AMBULATORY SURGERY

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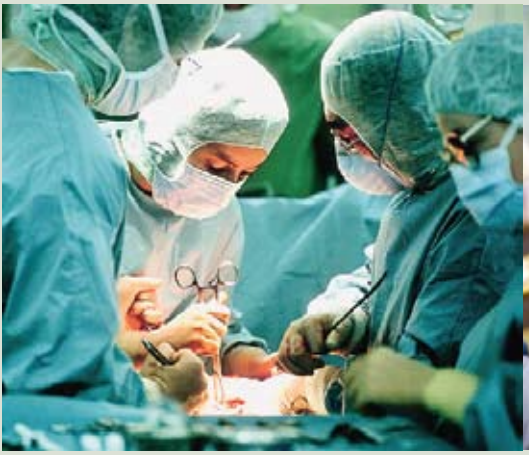


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'Editorial'

International Learning and Camaraderie: The 8th International Congress for Ambulatory Surgery

Beverly K. Philip MD, Editor-in-Chief,

On July 3-6, 2009, the International Association for Ambulatory Surgery will hold its biennial meeting in Brisbane, Queensland, Australia. The 8th International Congress on Ambulatory Surgery is themed "The Destiny of Day Surgery".

The program will consist of a mix of plenary and concurrent sessions covering:

* Bariatrics
* Different Models of Day Surgeries
* Education
* Electronic Health Records
* Ownership Models Across the Globe
* Extended Recovery
* Interventional Radiology
* Management Issues in Day Surgeries
* Medi-Hotels
* National Reports
* New Techniques in Day Surgery
* Nursing
* Office Based Surgery
* Paperless Offices
* Quality and Safety
* Regional Anaesthesia
* Robotics
* Surgical Specialties and Anaesthetics

Workshops and an Industry Exhibition will add to the learning and excitement.

The Congress is being held at the award-winning Brisbane Convention & Exhibit Centre in the resort-style South Bank Precinct in the heart of Brisbane. Sunny Brisbane has many city attractions and is the perfect start to a host of truly Australian attractions. See the Social Program and Post Congress Tours for suggestions.

Dr. Hugh Bartholomeusz, President of the Organising Committee, offers you this invitation to the Congress:

"We will be joining with colleagues from around the world to ponder the 'Destiny of Day Surgery'. Where are we heading and what does it mean for our professions? How will technology influence our systems and procedures? Will there be a place for paper in our offices? What role will robotics play and where do we fit in? Nursing in the future, what skills are needed and how will responsibilities change?

Alone we can't answer these questions but collectively we can help shape our professional futures. Bring plenty of enthusiasm, ideas and knowledge and we will provide the Congress framework to enable you to get the most out of your participation."

We look forward to hosting all of our local and international colleagues in beautiful Brisbane in 2009. We invite you to see more details and register online at www.iaascongress2009.org Early Bird Registration has been extended to 22 May 2009.

Beverly K. Philip, MD
Editor-in-Chief

'Presidential'
Day Surgery Development

Claus Toftgaard, President, IAAS

In most developed countries around the world Day Surgery (Synonym: Ambulatory Surgery) is an important objective in order to maximise the utilisation of limited economic resources whilst still providing the highest level of quality treatment. In developing countries this may be the only possibility for treatment for many patients because of lacking resources.

Therefore International Association for Ambulatory Surgery (IAAS) is promoting day surgery activities in all contexts where it is applicable and wants to inform about day surgery possibilities and advantages to both clinical professionals and to governments/managers of health systems.

Day surgery in fact has a rather long history:

- The pioneer was Nicoll (1864–1921) a Scottish paediatric surgeon in Glasgow (*BMJ* 1909;753–6)
- In the 1960s in US the concept was used in hospital based facilities
- Around 1970 the first freestanding unit was opened
- A gradual development came in US, Canada, UK and Australia in the 1970s
- The first European congress was held in Brussels 1991
- The first international congress was organised 1995
- National associations were formed in US, Australia and most European countries during the 90's
- Since 1995 bi-annual international congresses has been organised by IAAS with between 1000 and 2000 delegates in different places in Europe and US

Today it is widely accepted by the member countries of IAAS that day surgery is a very important part of each countries health system, and in fact in many countries more than 50 % of all surgery is done in an ambulatory setting. However, it is still a developing field of health activity and the variation is great both within each country and between countries, end there are still a lot of countries who do not have organised activities – not necessarily meaning that there is no day surgery activity but there are no organisation for professionals and no register for activities.

In order to try to document some of the development the IAAS every second year conducts an international survey of day surgery activities. This project was started in the mid 90's with 20 surgical procedures and has now grown and changed into 37 procedures. These procedures are now:

ENT

Myringotomy with tube insertion

Tonsillectomy

Rhinoplasty

Broncho-mediastinoscopy

Eye surgery

Cataract

Squint

Jaw surgery

Surgical removal of teeth

Gynaecology

Endoscopic sterilisation

Legal abortion

Dilatation and curettage of uterus

Hysterectomy by LAVH

Repair of cysto- and rectocele

Orthopaedics:

Knee arthroscopy

Arthroscopic meniscus operation

Removal of bone implants

Repair of deformities of the foot

Carpal tunnel release

Baker cyst

Dupuytrens contractur

Crusiate ligaments repair

Disc operations

General surgery

Local excision of breast

Mastectomy

Laparoscopic cholecystectomy

Laparoscopic antireflux surgery

Haemorrhoidectomy

Inguinal hernia

Colonoscopy with or without biopsy

Removal of colon polyps

Pilonoidal cyst

Urology

Circumcision

Orchidectomy or orchidopexy

Male sterilisation

TURP

Plastic surgery

Bilateral breast reduction

Abdominoplasty

Vascular surgery

Varicose veins

And the latest results regarding percentage of day surgery procedures in the basket in the surveys from the included countries were:

- Australia 74
- Belgium
- Canada (Alberta) 83.8
- Denmark 79.3
- England 62.5
- Finland 62.4
- France 44.9
- Germany 60.7
- Hong Kong 42
- Italy 41
- Netherlands 69.8
- Norway 68
- Poland
- Portugal 18.5
- Scotland 62
- Spain (6 reg) 54
- Sweden 66.7
- USA 83.5

The detailed percentages for each procedure can be seen at the IAAS website: www.iaas-med.com where both the newest results and the older ones are published. For the moment we are conducting another survey with data from 2007 to be published at the international congress in Brisbane later this year.

The overall result of the surveys up till now are that US and Canada have the highest percentage of ambulatory surgery, the Scandinavian countries are close to the result from US, Poland and Portugal are rather low, and France and Germany in the middle. Still a lot of countries are unknown since we have no data. There are large differences between countries for the same procedures and also in total numbers and there are even large differences within the same country, between regions within a country, between counties, and between hospitals.

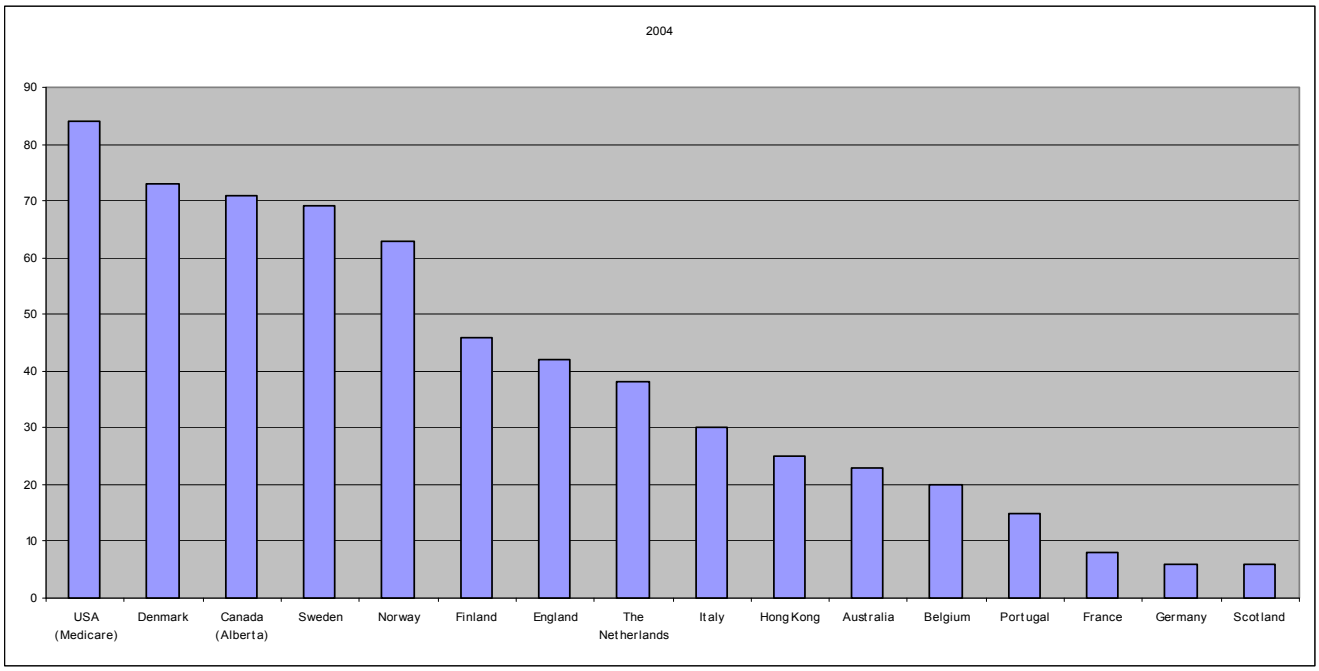
An example of the development could be the data for inguinal hernia repair where it is very visible and in fact difficult to understand that there is such a big difference between countries at the same level of development(Figure 1, below).

Why are there such big differences? That is of cause the question to be asked and in fact also one of the reasons to make these surveys. One of the purposes for the survey is to make clinicians and also decision makers to wonder why there are such differences. That seems to be the main tool for development in many countries.

In my opinion there are many causes for the big differences. Tradition is an important one and unfortunately I have to admit that especially surgeons are rather conservative but also hospital managers and even patients can be difficult to convince. Culture is another aspect. It is very different how open minded and ready to try new methods people are, and some procedures can have a religious or traditional "overlay" that makes it unacceptable to do in a short stay procedure. Naturally incentives or the opposite also play an important role. Reimbursement can be better for inpatient procedures than for ambulatory, so the question is: Is there incentives to make changes ? Or maybe the opposite? The organisation of the health system may also play a role. There can be a difference if the main part is public or private. In the private there is more focus upon efficiency that we often experience in the public sector – this may especially be the case in those countries that have had a sort of fundamentalist government.

But also more factual things may influence the development. Where the geography makes it difficult to get to and from the facility for treatment or where the traffic communication is lacking or difficult

Figure 1



this is a major barrier for ambulatory treatment. It is also necessary that the social security system is working so there is someone to take care at home after surgery. And last but not least the politicians have an important role: Is the item on the political agenda? Do the politicians try to move things?

Therefore it is very important for all the involved persons and parties that there are many advantages with the ambulatory treatment. For the patient the satisfaction is high, there are less hospital infections, and it is convenient and the quality is as least the same. For the hospital the function is well planned with lesser cancellations, there is a decreasing need for beds, and it is very cost effective. For the community the big advantage is the cheaper treatment and a better utilisation of closed emergency/inpatient facilities. For the staff it means teamwork, daytime work, increased skilled nurses and therefore a high satisfaction.

We think that IAAS has an important role to play in the development and inclusion of new countries in the development of day surgery. We exchange information and knowledge about the possibilities and the activities, we want to promote education and establish clinical guidelines and quality standards. We want to promote research and to give advice to colleagues and to other parties (e.g. governments, hospital boards etc.) For this task we find the International congresses the most important tool. But we have a lot of other activities to benefit from: We like to help organising National Associations. We have a web site with information: **www.iaas-med.com** and an official journal "Ambulatory Surgery" published at the internet: **www.ambulatorysurgery.org**. At our website there is a literature database, an international book, results of the international surveys, and also an international terminology. As part of our work we arrange education (e.g. International course Venice 2006) and if asked we are happy to give advising for professionals and authorities. As already mentioned we produce guidelines / clinical indicators and we nominate departments of exellence (for education/demonstration). If possible we have cooperation with other institutions – (WHO/ EU), and one result of this is the Policy Brief produced together with "European Observatory on Health Systems and Policies". Now we are working on a European Day Surgery Data Project.

In order to move for a change in direction of transformation against day surgery, it is important to involve both anaesthetists, surgeons, patients, and decision makers. And we will like to help with this in any country that is asking for our assistance.

In order to move forward There is a need for a shift of Paradigm: Day surgery is the standard procedure – any inpatient admittance must be argued !

Look for it at our next congresses in Brisbane and Copenhagen.

Claus Toftgaard, President, IAAS.

Day case surgery and incidence of transient neurological symptoms after spinal anaesthesia with prilocaine – influence on patients

M. Zoremba, A. Morin, S. Engel, L. Eberhart and H.Wulf

Abstract

Background: Spinal anaesthesia is a common technique for day case surgery. One major complication is the occurrence of transient neurological symptoms (TNS). The trigger mechanisms are not definitively clear. The incidence of TNS varies according to the applied local anaesthetic agent and study population. Prilocaine is known to cause a lower incidence of TNS. While symptoms appear typically within 24 hours after complete recovery, the incidence in a day case surgery population with an early discharge is difficult to obtain. The aim of our study was to evaluate the incidence and the triggering factors of TNS after spinal anaesthesia with Prilocaine 2% (70mg) in day case (ambulatory) surgery population and the impact on patients satisfaction.

Methods: We included 102 Patients between 2005 and 2008 (age 25-70yrs, 56M/46F, ASA I-II) scheduled for day case surgery. Spinal anaesthesia was standardized (Sprotte 25 gauge). All patients were discharged home without any neurological symptoms. We performed a standardized telephone interview within 7 days after surgery and recorded abnormalities.

Results: The incidence for TNS in our study population was 6.9% (7/102 Patients). All Patients with TNS were between 40-55 years old. TNS lasted for 1-3 days without permanent deficits. No difference between male and female was recorded. The duration of surgery had no influence on TNS. Post punctual headache occurred in 2 patients.

Conclusions: As previously reported the incidence of TNS after spinal anaesthesia using Prilocaine varies in a range from 0 to 4%. Our data suggest that an early mobilisation within 4 hours after surgery (day case surgery) and the use of a tourniquet could have a negative impact on the incidence of TNS, but with the restriction that our results still were within the 95% confidence interval of previous findings. The occurrence of TNS had a negative impact on the acceptance of spinal anaesthesia.

Keywords: day case surgery, Prilocaine, spinal anaesthesia, TNS.

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Introduction

An increasing number of patients are scheduled for day case surgery. Ambulatory surgery allows earlier return to preoperative physiological state, fewer complications, reduced mental and physical disability, and early resumption of normal activities [1,2]. Hospital costs are lower because ambulatory surgery is more efficient than inpatient care [3]. The patients should recover after a day case operation as quickly as possible from anaesthesia and operation. Therefore, anaesthesia procedures with short acting anesthetics are desirable. General anaesthesia is frequent considered as the standard anaesthesia procedure [4]. Hence a higher safety is required from regional anaesthesia, although it is well known that regional anaesthesia has a lower incidence of severe perioperative complications than general anaesthesia has [5,6]. Nevertheless, regional anaesthesia plays an important role for day case surgery patients. Especially spinal anaesthesia is widely common [7]. To ensure a fast recovery, short acting local anesthetic agents with fewer side effects should be used. For spinal anaesthesia in day case surgery patients Prilocaine is to be favoured [8]. Anyhow many patients fear severe complications, thus they have a certain timidity obtaining spinal anaesthesia. Irreversible neurological deficits after an unproblematic spinal anaesthesia are rarely known [9]. Temporary neurological deficits called "transient neurologic symptoms" (TNS) occur more frequent [10]. Prilocaine is known to have a low incidence for TNS [11]. A direct neurotoxicity is blamed for this findings [12,13,14]. Several triggering factors had been investigated [15]. Anyhow the exact mechanism is yet not known. TNS are mostly defined as emitting pains (aches) and/or dysaesthesia within the first 24 h after followed regional anaesthesia and have a negative impact on the patients satisfaction [16]. Patient satisfaction is one of the client-assessed outcomes and a very important component of improving the quality of healthcare. Patient satisfaction affects the outcome of healthcare and the use of healthcare services [17]. Therefore, it is important to identify the reasons and the risk factors for patient dissatisfaction. In a day case surgery population with an early discharge these late onset symptoms are hard to evaluate. The aim of study was to evaluate these symptoms and their triggering factors to improve patients satisfaction and the acceptance of spinal anaesthesia in a day case setting.

Methods

Study population

Institutial Ethics Committee approval was obtained and all the patients gave informed written consent. To create a better overview and identify adverse age influences, we had split the expected study population in three similar age groups. Following previous studies (Table 1), and to ensure appropriate power of the study, we determined a minimum study population of 30 patients in each group. Between 2005 and 2008 we included 102 ASA physical status I and II patients (Age 25–70yr, 58M/44F) scheduled for elective day case surgery. All patients included in this study agreed in spinal anaesthesia

Table 1 Prilocaine and incidence for TNS – previous data (no day case setting)

Author	Local anaesthetic agent	Incidence of TNS	Type of surgery
Hampl et al. 1998	Prilocaine 2% isobaric	1/30 (3,3%,CI 0.08-17)	Minor gynaecologic surgery
Martinez- Bourio et al. 1998	Prilocaine 5% isobaric	1/100 (1%,CI 0.03-5,5)	Mixed minor surgery
Ostgaard et al. 2000	Prilocaine 2% isobaric	2/50 (4%,CI 0.5-13.7)	Minor urological surgery
Playa et al. 2000	Prilocaine 5% isobaric	0/27 (0%,CI 0-10)	TURP
De Weert et al. 2000	Prilocaine 2% isobaric	0/34 (0%,CI 0-8.4)	Minor orthopaedic surgery
Summary of 5 Studies	**4/241 (1.6%,CI 0.5-4.2)**		

after the anaesthesia pre-operation discussion. We excluded patients from the study with a history of chronic pain, presence of neurological disease, and chronic use of analgesic medications.

All Patients were premedicated with midazolam 7.5mg (oral) 30 minutes before operation. Before spinal anesthesia was performed, 10 mL/kg of lactated Ringer's solution was administered over 20 min. Spinal anaesthesia was performed at the interstitium of L3–L4 or L4–L5 with the patient in a sitting position using a 25 G sprotte needle. In each case 70mg of Prilocaine (isobaric) were administered. The dissemination of the spinal anaesthesia was recorded through the respective dermatomes. Hypotension (systolic blood pressure <90mmHg) was treated with theodrenalin 50mg + cafedrinhydrochloride 2.5mg i.v (Akrinor®) and bradycardia was treated with 0.5 mg i.v. atropine at the discretion of the anesthesiologist. Nausea was treated with dolasetron 12.5 mg i.v. Further intraoperative sedation was provided as needed with midazolam 1 mg i.v. . Postoperatively, a basic pain management was used consisting of metamizol 500 mg i.v. and paracetamol 1 g i.v. In every patient a complete remission of the spinal block with sufficient bladder function and absence of considerable pain was ensured before discharge. After discharge from hospital the patients were managed with ibuprofen 400 mg oral 3 times/day.

Acquisition form

Data was collected retrospectively immediate after discharge including demographics, technical difficulties performing the block, any paraesthesia encountered during the performance of the block, patient position during the block, type and the duration of surgery. Within the first postoperative week, patients were interviewed by a standardized qualitative in depth interview to identify signs of TNS and the acceptance of spinal anaesthesia, according to a protocol. TNS was defined as pain and/or dysaesthesia in the area of the buttocks, thighs, or lower limbs occurring after recovery from anaesthesia. Patients with TNS were asked to rate the degree of pain, using a visual analog scale with a score of 0 - no pain to a score of 10 - worst imaginable pain. The primary outcome for this trial was the percentage of TNS and their influence on the patients' acceptance of spinal anaesthesia.

Statistic analysis

Univariate comparisons of the patients' characteristics were performed using unpaired t-test, X^2, or Fisher's exact test. The Fisher's exact test was used when the expected values in a cell were less than five. The 95% confidence intervals were used to examine potential confounders. All statistics were realised with StatView 4.57 for Windows (Abacus Software, USA).

Results

Biometric data did not differ significantly between the groups (Table 2). Relevant aspects of surgical and anesthetic procedures are provided in Table 2, and there were no statistical differences between the three groups. Neither problems with the anesthetic technique, bleeding through the needle or paraesthesia were observed in any patient. There was no difference between the groups regarding, BMI, duration of surgery, VAS scores of surgical pain at rest and movement during the postoperative period in the PACU. All patients were mobilized within four hours after surgery and could be discharged by eight hours after surgery at the latest.

Postoperative incidence of TNS

Seven patients (3F/4M) had TNS (7/102; 6.9% CI 2.8–13.6). The symptoms started within the first 24 hours after surgical procedure and were located in buttocks, thighs and lower limbs. Neurological

Table 2 Basic data of our study population.

Age 25–70(yr) Total n=102 (58M/44W)	Age 25–39(yr) n=32	Age 40–55(yr) n=38	Age 56–70 (yr) n=32
BMI Surgery time	26 (sd 4.5) 73min (sd 23)	27 (sd 4.3) 77min (sd 22)	27 (sd 5.8) 84min (sd 32)
Duration of block	157min (sd 36)	162min (sd 48)	173min (sd 35)
Intraoperative hypotension <RR sys 90mmHg	3/32 (9.4%, CI 2–25%)	1/38 (2.6%, CI 0.07–13%)	2/32 (6.2%, CI 0.7–21%)
Patients favour SPA before declaration of consent	14/32 (44%, CI 26–62%)	12/38 (31%, CI 32–49%)	15/32 (47%, CI 29–65%)
Contently with SPA	30/32 (93%, CI 79–99%)	28/38 (74%, CI 57–87%)	29/32 (90%, CI 74–98%)
Postdural puncture headache	1/32 (3%, CI 0,01–16%)	0/38 (0%, CI 0–7,6%)	1/32 (3%, CI 0,01–16%)
TNS	0/32 (0%, CI 0–9%)	7/38 (18.4%, CI 7.7–32%)	

symptoms persisted no longer than 72h. None of them had to be readmitted to hospital. All patients with TNS were located in the mid age group (age 40–55yr) (7/38, 18.4%, CI 7.7–32%, P<0.0077, Table 2). Most of the patients with TNS had an intraoperative tight tourniquet (6/7; 85% CI 42–99). Body mass indexes, duration of surgery and intraoperative hypotension's didn't have any significant impact on the occurrence of TNS.

Other postoperative complications

Postdural puncture headache occurred in two patients (2/102; 1.96% CI 0.2-6.9) and were associated in coherence with postoperative shivering (2/2; p>0.006) while absolute incidence for postoperative shivering was 3.9% (4/102; CI 1.1–9.7). None of these patients had TNS. Postoperative nausea and vomiting (PONV) was reported in four patients (4/102; 3.9% CI 1.1–9.7). There was no statistic relationship between PONV and other complications (TNS, shivering, postural puncture headache).

Acceptance of spinal anaesthesia

More than half of our population (60%, 61/102) had doubts in applying spinal anaesthesia before our premedication visit. Nevertheless 85,3% (87/102) would chose spinal anaesthesia for further surgery, but 71% (5/7) of our patients with TNS refused spinal anaesthesia for further surgery (P<0.0022). Other complications as postural puncture headache, shivering and PONV had no negative impact on the patients' acceptance of spinal anaesthesia (Table 3).

Discussion

Day case surgery challenges anaesthesia techniques. Avoiding postoperative pain, gagging on the tracheal tube, disorientation and nausea and vomiting are major priorities for day case patients [18]. Concerning these priorities, spinal anaesthesia in contrast to general anaesthesia has several advantages. Anyhow general anesthesia is considered to be the standard technique for a day case population. Only 40% (41/102 CI 30–50) of our population favored spinal anaesthesia before the declaration of consent. Nevertheless 85% (87/102, CI 77–91) would choose spinal anesthesia for further surgery (p>0.00001). The occurrence of perioperative complications had a negative impact on the acceptance of spinal anaesthesia. Whereas 90% (9/86, CI 5–19) of the patients' without complications were satisfied in spinal anaesthesia, the rate in the population with perioperative complications was significantly reduced to 37% (6/16, CI 15-64) p>0.0008. The most frequent complications were TNS (46%; 7/16, CI 19–70)

Several triggering factors for TNS were discussed. Today it is worth as saved that all local anaesthetics are directly neurotoxic in the suitable concentration [19]. However the exact mechanism is yet unknown. There are several studies indicating that mechanic stretch on nerve fibers or local ischemia (e.g. lithotomic position, tight tourniquet or supplementation with adrenaline) could increase the incidence for TNS [11,20,21]. In contrast to previous data applying prilocaine for spinal anaesthesia, we found a higher incidence for TNS in a day case surgery population (1.4% vs. 6.9%) [11,16]. This could be substantiated by an early mobilization and followed daily routine with possibly increased mechanic stretch on nerve fibers. As most of the patients' with TNS had an intraoperative tight tourniquet (6/7; 85% CI 42–99) this local ischemia could contribute to the incidence for TNS. Whether the direct neurotoxicity, mechanical stretch or a local ischemia is primary to blame for the pain sensations in the course of TNS is not definitely clear.

The pain sensations related to TNS were characterized by the patients' as a violent pain affecting their daily routine. Some authors argue that TNS did not affect patients' satisfaction [22]. However, the proportion of patients who will recommend spinal anaesthesia was higher in the non-TNS patients than in TNS patients (90% vs. 71% p>0.0022). It seems that the transitory pain and functional impairment has negative influence on the patients' decision to receive spinal anaesthesia in the future. These findings were confirmed by an epidemiologic study (Freedman 1998) with 1863 patients, 30% of the 104 patients who developed TNS after intrathecal lidocaine rated their pain as severe with a negative impact on patients' satisfaction [17].

In contrast to this, other major complications of spinal anaesthesia (post punctual headache, PONV, shivering) had no significant impact on the patients' willingness to receive spinal anaesthesia for further operations. This implies that the occurrence of TNS in a day case population has to gain in importance to improve the patients' satisfaction. Measurement of patient satisfaction with anaesthetic care is inherently difficult as it depends on a multitude of factors [19,23,24]. Hence avoiding the occurrence of TNS is a starting point to improve the acceptance of spinal anaesthesia. New short acting local anaesthetics e.g. chloroprocaine or a critical appraisal of the tourniquet use, could contribute to a lower incidence for TNS. To evaluate this for a day case surgery population further studies with a close-meshed postoperative follow up are needed.

Table 3 Postoperative complications and impact on the acceptance of spinal anaesthesia.

Age 25–70(yr) Total n=102 (58M/44W)	Discontentedly with spinal anaesthesia	p-value (fishers exact test)
TNS (7/102)	5/7	p<0.0022
Postdural puncture headache (2/102)	0/2	n.s.
Shivering (4/102)	1/4	n.s
PONV (5/102)	0/5	n.s.
Complications (16/102)	6/16	p<0.008
No complications (86/102)	9/86	p<0.008

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Stripping Saphenectomy, CHIVA and Laser ablation for the treatment of the Saphenous vein insufficiency

J.V. Solís, L. Ribé, J.L.Portero, J. Rio

Abstract

Aim: To analyze the results of three different techniques for the treatment of the great saphenous vein insufficiency as the main cause of varicose veins.

Methods: We analyze three groups (Stripping, CHIVA 1 and Endovenous Laser ablation) with 40 patients each. Follow up was done at 1, 3, 9 and 12 months.

Results: The CHIVA and laser ablation had the best aesthetic result and fewer discomfort, but laser ablation had higher economic cost. There was no recurrence after 1 year in any of the groups.

Conclusions: The three techniques proved very good results for the saphenous insufficiency treatment.

Keywords: Varicose veins, Saphenectomy, Endovenous Laser ablation, CHIVA (Cure Haemodynamic Insufficiency Venous Ambulatory), Ambulatory surgery.

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Introduction

Since Babcock [1] described and improved the saphenectomy stripping technique in 1907, there have been small changes in the surgical technique, except for the following:

The local phlebectomy described by Robert Müller in 1966 [2], CHIVA technique (Cure Hémodynamique de l´Insuffisance Veineuse en Ambulatoire), studied by Franceschi [3] in 1988, with the use of a meticulous preoperative Duplex examination; the invagination saphenecomy described by Creton in 1989 [4, 5], and finally, the revolutionary endovenous laser ablation technique developed by the Spanish doctor Bone in 1999 [6].

The development of varicose veins due to great saphenous vein (GSV) insufficiency from the sapheno-femoral junction (SFJ) represents one of the most frequent causes of varicose veins - type 1 shunt-.

The need of progression to less invasive types of surgeries, with small admission time, has lead to a progress where currently most varicose vein treatments are achieved ambulatory [7].

Varicose veins need dedication and suppose a great diagnostic and therapeutic occupation time in any Angiology and Vascular surgery unit. It has become an important source of sanitary cost due to the great demand by patients and to the high prevalence of the pathology. Probably, if preventive measures were applied and carried out by patients, there would be a decrease in the associated morbidity.

The basic indication (both medical and surgical) for the treatment of varicose veins is the prevention of possible complications and sequels. Another increasingly demanded indication is the aesthetic one, which should be reevaluated by the sanitary councils. Therefore, varicose vein surgery is basically a preventive surgery.

Materials and methods

The purpose of our study is to prospectively analyze the results of three different techniques used for the treatment of the great saphenous vein insufficiency, originated at the sapheno-femoral junction (type 1 shunt), as the main cause of varicose veins in 120 patients.

The technique to be used in each case was assigned as decided by the patient, based on the information received:

1. **Saphenous stripping.** Still the gold standard, with a big acknowledgement of the technique, more definitive but the most aggressive of the three.
2. **CHIVA 1 (Cure Hémodynamique de l´Insuffisance Veineuse en Ambulatoire).** The most physiological one. Conservative and less traumatic, with occasional recurrences.
3. **Endovenous Laser Ablation.** The most modern and therefore with less experience. More aesthetic and expensive, but less traumatic.

Patients included had to fulfill the following Inclusion criteria:

- Greater saphenous vein (GSV) and its sapheno-femoral junction (SFJ) with diameter under 10 mm.
- Clinical classification CEAP C2-C3.
- Always achieved by the same two surgeons and with the same criteria.

There were no age or weight limits and all patients were described after preanesthesia evaluation as ASA type I or II. Patients were added to each group until a 40 member group was set up. All patients were given informed consent.

During the first clinic consultation, a varicose vein "mapping" analysis, with all possible reflux, leaks and reentries was achieved with a portable eco-doppler. The same surgeon would repeat this Doppler

examination just before entering the operating theatre. Those treated with endovenous laser ablation would undergo examination during surgery with the CDU (Color Doppler Ultrasound) for a more exact location of the optical-fiber at the sapheno-femoral junction.

In the CHIVA technique, apart from the ligation of the saphenofemoral junction (SFJ), a 2-4 cm fragment of the SFJ would be removed to avoid saphenous vein neorevascularization.

The laser used was Long-Pulsed 810 nm Laser Diode, using 600 micron fibers, introduced by transcutaneous malleolus puncture or otherwise after small internal malleolus dissection.

Varicose veins dependent on R3 system were treated with the Müller stab avulsion method.

Following our Mayor Ambulatory Surgery Unit protocol, all patients were operated under intravenous total anesthesia with the use of laryngeal masks.

Following the protocol for postoperative venous thromboembolism prophylaxis, all patients were treated with Low-Molecular-Weight-Heparin. All patients were given a written report with basic advices (identical in all cases) and with an analgesic guideline for the first postoperative week.

There was never an indication for complete bed rest, but we recommended frequent deambulation from the day of surgery, with temporary rest with feet elevation just when required for discomfort relief. Patients could walk out of home from the first postoperative day.

The standard follow up was achieved with physical examination and CDU (Color Doppler ultrasound) exploration at 15, 30, 90, 180 and 360 days after surgery, with evaluation of the following:

1. Three different degrees of haematoma.
2. Subjective postoperative pain perception, both in duration time and severity (measured in a scale from 1 to 10).
3. Their expectations in terms of surgical aesthetic results.

These parameters were statistically evaluated with the Pearson's Chi-square Test, and organized in contingency tables for independent nonparametric variables.

Results

The median age was very similar in all groups. Both women and young people preferred the endovenous laser ablation technique, whereas men and older people preferred the saphenectomy stripping technique.

Varicose veins were removed in all cases, using the Müller stab avulsion method for all patients (Table 1), though we used crochet hooks instead of those created by Müller.

As the anesthesia method was the same in all patients, the postoperative admission time was similar in the three groups, which was in all cases under 6 hours; all patients were discharged with normal spontaneous deambulation with an elastic bandage or compression stockings.

Postoperative discomfort was subjectively evaluated by patients following a scale from 1 to 10. Discomfort was surprisingly lower for those treated with endovenous laser ablation (initially only 12.5%, and of low severity in all cases); there was a high incidence of discomfort for those who underwent saphenectomy stripping, 67.5%, and also a 30% of cases suffering discomfort in those treated with CHIVA method. After 1 year follow up, and beginning practically from the first medical checkup, only 1 patient treated with laser had significant pain discomfort. None of those treated with CHIVA ($p<0.05$) had significant pain discomfort. Those treated with stripping saphenectomy presented a 5% discomfort pain at 1 year follow up, with severity ranging from level 3 to 7.

There was no incidence of neuritis due to nerve avulsion. We had also no incidence of saphenous neuritis in those treated with endovenous laser and obviously neither in those treated with CHIVA.

72.5% of those treated by stripping saphenectomy had some degree of haematoma, especially

at thigh level. Obviously none of those treated with CHIVA had haematoma and up to 47.5% of those patients treated with laser ablation developed haematoma, also at thigh level in the great saphenous vein territory ($p<0.05$), but with very slight pain. Only one patient of those treated with laser ablation developed, during the first 15 postoperative days, a very significant painful haematoma.

There was an 87.5% great saphenous vein patency for those patients treated by means of CHIVA technique, with mild reflux and only of orthostatic initiation. Up to 67.5% of these had a significant diminish of the great saphenous vein diameter at one year follow up.

Table 1 General results of the three studied groups.

	STRIPPING	CHIVA	LASER
Mean Age	57.4	56.2	51.9
Female/Male	15/25	22/18	30/10
Efficiency Saph.Insuf.Treat	100%	100%	100%
PostOp.Discomfort >5 (1–10)	27 (67.5%)	12 (30%)	5 (12.5%) p<0.05
Haematoma	29 (72.5%)	-	19 (47.5%) p<0.05
Saphenous Patency (or segments)	-	35 (87.5%)	2 (5%)
Saphenous Diameter Decrease	-	27 (67.5%)	-
Cost	-	<-	->>>
Satisfaction>7 (1–10)	80%	85%	95%
Neuritis	0	0	0
DVT	0	0	0

Up to 5% of those patients treated with laser ablation showed saphenous patency in some segments, without haemodynamic reflux repercussion in those segments.

There was no evidence of deep vein thrombosis (DVP) in any of the three groups.

The economic cost (only restricted to the surgical technique) was at least 5 times higher in those treated with endovenous laser ablation.

Discussion

Idiopathic great saphenous vein insufficiency as the cause of varicose veins represents the most frequent vascular pathology. Due to its broad demand, waiting list and sanitary cost, it requires a well-organized diagnostic and therapeutic strategy.

The limited clinic repercussion in its first stages makes it difficult to begin the treatment in these stages where evolution of the pathology and morbidity could be significantly diminished.

Varicose veins have two main conditions of social interest:

1. The clinical repercussion when not treated.
2. The aesthetic aspect, being unattractive for patients in many circumstances, leading to rejection by others, which can even have a psychological effect on them.

The economic cost of this pathology for the health system can be quite high, but it is believed that operating in early stages of the pathology can compensate the subsequent higher economic cost of possible sequels and complications [8].

There is clear data on the benefit of surgical treatment versus clinical and conservative treatment of varicose veins [9–13].

Surgical treatment for varicose veins had a great and creative improvement with Muller's invention of the local stab avulsion method, developing those useful hooks which are probably still the best ones after 30 years. His pioneering creation can even avoid suturing the surgical incisions [2]. Soon after came Franceschi, who developed a minimally invasive surgical approach (CHIVA) aimed to a haemodynamic correction, more than to a radical avulsion of the varicose bed, based upon a meticulous preoperative Duplex examination. Although this preoperative study might be complicated in some cases, the result is an efficient, cheap and ambulatory minimally invasive surgery [3].

This technique, which has been worldwide diffused in the last years, has caused in some cases an incorrect study of the patients, with the subsequent worse results, possibly due to the large number of patients who desire a fast and cheap treatment. Better results will arise when the preoperative study is performed more meticulously, in a more professional way, with a correct preoperative, (both diagnostic and surgical) assessment [14, 15].

The excess of surgical indications and performances of CHIVA has lead to some disappointing, but probably unreasonable, results of this technique [13].

There is no doubt for those who have seen or performed saphenectomy, that it is a traumatic technique. For that reason Creton presented his wide casuistry of invaginated axial saphenectomy, with local anesthesia and on an ambulatory basis in most cases [5].

Saphenectomy is still today the gold standard for comparative studies of whatever other technique which wants to evaluate its results on eliminating the immediate cause (reflux or insufficiency) of varicosities [12, 16, 17].

Endovenous laser fulguration, which was created and developed by Bone and later diffused by Min [18], has experienced a great breakthrough. The laser used in our patients was Long-Pulsed 810 nm Laser Diode, using 600 micron fibers. All of our patients treated with this technique had an excellent result, as only small diameter GSV were selected. Currently, better devices with greater wavelengths might be required for bigger saphenous veins [6–19].

Different studies, with very similar results, provide comparative data regarding effectiveness depending on the technique used. All of these studies compare their results with the saphenectomy technique [22–24]. There must still be defined, with bigger series, the economic cost and endovenous laser indications [24, 25], deciding moreover when and which technique should be used [22, 26, 27].

As seen by many other authors, we have observed a great improvement in the recovery after surgery, with complete postoperative periods ranging from 7 to 30 days with the two less aggressive techniques, CHIVA and laser technique. It is of great interest with the laser technique that, although there is an extensive area treated, during the postoperative there is very slight pain. Moreover, not performing the two basic incisions used in the CHIVA (the inguinal one and the lower limb one) is already an important breakthrough of the laser technique [24, 25, 26].

In conclusion, the techniques used have proved very similar results, with different economical costs and, for those treated with CHIVA and laser, clinical improvement in the early postoperative period.

Larger prospective randomized studies with long-term follow-up are necessary to compare the three techniques and decide which treatment will be more suitable for each patient.

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IAAS Country Report on Day Surgery: Finland

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In Finland day surgery is most commonly performed at public hospitals, and to some extent at private day surgery centers and at doctor's offices. At hospitals, day surgery is mostly performed in units dedicated for day surgery or short-stay surgery. Some day surgery units are still integrated in the inpatient setting. With growing demand, units have been enlarged or new larger day surgery facilities have been built. Also in the private sector, operating room capacity has increased. However, no detailed numbers are available.

According to the Finnish definition, a "day surgery procedure" is performed in the operating room, and requires intravenous sedation, general or regional anaesthesia. The patient arrives at and leaves the operating facilities on the day of surgery, i.e. within 12 hours from arrival to the unit.

Figures reported by Finnish municipal hospitals show that the proportion of day surgery of all elective surgery has increased from 44% in 2004 to 49% in 2007. At 28 public hospitals (out of 41) over 50% of elective surgery was performed as day surgery in 2007. The highest percentage increases during 2004-2007 were reported in ENT and ophthalmology. There is still wide variation in the proportion of day surgery between hospitals, probably due to local structural and functional differences. According to a recent survey at one university hospital, there is potential to increase day surgery over 30% by developing productivity and implementing best practices. In a recently performed prospective study, day surgery units at Finnish public hospitals provided good-quality services for several surgical specialties, with high patient satisfaction. Availability of data for quality control and benchmarking needs further development.

In Finland health care is primarily financed by general tax revenues. Municipalities (app. 440) are responsible for arranging specialised hospital care for their residents. The country is divided into 21 hospital districts and each municipality belongs to one of these districts. In addition to municipal health care, an occupation-based health service system is responsible for a large proportion of the health care for the workforce. This is financed by employers and the state. There is also a fairly extensive system of private medical services, partly financed by the sickness insurance system. Public hospitals, which are run by joint municipal authorities, provide 95% of all specialist medical care; the remaining 5% is provided by the private sector.

At public hospitals, a patient pays 72 euros for a day case operation, and in case of unplanned admission, an additional bed-day fee (26 euros/day) is charged. The maximal amount of the fees that a patient pays annually for the public health services has been prescribed by law (590 euros in 2007). If a private practitioner gives medical care, reimbursement can be claimed from Social Insurance Institution. Sixty percent of a private physician's fee is refunded up to a specified limit.

Finland has a patient guarantee for care since 1st March 2005, implying that the patient's need for treatment shall be assessed within 3 days following contact to the health care center. The need for hospital treatment shall be assessed within three weeks. If hospital care is needed, such as day surgery, treatment shall be provided within six months. Due to the guarantee for care, the proportion of public services contracted out to the private sector has increased, but their share still remains small in the operating expenditures of hospital districts.

The majority of health care centers and hospitals use electronic patient records. There is an ongoing reform of the national healthcare data management system to improve the efficiency of electronic patient records and pharmacy databases. One feature of the reform is the creation of a centralised patient data archive, which will be built and maintained by the Social Insurance Institution.

The Finnish Ambulatory Anesthesiologists (Suomen päiväkirurgiset anestesiologit = SUOPA) was established in February 2003, and functions as a subcommittee of the Finnish Association of Anesthesiologists. A board of five members, elected for a period of two years, runs the society. The major goals are to promote education, research and to establish guidelines and quality criteria in the field of ambulatory anesthesia in Finland. Since its establishment, the association has annually arranged symposia on current day surgery topics at the national joint meeting of surgeons and anesthesiologists. Every other year a spring-meeting is held, which is targeted to all professionals in day surgery. The association's president and the secretary have been members of a working group of the Finnish Medical Society Duodecim, which prepared evidence-based current care guidelines on pre-operative assessment, preparation and fasting of the surgical patient. At present 81 anesthesiologists, sharing a special interest in ambulatory anesthesia are members of the Finnish Ambulatory Anesthesiologists.

Suprascapular Nerve Block or Interscalene Brachial Plexus Block for Pain Relief after Arthroscopic Acromioplasty

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Abstract

Background: Comparisons between the interscalenic plexus block (ISB) and the su-prascapular nerve block (SSB) have indicated a modestly better effect of ISB for postop-erative pain relief following arthroscopic acromioplasty. The discomfort related to the two blocks has not been evaluated. We conducted a repeated study, considering both the pain relieving effect and the discomfort related to the two blocks.

Methods: The two different interventions were compared in a prospective study using a two-period design performing ISB during the first and SSB during the second period. Out-come parameters were: discomfort in relation to the blocks, consumption of analgesics and pain score during rest / passive movement.

Results: No difference was indicated between the groups as to demographic data and du-ration of operation. The efficacy of blocks was documented by hand grip strength and two-point discrimination. Increased discomfort was related to ISB compared to SSB ($P<0.001$). Pain scores at rest and passive flexion of the shoulder were modestly better with SSB than ISB. The consumption of analgesics did not deviate significantly.

Conclusion: The results of the present study combined with the former reports describing serious lesions in relation to ISB make us recommend SSB as the first choice of blockade for arthroscopic acromioplasty.

Keywords: Pain relief arthroscopic acromioplasty; Suprascapular nerve block; Interscalene brachial plexus block.

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Arthroscopic acromioplasty is often associated with severe post-operative pain that is difficult to manage with orally or IV administered opioids without encountering side effects. A single-dose interscalene brachial plexus block (ISB) has appeared to provide significant analgesia and to be superior to local subacromial bursa infiltration [1]. A random-ised controlled trial by Singelyn et al. compared four groups including interscalene brachial plexus block (ISB), suprascapular nerve block (SSB), intra-articular injection and placebo [2]. From this study it was concluded that ISB is the most efficient analgesic technique after arthroscopic acromioplasty but the SSB block is a clinically appropriate alternative.

However, when evaluating alternative treatments several aspects have to be considered before deciding which one should be preferred. The benefit of ISB for post-operative pain relief should be counterbalanced against the discomfort of the patient re-lated to the performance of ISB compared to SSB. Serious complications such as perma-nent loss of cervical spinal cord function have been reported following ISB so the clinician must be cautious and careful during the performance of this block [3]. Further, two compet-ing techniques have been used for ISB: the traditional approach perpendicular to the in-terscalene groove (Winnie) [2] and the lateral modified approach (Meir) [4]. Both are used rou-tinely but may have different outcomes. Taking these aspects into consideration we de-cided to repeat a direct comparison between ISB and SSB recording the same parameters as Singelyn et al and also we evaluated the discomfort of the patients in relation to the two alternative blocks.

Methods

Subjects eligible for inclusion were patients scheduled for arthroscopic acromioplasty as an out-patient procedure, where further intra- or extra-articular surgery was not expected based on clinical examination, ultrasonography and magnetic resonance imaging (MRI). They were required to be ASA 1-2 and able to understand pain scales. After giving in-formed consent subjects were allocated to either an interscalene brachial plexus block (ISB) or a suprascapular nerve block (SSB) performed by anaesthetists skilled in both types of nerve blocks.

The ISB was performed before the induction of general anaesthesia. A 5 cm, 22 gauge short-bevelled insulated needle (Stimuplex, B. Braun Medical, Melsungen, Germany) was placed in the interscalene groove using the lateral modified approach [3] (Meier approach). The needle connected to a peripheral nerve stimulator (Stimuplex HNS 11, B. Braun Medi-cal, Melsungen, Germany) sent a current (strength: 1mA, duration: 0.1 ms and frequency 2 Hz) into the groove. When a muscle group of the upper extremity was stimulated and the threshold was assessed between 0.2 and 0.5 mA the position was considered adequate. After negative aspiration for blood, 20 ml of 0.25% Bupivacaine was instilled.

The SSB was also performed before general anaesthesia using the same needle and pe-ripheral nerve stimulator as mentioned above. The Stimuplex needle was introduced per-pendicular to the skin 1cm proximal to the middle of the spine of the scapula. The su-prascapular nerve was located if the current caused a contraction of the supra- or infraspi-natus muscles. Ten ml of 0.25% Bupivacaine was injected at that location.

Of course, subjects were aware of where they had been injected. They were told that both types of block supplied effective anaesthesia.

Surgery was performed under general anaesthesia (GA). GA was induced with Thiome-bumal/ Fentanyl and maintained with Propofol/ Remifentanile. A laryngeal tube was in-serted. In both groups 5 ml of Bupivacaine 0.5 % with epinephrine was infiltrated in the anterior portal used for intra-articular probing.

If further surgery apart from acromioplasty was indicated, subjects were excluded from the study. No other exclusion criteria were used.

The post-operative bandage covered both injection areas. A loose sling was applied.

After surgery subjects were moved to the recovery room. Subjects were discharged with Paracetamol 500 mg, Ibumetin 400 mg, and Tramadol 50 mg, and a written instruction allowing them to take up to 8, 3, and 4 tablets respectively during the next 24 hours.

Demograhic data, the type of block and the duration of the operation were recorded. The effects of the blockades were tested and documented by recording hand grip strength and two-point discrimination. For hand grip strength we used a grip sphygmomanomometer and for two-point discrimination we used a slide ruler measuring mm for touch on the index finger's pulp. Discomfort with the application of ISB or SSB was recorded just after the blockades using a 100 mm long visual analogue scale (VAS score). The pain score at rest was recorded on the same scale before operation, 2 and 4 hours after the end of operation by the same observer and by self evaluation by the patient 24 hours after the operation. To assure that the self evaluation was carried out a phone call was made to the patients. The score during passive flexion of the shoulder was recorded before and 2 and 4 hours after the operation according to the following scale: 1: passive flexion not possible due to pain. 2: passive flexion to a lesser degree than 45 degrees. 3: passive flexion to 45 degrees possible but very painful. 4: passive flexion to 45 degrees elicits pain but is not bother-some. 5: passive flexion to 45 degrees is painless.

Outcome parameters thus included:

- Discomfort with the application of the blockade on a 100 mm long visual analogue scale.
- Pain score with the arm at rest.
- Score (according to the scale above) during passive flexion of the shoulder.
- Accumulated consumption of Morphine, Paracetamol, Tramadol or Ibumetin till 24 hours after the operation.

Pain at rest was considered as the most important outcome measure. We did not want to overlook a difference between blocks of more than 20 mm on the VAS scale with a power of 90%. The type one error was set at 5% and the variation was judged based on pain levels from a sample of ISB blocked acromioplasty operated patients. Based on these assumptions, 20 patients were needed in each group. The two sided t-test with different vari-ances was used for comparison of parameters within the present study. To be able to compare with other studies we also calculated mean and standard error of mean.

The protocol was confirmed with the ethical committee of Copenhagen County. The committee recommended the study be conducted as quality control. We conducted the study as a quasi randomised experiment with a two period design using ISB during the first and SSB during the second period

Results

The flow chart of patients in and out of the study is shown in Figure 1. During the study period 3 patients were not included based on a wish of not having any blockades at all. Three patients in the ISB and 4 patients in the SSB group were excluded because further surgery was performed. All patients reported 24 hours post-operative results. This left 21 subjects in the ISB group and 20 in the SSB group.

The pre-operative recordings are listed in Table 1. Demographic data, duration of blockade and operation and two-point discrimination did not deviate significantly between the groups. Pre-operative VAS score and grip strength were significantly higher in the SSB group. Discomfort in relation to the blockade was significantly higher in the ISB group.

Table 1 Pre-operative recordings of the two groups (ISB: Interscalene plexus blockade and SSB: Suprascapular nerve blockade). The visual analogue score for pain at rest and the grip strength were significantly higher in the SSB group. The score for discomfort related to blockade was signifi-cantly higher in the ISB than the SSB group.

PARAMETER	ISB	SSB	P
Patients			
Gender (m/f)	10/11	10/10	>0,5
Age (years)	51,9 (2,1)	48,9 (2,6)	0,18
Weight (kg)	69,0 (2,4)	72,0 (2,6)	0,21
Height (m)	169,8 (1,6)	173,8 (2,1)	0,07
VAS score	34,0	52,3	0,01
Passive move	3,4 (0,3)	3,7 (0,3)	0,42
Grip Strength	59,8 (3,3)	70,5 (3,5)	0,03
Two-point discrim.	2,5 (0.14)	2,8 (0,13)	0,10
Block			
Duration (min)	11,5	10,5	0,07
Discomfort	68,4 (0,9)	51,3 (2,1)	<0.001
Operation			
Duration (min)	35,8 (1,5)	33,5 (1,5)	0,14

The post-operative recordings are listed in Table 2. The grip strength and two-point discrimination deteriorated significantly more in the ISB than the SSB group. The VAS score decreased more after SSB than ISB and the difference was significant 2 hours after the operation. Concordantly, score for passive flexion remained significantly better with SSB compared to ISB at 2 hours post-operatively. The consumption of analgesics was higher in the SSB group but no significant difference was found.

Discussion

Well designed randomised trials provide the best evidence for the clinician to choose between competing interventions. Originally, we planned to conduct a "head to head" ran-domisation in the present study. However, this showed up to be troublesome and the local ethical board recommended conduction of the study as quality control. When a "head to head" randomisation has not been carried out the risk of bias is increased considerably. In the present study the pre-operative VAS score at rest differed significantly between the two groups. The latter operated group (SSB) probably had a higher pre-operative VAS score because pain and disability were progressing during the waiting time. To eliminate this bias from the post-operative evaluation we recorded the difference between post- and pre-operative VAS scores.

For evaluation of the results it is important to optimise the blockades and validate the measurements. We optimised the placement of

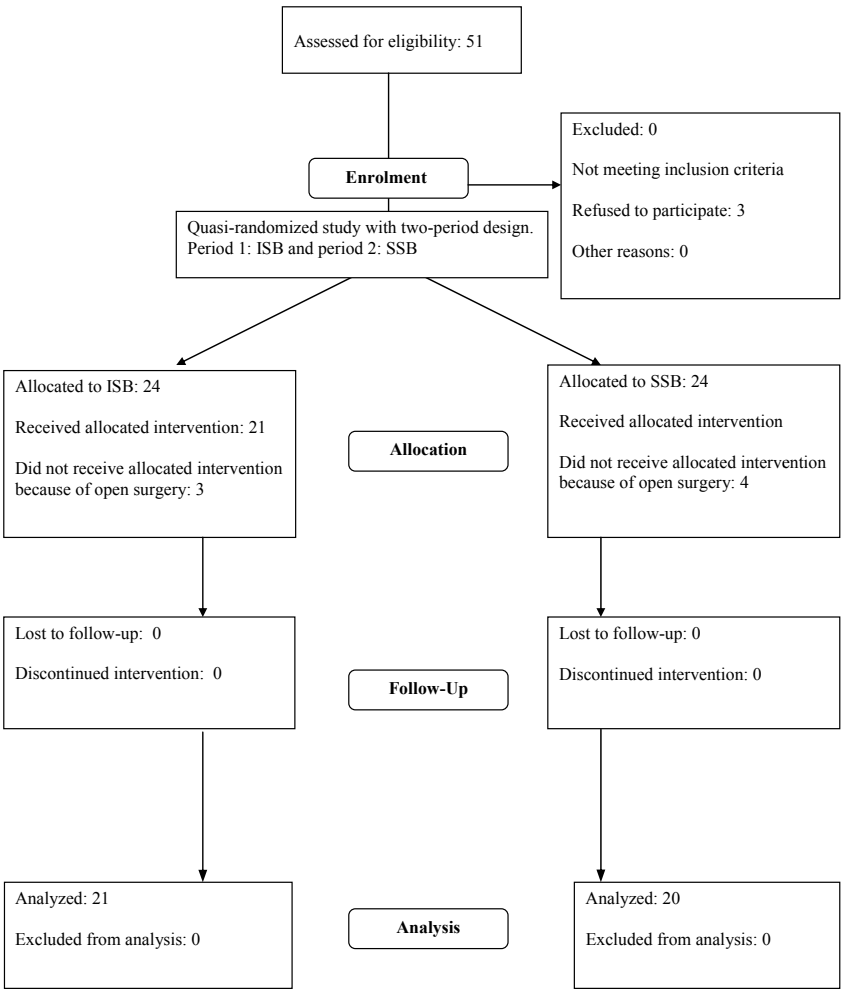

Figure 1 Flow chart of patients scheduled for arthroscopic acromioplasty.

Table 2 Post-operative recordings of the two groups. The grip strength is given as per cent of the pre-operative measurement, whereas two-point discrimination, pain score at rest and pain during move are given as the difference post-operative minus preoperative score. ISB: interscalene plexus block and SSB: suprascapular nerve block.

PARAMETER	ISB	SSB	P
Grip strength			
2 hours	25,6 (6) %	95,8 (2) %	<0,01
4 hours	26,6 (6) %	95,5 (2) %	<0,01
Two points discrimination			
2 hours	21,9 (3,3) mm	0,6 (0,1) mm	<0,01
4 hours	18,5 (3,0) mm	-0,6 (0,1) mm	<0,01
Pain score at rest			
2 hours	-22 (5,7)	-41 (4,8)	0,02
4 hours	-25 (4,4)	-35 (5,1)	0,17
24 hours	-16 (5,8)	-23 (5,5)	0,44
Pain during move		-0,15 (0,3)	
4 hours	-1,9 (0,3)		P<0,01
Consumption of Analgesics after 24 hours		0	
Morphine	0	5,9	1,0
Paracetamol	5,0	2,8	0,31
Ibumetin	1,9	1,3	0,25
Tramadol	0,8		1,3

the local anaesthetics by using nerve stimulator and validated the efficacy of the blocks by recording hand grip strength and two-point-discrimination. After ISB an extensive motor and sensory blockade was validated by hand grip strength and two-point discrimination, respectively. The slight influence on the tests following SSB is in accordance with the limited motor (m. infra- and m. supraspina-tus) and no cutaneous innervation of the suprascapular nerve.

Inside the shoulder joint the SSB blocks about 70% of the posterior glenohumeral joint, the acromioclavicular joint, the subacromial bursa, and the coracoclavicular ligament [6]. This explains the beneficial effect of this block in relation to shoulder surgery as documented in several studies. Direct comparison between pain scores after ISB and SSB was carried out in the present study and that of Singelyn et al. The results of Singelyn et al indicated modestly better pain relief with ISB than SSB in one among three tests. Contrarily, in our study VAS score and score during passive flexion of the shoulder indicated better effect of SSB. These paradoxical findings between the two studies may be explained by the two different techniques used for ISB. Using the Winnie approach Singelyn et al injected the local anaesthetics near the superior trunk from which the suprascapular nerve is originating. This is probably not the case when we used the Meier approach. The lateral and caudal placement of local anaesthetic associated with this approach is increasing the risk not including the suprascapular nerve.

In our study the blocks were performed while the subjects were awake. A dis-cussion has taken place whether blocks may be performed during general anaesthesia or not [6,7,8,9,10]. Serious complications with spinal cord lesions have been described when the ISB was carried out during general anaesthesia. Several anaesthetists find that ISB is ab-solutely contraindicated during general anaesthesia. The risk of serious complications seems especially to be related to the Winnie approach whereas both serious complications and side effects

are lesser frequent after the modified lateral approach [4]. Ultrasound guided ISB is probably rather safe and may exclude the risk of serious nerve lesions, but further evidence is needed in this field [11]. Probably the SSB performed with modern atraumatic cannulas can be performed without any risk of serious lesions of the relative small su-prascapular nerve.

Although pain relief in our study was significantly better following SSB compared to ISB, the difference was never more than 20 mm on the VAS scale and concomitantly we did not find significant difference comparing the consumption of analgesics. We also demonstrated that the patients felt more uncomfortable with the performance of ISB than with SSB and the massive affection on hand sensibility and upper limb motor function was felt as unpleasant by many. The ISB is the most difficult to deliver, requiring a greater time commitment. These latter facts together with the serious complications such as permanent loss of nerve function speaks for SSB as the blockade in relation to acromioplasty.

In conclusion following arthroscopic acromioplasty we found modestly better effect for post-operative pain relief and lesser discomfort during the performance of SSB compared to ISB. We recommend SSB as the primary choice of regional nerve blockade during ac-romioplasty.

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IAAS Country Report on Day Surgery: Australia (April 2009)

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The Australian health care system is a balanced system, approximately 50% public and 50% private, however the trend over the past 10 years has been a slow but steady increase in the private sector (now 53%). Day surgery has continued to increase with the private sector now 65% of operations and the public sector 50% (Australian Medical Association data 2007). It is a matter of concern that the public hospital system has not expanded its day surgery to the same extent as the private hospitals, and only a small minority of public hospitals have dedicated day surgery units. The number of freestanding day surgery centres continues to increase and all of these are in the private sector.

In recent years emergency surgery (trauma and acute operations) together with the concepts of extended (overnight) recovery, medimotels and maternity motels have been introduced and are slowly increasing in number – this trend is expected to increase.

Undergraduate and postgraduate medical education, especially the teaching of clinical skills, is now a major concern and day surgery centres/units are an important but as yet untapped resource for their purpose.

Ambulatory Surgery is the official clinical journal for the International Association for Ambulatory Surgery.

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