our [ng here.](#)

nd the interior muscle²⁹

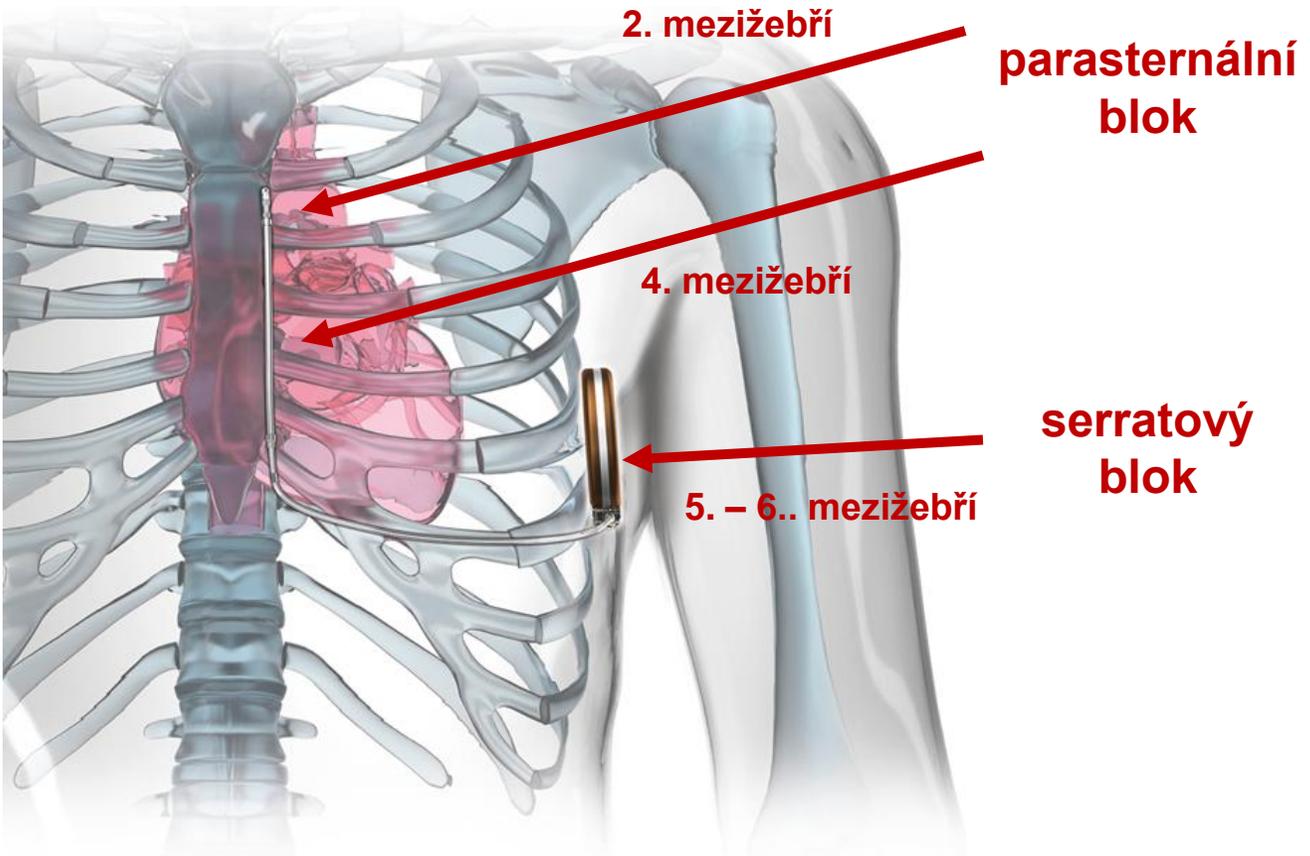


Intermuskulární implantační technika

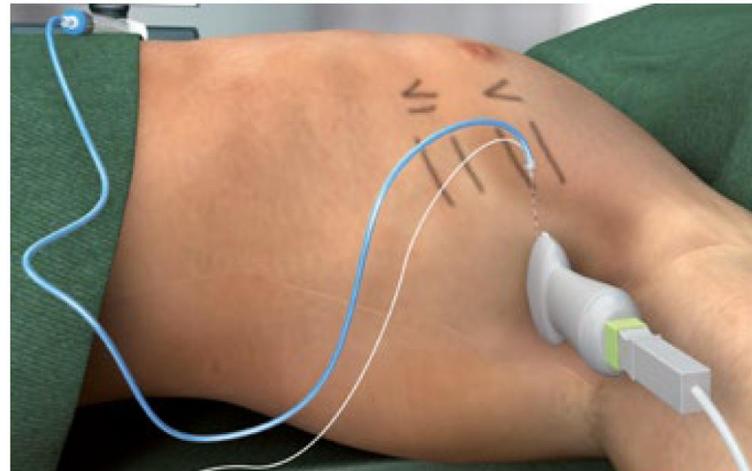
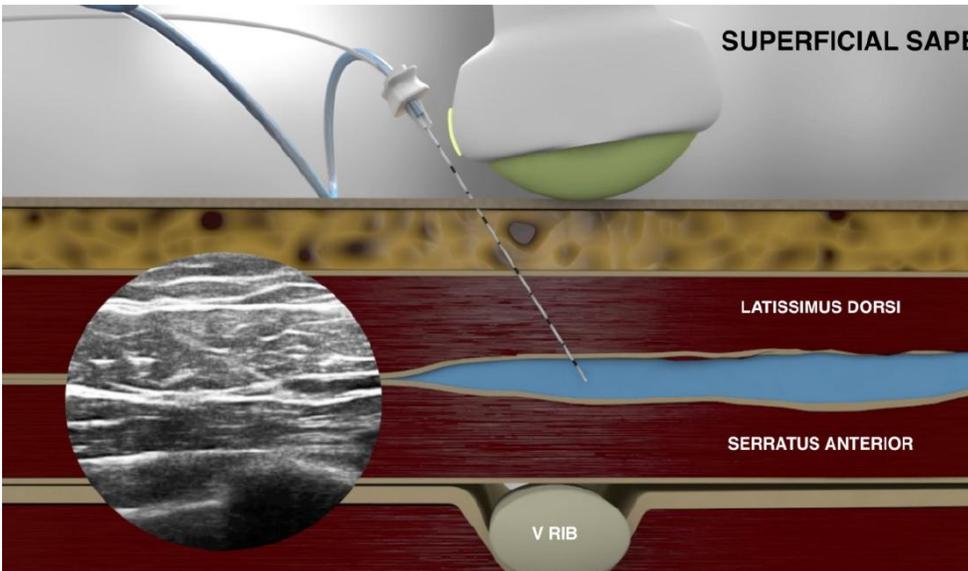


Zdroj: Boston Scientific

Bloková anestezie



Zdroj: Boston Scientific



Používaná farmaka

Bloková anestezie

Bupivacain (Marcain) / ropivacain

Interkostální blok	2x 5 ml
Serratový blok	20 ml

Sedace

Dexmedetomin (Dexdor)

Sytící dávka	1,4 ug/kg/hod. – 10 min.
Udržovací dávka	0,1 – 0,6 ug/kg/hod.

Lokální anestezie

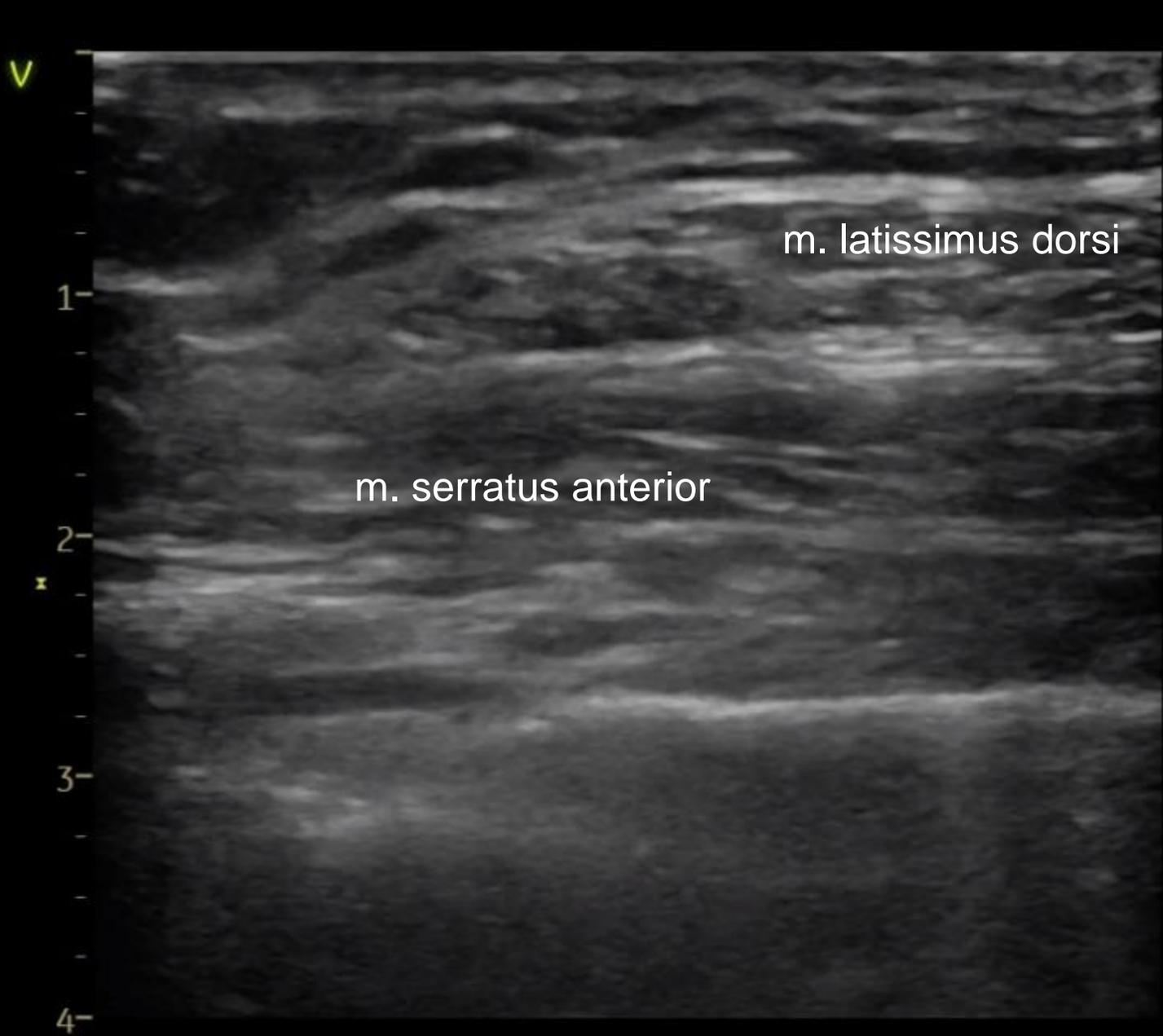
Trimekain (Mesocain)

Protizánětlivý efekt

Dexamethason 8 mg i.v.

Testování

Propofol 2-3 ml bolus i.v.



Náš soubor

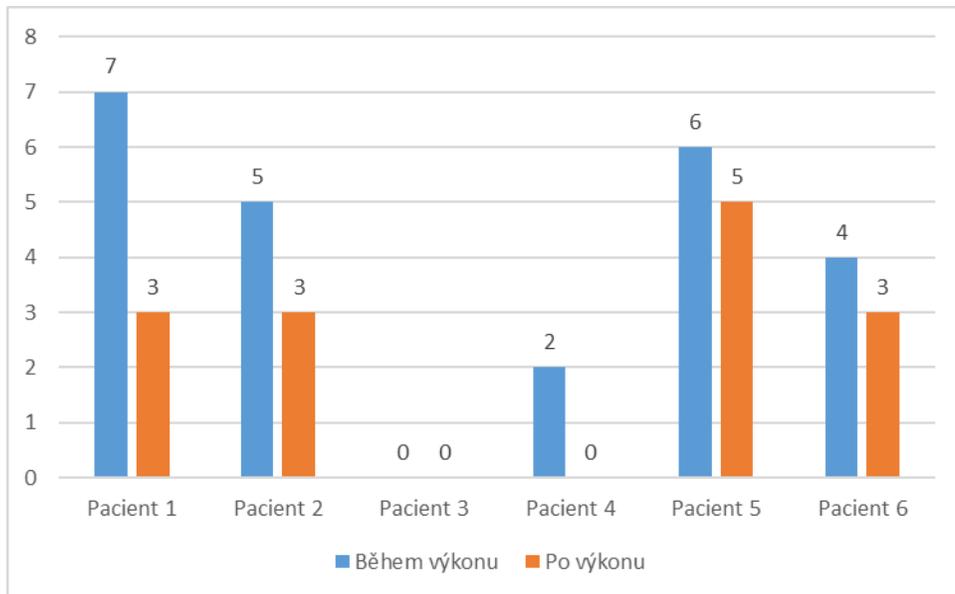
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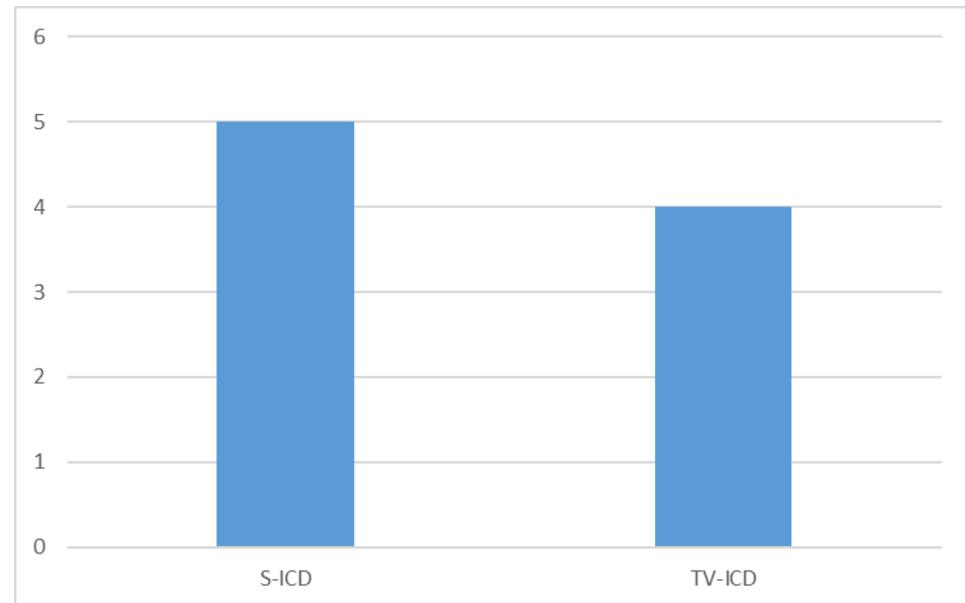
100 % mužů

Průměrný věk 45 ± 9 let

Bolest v průběhu a po výkonu (VAS)



Bolest v průběhu výkonu (median)



Závěr

Bloková anestezie je dobře tolerovanou, snadno naučitelnou, alternativou celkové anestezie při implantaci S-ICD