

Postersession II

Abstract 7

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Titel Optimizing abdominal space with deep neuromuscular blockade in gynaecologic laparoscopy – a randomized blinded crossover study

Introduction

Insufflation of the abdomen during laparoscopy improves surgical space but may cause postoperative shoulder pain. The best intervention to reduce incidence of shoulder pain is lowering the insufflation pressure. However, this may compromise the surgical space. We aimed at investigating if deep neuromuscular blockade (NMB) paralyzing the abdominal wall muscles and the diaphragm would enlarge surgical space measured as the distance from promontorium to trocar in patients undergoing gynaecologic laparoscopy. Moreover, we aimed at investigating if deep NMB improved surgical conditions while suturing the abdominal fascia.

Methods

Fourteen patients were randomized in a cross-over assessor blinded design. Patients were anaesthetized with propofol and remifentanyl. Deep NMB, defined as post-tetanic count between 0-1, was established with rocuronium and reversed with sugammadex. Distances from sacral promontory to trocar were measured in each patient at pneumoperitoneum 8 and 12 mmHg both during deep NMB and without NMB. Additionally, we assessed surgical conditions while suturing the abdominal fascia using a four-point subjective rating scale. During these assessments patients either had a deep NMB or no NMB. A pilot study reported a difference in distance from sacral promontory to skin surface at 12 mmHg with mean 16.27 mm and standard deviation 16.93. With a clinically relevant difference of 20 mm, significance level 0.01 and power 0.90, sample size should be 14.

Results

All 14 patients completed the study. Average age was 44.2 years and average BMI was 22.2 kg/m². At 12 mmHg pneumoperitoneum deep NMB improved surgical space with a median of 3 mm. At 8 mmHg pneumoperitoneum deep NMB improved surgical space with a median of 4 mm (Table 1). Deep NMB resulted in significantly better ratings of surgical conditions during suturing of the fascia (P= 0.021) (Table 2).

Discussion

This is the first study to demonstrate the effect of deep NMB on surgical space when measured objectively by use of the intraabdominal distance. However, our results indicate that the effect of deep NMB is only minor in gynaecologic patients with normal weight. We were only able to show a median difference of 3 mm at 12 mmHg pneumoperitoneum.

Our findings raise the question if an enlargement of 3-4 mm is clinically relevant. However, even small enlargements of the abdominal space may be of importance to the surgeon performing narrow and difficult laparoscopic procedures. Finally, total paralysis of the abdominal wall muscles and the diaphragm significantly improved surgical conditions. This is a finding of major importance for surgeons who often experience difficulties in adapting and suturing the fascia if the abdominal muscles are tense.

Conclusion

Deep NMB compared to no neuromuscular blockade enlarged surgical space measured as the distance from sacral promontory to trocar. Moreover, deep NMB improved surgical conditions when suturing the abdominal fascia.

Table 1 Deep NMB compared to no NMB in 14 patients

Pneumoperitoneum 12 mmHg	Percentiles		
	25 %	Median	75 %
Deep NMB	8.575	9.300*	9.600
No NMB	8.150	9.000	9.525
Pneumoperitoneum 8 mmHg			
Deep NMB	7.675	8.550‡	8.925
No NMB	7.350	8.150	8.825

n, number of patients; NMB, neuromuscular blockade. (Standard deviation)
Wilcoxon Signed Ranks Test; *P = 0.011 for deep NMB against no NMB,
‡P = 0.009 for deep NMB versus no NMB

Table 2 Evaluation of surgical conditions after suturing of the fascia

Four-point surgical rating	No NMB	Deep NMB	Total
Optimal (score 1)	2	7	9
Good (score 2)	5	0	5

NMB, neuromuscular blockade; Rating scale was defined as 1) Optimal, 2) Good, 3) Acceptable, 4) Bad
Fisher's exact test; P = 0.021.

Abstract 24

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Titel Epidural top-up til grad 2 kejsersnit: en Skandinavisk undersøgelse af praksis

Introduktion

Epidural top-up (benyttelse af en eksisterende epidural blokade anlagt til behandling af fødselssmerter) er en alment accepteret metode til at opnå kirurgisk smertebehandling til kejsersnit. Imidlertid er viden om hvilke anæstesiomidler og hvilke sikkerhedsforanstaltninger der benyttes i Skandinavien i forbindelse med epidural top-up manglende. Formålet med vores undersøgelse var derfor at afdække aktuelle praksis i Skandinavien.

Metoder

En forespørgsel om deltagelse blev sendt til samtlige afdelinger i Danmark, Norge og Sverige som udførte obstetrisk anæstesi. Afdelingscheferne anførte navne og e-mail adresser på to speciallæger som derpå fik tilsendt selve det elektroniske spørgeskema om aktuelle praksis. Undersøgelsen er alene anmeldt til Datatilsynet da studiet ikke var anmeldelsespligtigt til Etisk Komite.

Resultater

Svarprocenten fra speciallægerne var 80%. 120 (83%) specialister rapporterede tilstedeværelse af lokale guidelines for epidural top-up. Antallet af kejsersnit per afdeling varierede mellem 31 and 1.699 svarende til at 5,5% til 26,7% af fødslerne skete via kejsersnit. Fjorten (9,7%) specialister gav fuld dosis på fødestuen, 34 (23,4%) benyttede en test dosis på fødestuen før administration af den resterende dosis. 87 (60,0%) gav ikke lokalanalgetika i epiduralen før ankomst til operationsstuen (Figur 1). Toogtyve forskellige kombinationer af farmaka blev rapporteret, med lidokain som det hyppigste lokalanalgetika (alene eller i kombination med andre stoffer, Tabel 1). Speciallægeanbefalinger til uddannelsessøgende var, i 70% af besvarelserne, at vente med at give lokal analgetika før ankomst til operationsstuen. Lidokain var mest populært i Danmark og Norge mens ropivakain var det mest populære lokalanalgetika i Sverige. 90% af de adspurgte speciallæger rapporterede en transporttid fra fødestue til operationsstue på 5 minutter eller mindre. Hyppigste transporttid var 2 minutter og længste transporttid var 15 min. Monitorering af patienten under transport til operationsstuen blev benyttet af 13 (27%) af de 48 speciallæger som gav test eller fuld dosis i epiduralen på fødestuen.

Diskussion

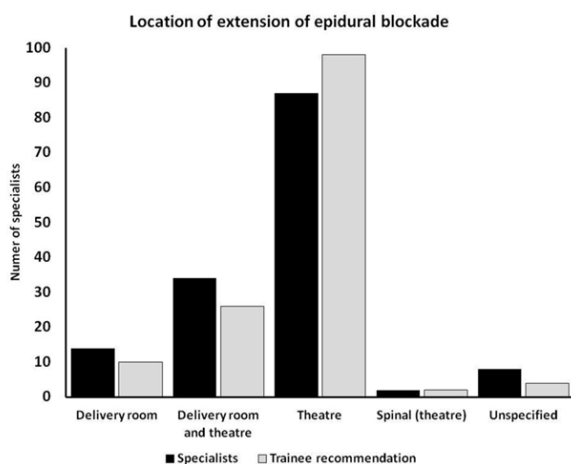
Epidural top-up virker mindre udbredt i Danmark, Norge og Sverige sammenlignet med Storbritannien. Tilsvarende engelske anæstesiologer, anbefaler også skandinaviske speciallæger lidt mere konservativ praksis til sine uddannelsessøgende. De benyttede stoffer til epidural top-up er væsentligt anderledes fra en undersøgelse fra 2008 i Storbritannien hvor bupivakain var det mest benyttede stof.

Konklusion

Vores studie viser varians i de skandinaviske lande i forhold til: hvor der foregår top-up (fødestue/operationsstue), stoffer der benyttes til top-up og især i forhold til beskrevet praksis fra udlandet.

Denne varians kan skyldes forskellig grad af detailniveau i de nationale guidelines i de tre undersøgte skandinaviske lande.

Figur 1.



Tabel 1.

Rank	Drug combinations	Frequency	Percent
1	Ropivacain	28	19.3
2	Lidocain Epinephrine	20	13.8
3	Lidocain Sufentanil Epinephrine	12	8.3
4	Ropivacain Sufentanil	12	8.3
5	Ropivacain Fentanyl	11	7.6
6	Chloroprocain	9	6.2
7	Lidocain	8	5.5
8	Lidocain Fentanyl Epinephrine	7	5.0
9	Lidocain Fentanyl Epinephrine Bicarbonate	6	4.1
10	Lidocain Sufentanil Epinephrine Bicarbonate	5	3.4
11	Chloroprocain Fentanyl	4	2.8
12	Bupivacaine	3	2.1
13	Lidocain Sufentanil	3	2.1
14	Lidocain Fentanyl	2	1.4
15	Lidocain Fentanyl Bicarbonate	2	1.4
16	Ropivacain Sufentanil Morphine	2	1.4
17	Chloroprocain Sufentanil	1	0.7
18	Lidocain Epinephrine Bicarbonate	1	0.7
19	Lidocain Bupivacaine	1	0.7
20	Lidocain Sufentanil Bicarbonate	1	0.7
21	Mepivacaine Epinephrine	1	0.7
22	Mepivacaine Fentanyl Epinephrine	1	0.7
	Spinal anaesthesia	2	
	No top-up (alternative course unspecified)	1	
	Not reported	2	

Abstract E

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Titel Near-infrared spectroscopy during general anaesthesia in the prone position.

Introduction

Near-infrared spectroscopy (NIRS) is a technique which non-invasively and continuously can measure regional cerebral oxygen saturation (rScO₂) [1]. Near-infrared light at two different wavelengths is emitted from a light-emitting diode in a pad placed on the patient's forehead and is transmitted through the underlying tissues[2]. The light is scattered and partly reflected to two optodes in the pad. This allows for subtraction of reflections derived from the scalp and the skull.

In a previous study, NIRS was used to determine whether head rotation of a patient placed in the prone position affected rScO₂ [3]. That study raised the suspicion that a higher number was read on the NIRS monitor when the patients head was lifted.

The hypothesis for this study was, that compared with the rScO₂ readings on the monitor when the head was resting in the head support, an increased value would be read when the head was lifted from the support.

Methods

Sixty patients scheduled for lower back surgery in the prone position were included. Before induction of anaesthesia, a NIRS-pad was attached to the patient's forehead. After maintaining stable anaesthesia 3 series of measurements (5 min each) were conducted with registration of rScO₂ every 15 sec, the first and last series with the head resting, the second with the head lifted(figure 1)

The sample size calculation was based on the above mentioned study [3]. Data were analyzed by ANOVA and Dunnett's test (the average of all rScO₂ values during the first measuring period compared with all the rScO₂ values during head lift).

Results

Three patients were excluded leaving 57 patients for analysis. (figure 1).

The head lift resulted in a statistical significant increase ($P < 0.001$) in the rScO₂ readings during the first 2 min 30 sec. of the head lift. The mean difference was 5 rScO₂ units(figure 2).

Discussion

Our hypothesis was confirmed i.e. an increase in rScO₂ was found if the head was lifted from the head support. However, the increase was limited to a few min and was less than the increase which in the protocol was defined as clinically relevant. Thus, we conclude that for a patient in the prone position with a NIRS pad placed on the forehead, the pressure from the head support on the tissues below the NIRS pad does not affect the measurement to a clinically relevant magnitude.

The study was apoved by the Danish Scientific Ethics Committee.

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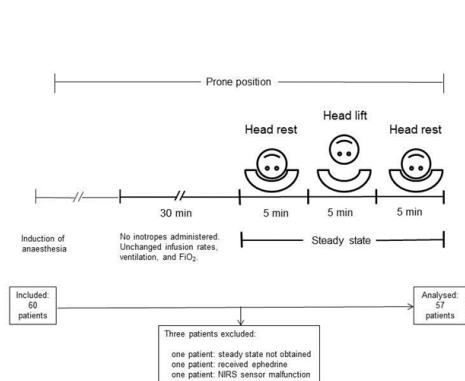


Figure 1 Flow chart and design of the study.

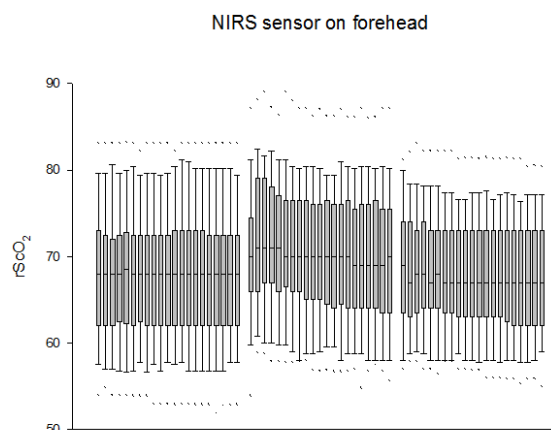


Figure 2 Regional cerebral oxygen saturation (rScO₂). The median, 25% and 75% quartile (boxes) and 10% and 90% percentiles (whiskers) are shown. The dots denote values in the 5-10% and 90-95% intervals.

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Titel Resultater implementeringen af elektronisk anæstesiskema i ændret dokumentationspraksis?
- En retrospektiv multicenter undersøgelse.

Indledning

Region Sjælland har i 2013 og 2014 indført den elektronisk anæstesijournal (Metavision) på regionens sygehuse.

Har indførslen af Metavision ændret på opfyldelsen af de regionale retningslinjer om præ-tilsyn og indrapportering til den nationale Dansk Anæstesi Database (DAD)?

Metode

Tre sygehuse, Roskilde, Næstved og Holbæk deltog i den retrospektive undersøgelse af elektive gynækologiske operationspatienter. Undersøgelsen strakte sig over to perioder á 14 dages varighed, 1 måned før og 1 måned efter indførslen af Metavision. Der blev foretaget audit på: Patientjournaler, anæstesi journaler, medicinmodul og DAD. For det præoperative anæstesiskema undersøgtes punkterne: læseligt navn på anæstesi-læge, samtykke til anæstesi, adspurgt til dyspepsi, Mallam-Pati Scoret, nakkebevægelighed, tandstatus, ASA scoret, højde, vægt, puls og BT. Datatilsynets godkendelse var indhentet før opgørelsens start.

Resultater

I alt indgik 260 patienter i undersøgelsen. 128 patienter før og 132 efter indførslen af Metavision. Anæstesijournalen manglede hos 4 før- og 4 efter indførslen af Metavision. Fratrullet de manglende anæstesiskemaer havde 24,9% en komplet udfyldt anæstesijournal (før: 25,0%; efter: 24,8% (p=0,91; Chi-square)).(se figur 1) Før Metavision var 90,9% (81,8; 95,5) (median (IQR))af de udvalgte punkter udfyldt i anæstesiskemaet, og efter hos 90,9% (79,5; 93,2), således ingen signifikant forskel (p=0,27; Mann-Whitney).

Både før og efter indførslen af Metavision var de hyppigste mangler: om der var adspurgt til dyspepsi (før:43,5%, efter: 30,5%) og om nakkebevægeligheden var vurderet (Før:34,7%, efter: 47,7%). Ifølge journaloplysningerne var der ingen af de inkluderede der aspirerede under anæstesen, ej heller blev der registreret tilfælde af ikke erkendt vanskelig luftvej.

Indberetningen til DAD skete både før og efter Metavision hos: 78,1% (p=0,76; Chi-square). Procedure (SKS-) koderne der var registreret i DAD var identiske med den i journalen anførte SKS kode i 54,3% af tilfældene (før:54,7%, efter:53,1%) (p=0,89; Chi-square).

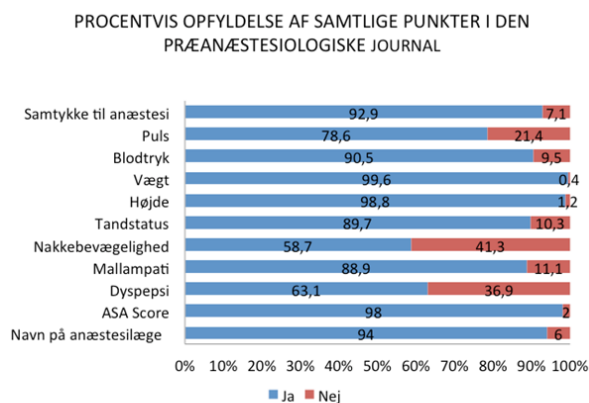
Diskussion

Studiet viser at 75,1 % af alle prætilsynene kan betegnes som ukomplette ifølge den regionale vejledning, særlig vedr. dyspepsi og nakkebevægelighed. Der var ingen signifikante forskelle på opfyldelsen af retningslinjerne før og efter indførslen af Metavision.

Den begrænsede indrapportering til DAD kan reducere validiteten af fremtidige forskningsprojekter. Når procedurekoden kun er identisk mellem journal og DAD hos ca. halvdelen af patienterne, vil fremtidige forskningsprojekter formentlig kræve samkøring af flere databaser. Dette er, ifølge vores oplysninger, det første studie der sætter fokus på datakvaliteten i DAD.

Konklusion

Indførslen af elektronisk anæstesiskema har i vores opgørelse hverken forbedret kvaliteten af det præoperative tilsyn, eller øget frekvensen af indrapporteringer til DAD. Indførslen har heller ikke forringet samme. Yderligere studier af datakvaliteten i DAD er påkrævet.



n=252

Abstract 31

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Titel Macrogols as a cause of perioperative anaphylaxis

Introduction

Macrogols or polyethylene glycols (PEGs) are polymers of variable molecular weights, used widely as solvents, dispersing agents, drug vehicles and active ingredients. In the perioperative setting, they figure in many products rarely suspected of causing anaphylaxis and thus their use is often undocumented (Figure 1).

We describe the case of a 69-year old male with anaphylaxis during emergency craniotomy for subdural hematoma. An hour following induction of general anaesthesia with thiopental, alfentanil suxamethonium and maintenance with remifentanil, propofol and cisatracurium, the patient developed sudden hypotension (MAP 35mmHg, pulse 100bpm) and generalized urticaria. Suspecting anaphylaxis, propofol infusion was stopped and anesthesia switched to sevofluran. Ephedrine and phenylephrine had no effect but the patient was stabilized 30 minutes later following continuous adrenaline infusion. IV steroids and antihistamines were administered and surgery was completed.

In the following six months, the patient experienced two additional anaphylactic episodes at home, characterized by itching, urticaria and hypotension. The first episode occurred after ingesting Deprakine® Retard (valproate), the first tablet of a new formulation of his anti-epileptic medication. The second episode followed ingestion of Grepid®, a new formulation of clopidogrel 6-8 hours earlier. In both instances, the patient was stabilized by paramedics with 0.3mg adrenaline i.m., steroids, antihistamines and fluids.

Method

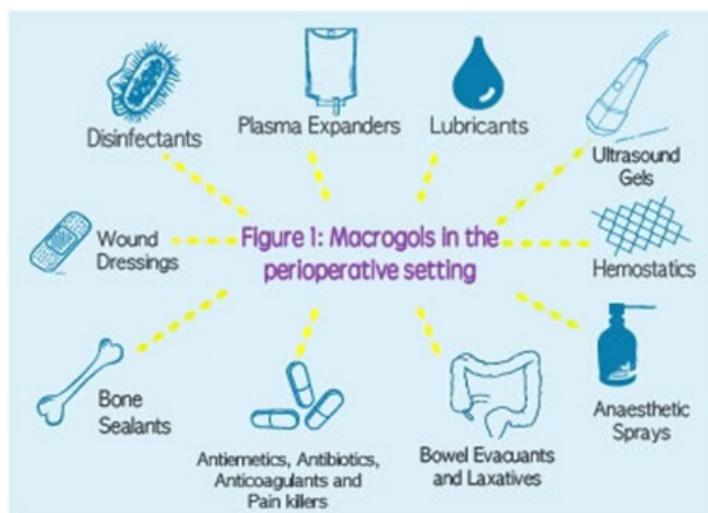
The patient was referred to the Danish Anaesthesia Allergy Centre (DAAC) and underwent standardized investigations with skin prick tests (SPT), intradermal tests (IDT), specific IgE, histamine release (HR) and provocation with drugs and substances administered before the episode of perioperative anaphylaxis. In DAAC all patients are tested with latex, chlorhexidine, ethylene oxide, methylcelluloses and macrogols as exposure is almost certain in the perioperative setting.

Results

SPT with macrogol 3000 and 6000 were clearly positive in duplicate. Approximately 40 minutes later, he developed systemic urticaria requiring antihistamine treatment. SPT for macrogol 300 and all tests for other drugs and substances he had been exposed to were negative. Both Deprakine® and Grepid® were subsequently found to contain macrogols.

Discussion and Conclusion

Macrogols of high molecular weight were concluded to have caused the patient's reactions. Macrogols are prevalent in the perioperative setting but their allergenic potential is often overlooked and their presence largely unrecognized. In cases of suspected perioperative anaphylaxis, documentation of all product exposures including brand names is central to identifying the responsible allergen. It is likely that hypersensitivity to macrogols is underreported and we suggest routine testing for these polymers following perioperative anaphylaxis.



Abstract F

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Titel Indførelse af atraumatisk spinalnål til lumbalpunktur på en dansk neurologisk afdeling

Introduktion

Lumbalpunktur er en diagnostisk og terapeutisk procedure, der udføres af læger fra mange forskellige specialer. En komplikation til indgrebet er postspinal hovedpine (PDPH), som i svære tilfælde kan kræve indlæggelse og behandling med epidural bloodpatch. Incidensen af PDPH efter lumbalpunktur med en traumatisk spinalnål er estimeret til 36 % [1]. Der er evidens for at brugen af atraumatiske spinalnåle reducerer incidensen af PDPH [1,2]. Number needed to treat er 6 [1]. På trods af denne viden, er traumatiske spinalnåle fortsat førstevalget blandt danske neurologer [2], hvorimod brugen af atraumatiske nåle længe har været standard praksis blandt danske anæstesiologer. I et forsøg på at nedsætte antallet af PDPH på Glostrup hospital, er der blevet indledt et samarbejde mellem anæstesiologisk og neurologisk afdeling, med det formål at indføre en konsekvent brug af atraumatiske spinalnåle på neurologisk afdeling.

Metoder

Når en given klinisk praksis søges ændret, vil dette naturligt være forbundet med forskellige barrierer, som det er vigtigt at forsøge at imødekomme hvis tiltaget skal lykkes [3]. I et forsøg på at bryde disse barrierer, blev der iværksat følgende tiltag:

- Alle klinisk arbejdende neurologer, og særligt udvalgte sygeplejersker, har modtaget et kursus af en times varighed, med teoretisk gennemgang og praktisk øvelser med atraumatiske nåle på et fantom.
- Lumbalpunkturvejledningen for neurologisk afdeling blev revideret.
- For at sikre let adgang til udstyr, er indholdet af alle lumbalpunkturbakkerne på neurologisk afdeling blevet revideret og standardiseret i henhold til den ændrede vejledning, hvorved de traumatiske nåle helt er blevet fjernet fra lumbalpunkturbakkerne til fordel for de atraumatiske nåle.

Diskussion

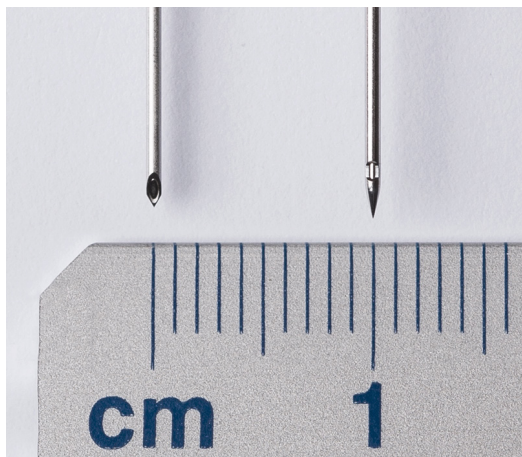
Alle specialer er forbundet med tradition, og efteruddannelsessystemet er ofte baseret på mesterlære, hvilket gør at traditioner føres videre gennem generationsskift indenfor specialerne. Vi beskriver, hvordan man med kommunikation, samarbejde og undervisning på tværs af specialer kan ændre på traditionerne til gavn for patienterne.

Konklusion

Ved at indføre ovenstående tiltag, har vi nu fået størstedelen af neurologerne på Glostrup Hospital til at bruge en atraumatisk nål som førstevalg ved lumbalpunktur. Vi forventer, at ovenstående tiltag vil resultere i en reduktion af antallet af patienter, der oplever PDPH efter diagnostisk lumbalpunktur, og vil nøje følge antallet af anlagte bloodpatches i en post-interventions analyse.

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Billedetekst: Til venstre ses traumatisk spinalnål med skærende spids, til højre ses atraumatisk spinalnål med pencilpoint spids.

Poster Q

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Titel Team training reduces the decision-to-delivery-interval in emergency cesarean sections

Introduction

The decision-to-delivery-interval (DDI) is the time from the decision of a cesarean section to the time of the delivery. In the Danish National Guidelines the DDI has to be < 30 minutes in a 2 grade emergency cesarean section (2G-ECS). In the 2012 Annual Report from "Danish Quality Database for Births" 47.1% of 2G-ECS at Herlev Hospital were carried out within the time frame. The goal is 95%. An organisational effort to change this was initiated. In May and June 2013 an obstetrical full-scale simulation team-training program was held in the Danish Institute for Medical Simulation at Herlev Hospital. Participants were the multidisciplinary caesarean section team (MCS-team) consisting of obstetricians, anaesthesiologists, midwives, anaesthesia- and scrub nurses. A total of 250 staff members participated corresponding to 95% of the staff that can be called to a 2G-ECS. Our hypothesis was that team-training could improve the teamwork in 2G-ECS and thereby reduce the DDI.

Methods

We performed an interventional study, comparing the DDI before and after the team training. A total of 100 2G-ECS patients were included from April 2013 and back in time (before group) and compared with 100 2G-ECS patients included from July 2013 and forward in time (after group). We identified all 2G-ECS in the electronic booking system (ORBIT), and investigated the charts for grade, time of decision and delivery and umbilical cord pH in the new-born.

Results

A total of 96 patients in the before group and 96 in the after group was eligible for analysis. The groups were comparable in BMI, age, ASA score and previous caesarean section.

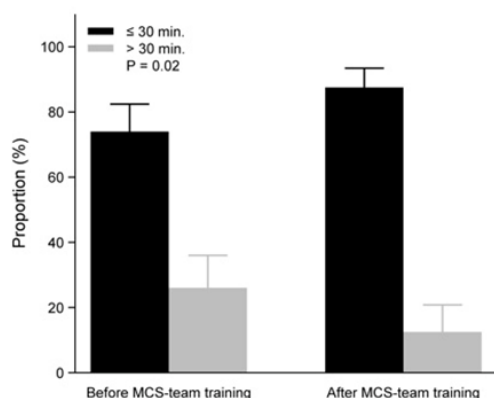
The mean DDI was reduced from 27,3 minutes to 24,8 minutes after team training ($p=0.009$) and the percentage of 2G-ECS with a DDI < 30 minutes increased from 74% to 87,5% ($p=0,02$). (Figure 1) There was no significant difference in umbilical cord pH before and after the intervention.

Discussion

The mean DDI in 2G-ECS was reduced and the percentage of births with DDI < 30 minutes was increased after team training, but the standard of 95 % was not accomplished and the umbilical cord pH was not affected. Previous studies showed improved team confidence and team performance after team training, but we were able to show improvement on the organisational level, which may have impact on patient outcome, but it was not reflected in the umbilical cord pH. Umbilical cord pH is affected by several factors and to show improvement in the pH by altering one single factor like the DDI, larger groups are needed. The markedly improved percentage of births with DDI < 30 minutes seen in the before group (74%) compared to the results in the 2012 Annual Report (47,1%) may reflect the Hawthorn effect where increased attention and involvement of staff in the development of the team-training program could lead to change.

Conclusion

Team training can reduce the DDI in 2G-ECS and the percentage of births with DDI < 30 minutes can be increased.



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Titel Postural stability after laparoscopic surgery

Introduction

Early postoperative mobilization may reduce morbidity¹ and is therefore an important aspect of postoperative care. More advanced surgery is now conducted as outpatient procedures, where safe mobilization and street-readiness are particularly important.

The aim of this study was to assess postural stability with a force platform after outpatient laparoscopic surgery.

We hypothesized that postural stability would be significantly impaired 30 min after extubation.

Methods

We included 25 females undergoing outpatient gynaecological laparoscopic surgery in this descriptive study.

Patients received standardized anaesthesia with propofol, remifentanyl and rocuronium. Approximately 20 min before exsufflation patients received fentanyl (2µg/kg). Neuromuscular blockade was reversed with neostigmine and a train-of four ratio 0.90 was ensured.

Postural stability was assessed preoperatively, 30 min after tracheal extubation, and at discharge from the postoperative care unit using a force platform where sway area, mean sway, and velocity are determined. The assessments were done with eyes closed and with eyes open. In the primary analysis we compared sway area with eyes closed 30 min after extubation with the preoperative value. Data are reported with median (25-75% range) and are compared with a paired rank sum test.

Results

The age of the women was 48 years (33 to 55) and they had a body mass index of 25 kg/m² (22 to 27). The ASA physical status score was I, II and III in 16, 7, and 2 women, respectively. Duration of anaesthesia was 117 min (94 to 128). Time from endotracheal extubation to discharge from the postoperative care unit was 112 min (81 to 130).

Thirty minutes after extubation, sway area had increased with a median of 84 mm² (9 to 172 (P = 0.011)) and 108 mm² (25 to 295 (P = 0.0017)) and mean sway had increased with 1.9 mm (0.7 to 3.3 P = 0.0001)) and 1.6 mm (0.25 to 4.1 (P = 0.0002)) with eyes closed and open, respectively (Table). No significant change was noted for velocity (Table).

At discharge from the postoperative care unit the changes in sway area were -30 mm² (-115 to 49 (P = 0.27)) and -48 mm² (-112 to 37 (P = 0.17)) with eyes closed and open, respectively. At discharge, changes in mean sway were 0 mm (-1.0 to 0.6 (P = 0.81)) and -0.4 mm (-1.6 to 0.5 (P = 0.10)) and changes in velocity -0.85 mm/sec (-2.3 to 1.9 (P = 0.35)) and -0.5 mm/sec (-2.2 to 1.1 (P = 0.14)) with eyes closed and open, respectively.

Discussion and conclusion

Postural stability was significantly impaired 30 min after outpatient gynaecological laparoscopic surgery but there was no significant difference in sway area between the preoperative value and the value at discharge from the postoperative care unit approximately 2 hours after surgery.

This suggests that early mobilization is obtainable after gynaecological laparoscopic surgery.

Ref: 1) Surg Neurol Int 2014;5;66-73

Table. Changes in postural stability 30 minutes after extubation as compared with the preoperative value

	30 min after extubation -preoperative	P*	Values are expressed as median (25-75% range). *30 min and discharge from PACU are compared with preoperative values by Wilcoxon
	n = 25		
Sway area, eyes open, mm ²	108 (25-295)	0.0017	
Mean sway, eyes open, mm	1.6 (0.25-4.1)	0.0002	
Velocity, eyes open, mm/sec	0.6 (-1.4-1.7)	0.5	
Sway area, eyes closed mm ²	84 (9-172)	0.011	
Mean sway, eyes closed, mm	1.9 (0.7-3.3)	0.0001	
Velocity, eyes closed, mm/sec	0.4 (-2.4-2.4)	0.61	

signed rank test.