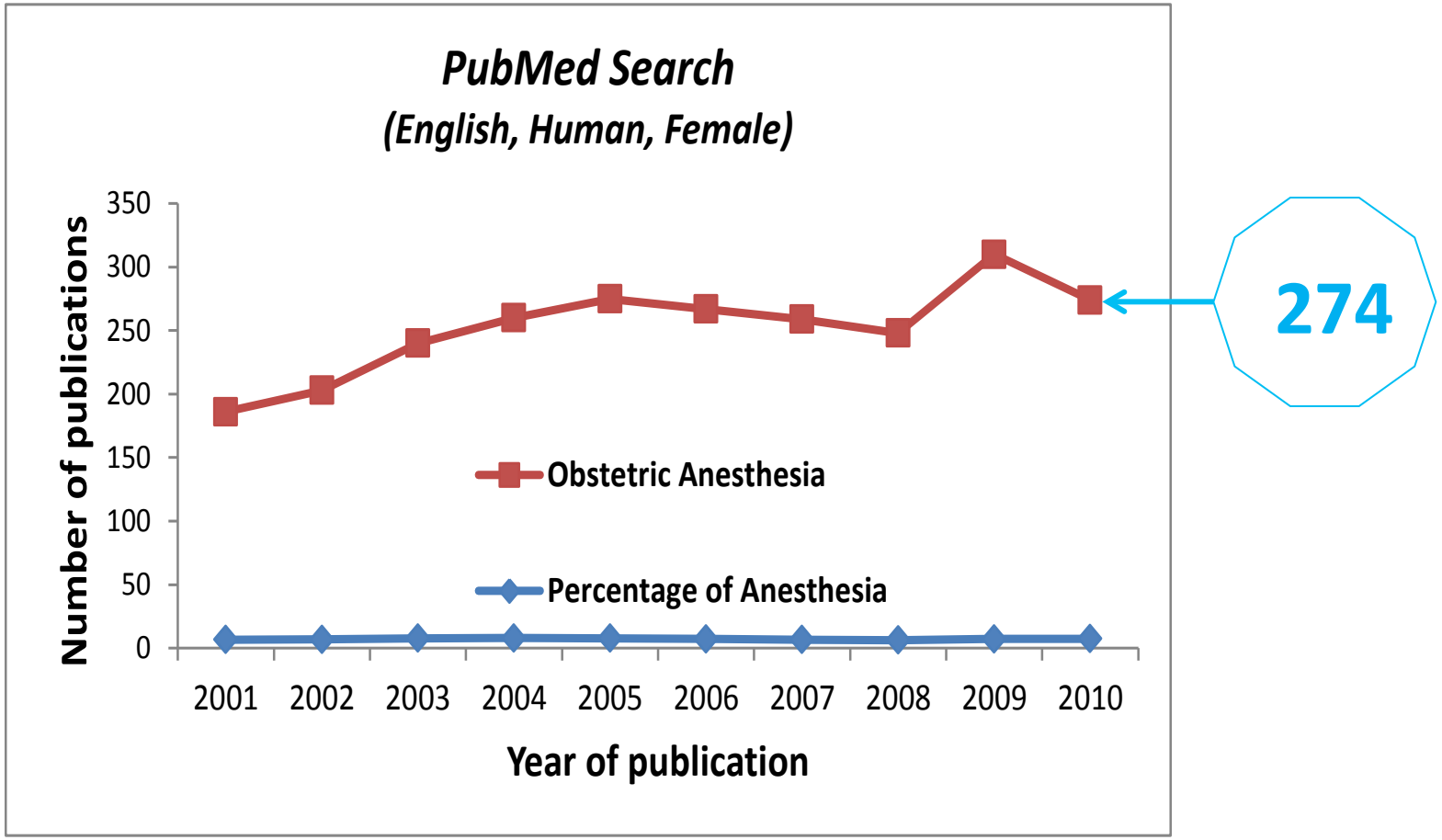
Quoi de neuf en Anesthésie Obstétricale en 2010-2011 ?

Jean Guglielminotti

Département d'Anesthésie-Réanimation, CHU Bichat-Claude Bernard, Paris

UMR 738 INSERM, Equipe 1: Modélisation Biostatistique et Pharmacocinétique


PubMed Search
(English, Human, Female)
Number of publications
350
300
250
200
150
100
50
0
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
Year of publication
Obstetric Anesthesia
Percentage of Anesthesia
274

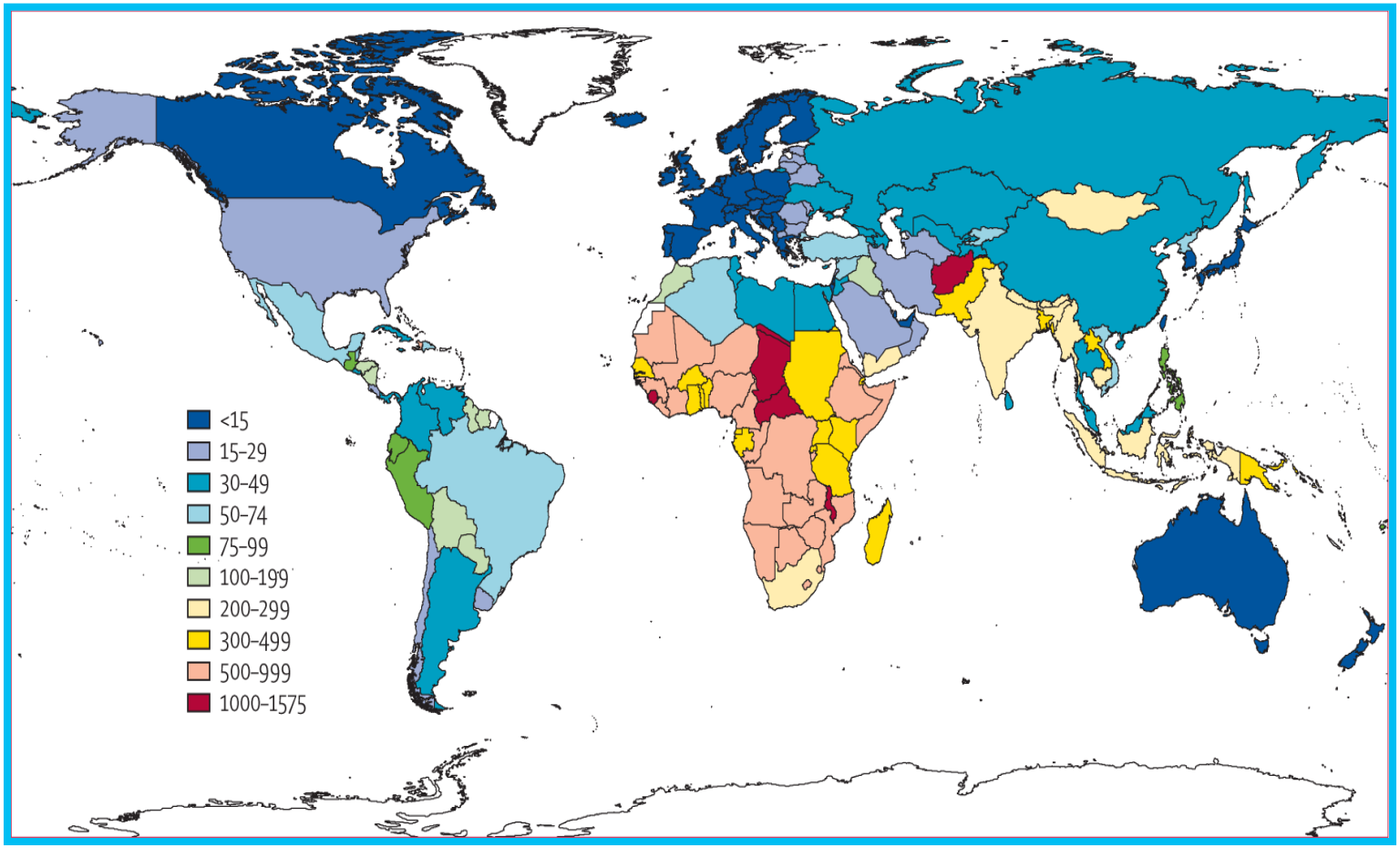
Journal Citation Reports® 2009

Mark	Rank	Abbreviated Journal Title (linked to journal information)	ISSN	JCR Data						*Eigenfactor*™ Metrics	
				Total Cites	Impact Factor	5-Year Impact Factor	Immediacy Index	Articles	Cited Half-life	*Eigenfactor*™ Score	*Article Influence*™ Score
☐	1	PAIN	0304-3959	25665	5.371	6.125	1.065	262	8.6	0.05513	1.835
☐	2	ANESTHESIOLOGY	0003-3022	21357	5.354	4.891	1.662	281	8.4	0.04031	1.341
☐	3	EUR J PAIN	1090-3801	2746	3.612	4.163	0.958	143	4.1	0.01164	1.249
☐	4	BRIT J ANAESTH	0007-0912	11136	3.827	3.487	0.936	220	7.9	0.02248	0.896
☐	5	CLIN J PAIN	0749-8047	3564	3.005	3.423	0.342	117	6.8	0.01006	1.028
☐	6	REGION ANESTH PAIN M	1098-7339	2507	4.157	3.309	0.437	87	6.2	0.00531	0.723
☐	7	ANAESTHESIA	0003-2409	6313	2.855	2.675	0.869	191	8.4	0.01263	0.687
☐	8	ANESTH ANALG	0003-2999	19549	3.083	2.650	0.915	530	7.2	0.03979	0.665

Recherche manuelle numéro par numéro des 4 principale revues d'Anesthésie

- Contrôle des voies aériennes supérieures
- Eclampsie
- Analgésie après césarienne
- Ocytociques et césarienne
- Douleur et analgésie du travail
- Brèches et céphalées
- Allergie au latex
- Les incontournables pour la bibliothèque
- Volontairement exclu (posters++ et conférences):
  - Contrôle hémodynamique au cours de la césarienne
  - Hémorragie du postpartum

Maternal mortality for 181 countries, 1980–2008: a systematic analysis of progress towards Millennium Development Goal 5
Hogan MC Lancet 2010;375:1609-1623



Contrôle des voies des voies aériennes supérieures

■ CLINICAL INVESTIGATIONS

Anesthesiology 2008; 108:357–62

Airway Changes during Labor and Delivery

Bhavani-Shankar Kodali, M.D., Sobhana Chandrasekhar, M.D.,† Linda N. Bulich, M.D.,‡ George P. Topulos, M.D.,* Sanjay Datta, M.D.§*

British Journal of Anaesthesia **104 (1):** 67–70 (2010)
doi:10.1093/bja/aep356

BJA

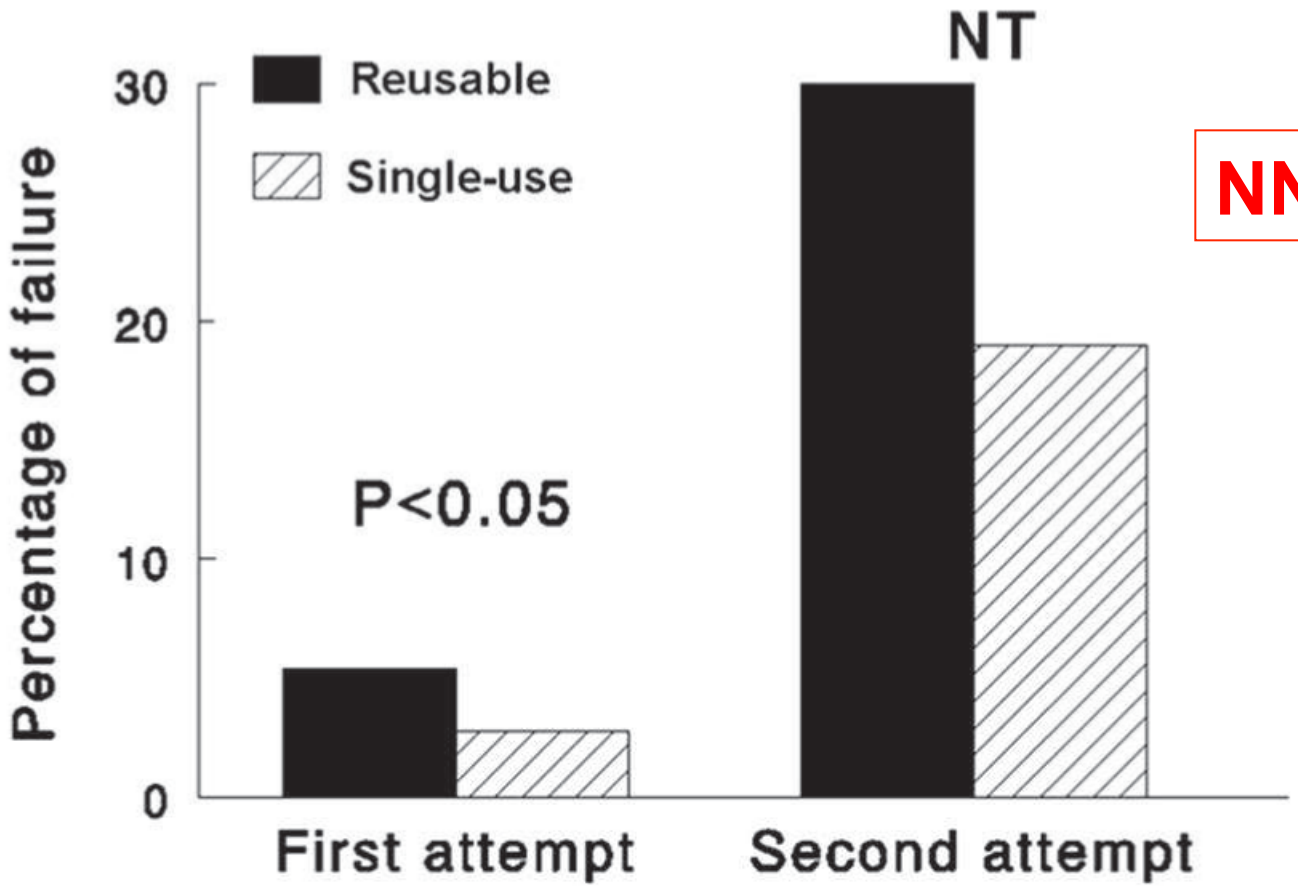
OBSTETRICS

Mallampati class changes during pregnancy, labour, and after delivery: can these be predicted?

M. Boutonnet[1], V. Faitot[1], A. Katz[1], L. Salomon[2] and H. Keita[1]*

Comparison of single-use and reusable metal laryngoscope blades for orotracheal intubation during rapid sequence induction of anesthesia. A multicenter cluster randomized study
Amour J Anesthesiology 2010;112:325-332.

- Etude multicentrique (n = 4) avec randomisation en *cluster* de temps de une semaine
- 1072 patients répartis en 74 *clusters*
- **Induction en séquence rapide** (thiopental 5 mg/kg ou etomidate 0,4 mg/kg et succynilcholine 1 mg/kg)
- **Sonde n°7,5 et mandrin interne avec manœuvre de Sellick**
- **Lame Macintosh n°4 à usage unique ou réutilisable**
- Critère de jugement principal: **impossibilité à intuber la trachée en 60 secondes**; utilisation de l'autre lame en cas d'échec



NNT = 38

Fig. 3. Comparison of failure at the first (n = 575 and 497, respectively) and second attempts (n = 26 and 15, respectively) between single-use and reusable metal laryngoscope blades. An intention-to-treat analysis was performed (at the second attempt, two patients assigned to the single-use blade group but were intubated using reusable blades). * $P < 0.05$ *versus* metal reusable blades; NT = not tested because of small sample size.

Amour J Anesthesiology 2010;112:325-332.

Society for Obstetric Anesthesia and Perinatology

Section Editor: **Cynthia A. Wong**

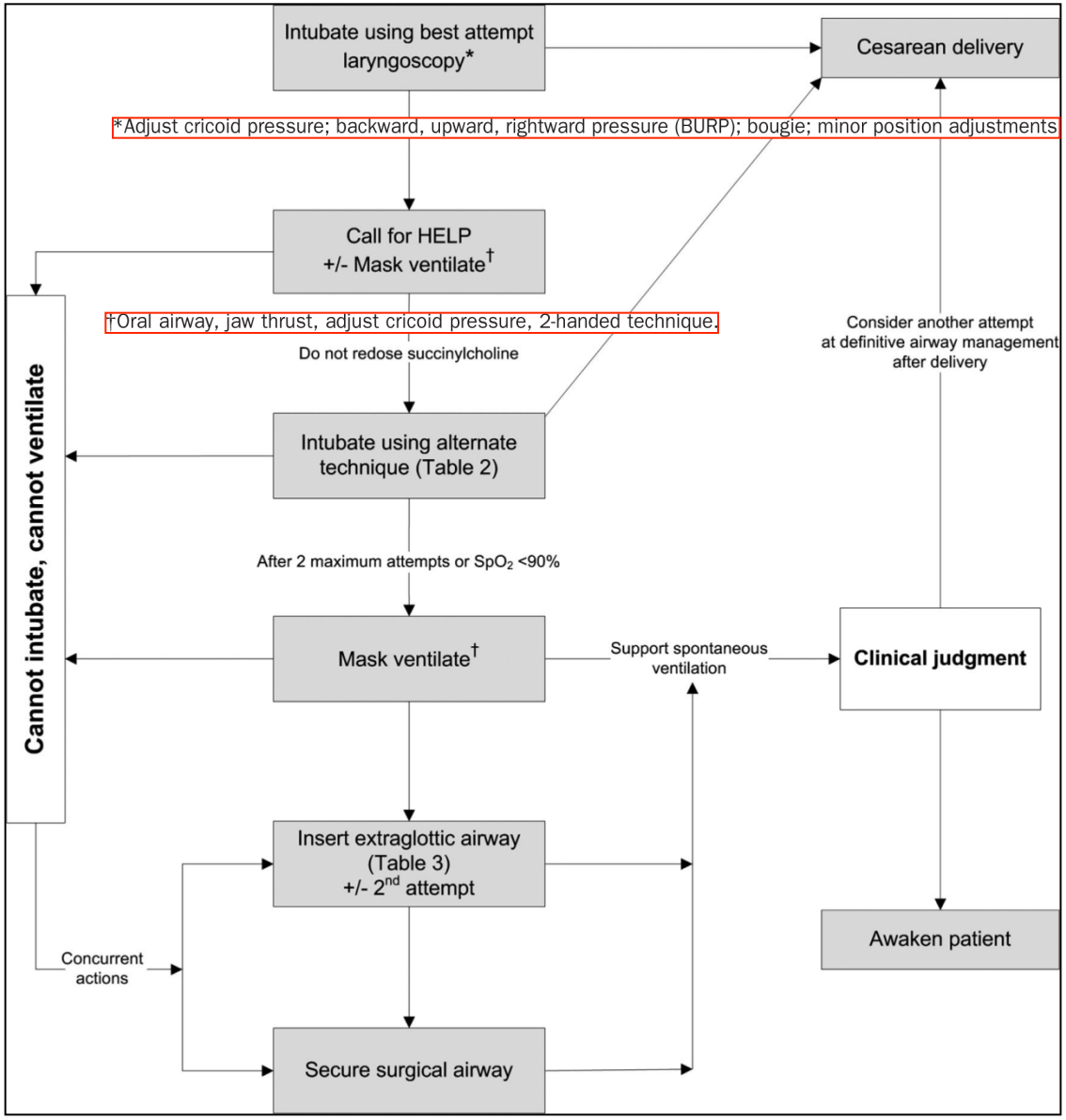
FOCUSED REVIEW

CME

The Unanticipated Difficult Intubation in Obstetrics

Jill M. Mhyre, MD, and David Healy, MD

In this focused review, we discuss an algorithm specifically for the unanticipated difficult intubation in obstetrics. This generic algorithm emphasizes a standardized and prespecified sequence of interventions to provide safe, efficient, and effective airway management for the emergency obstetric surgical patient. Individual institutions and anesthesia providers are encouraged to use this framework to select specific pieces of equipment for each step, and to create regular opportunities for all obstetric anesthesia providers to become facile with each airway device and to integrate the algorithm under simulated conditions. (Anesth Analg 2011;112:648–52)



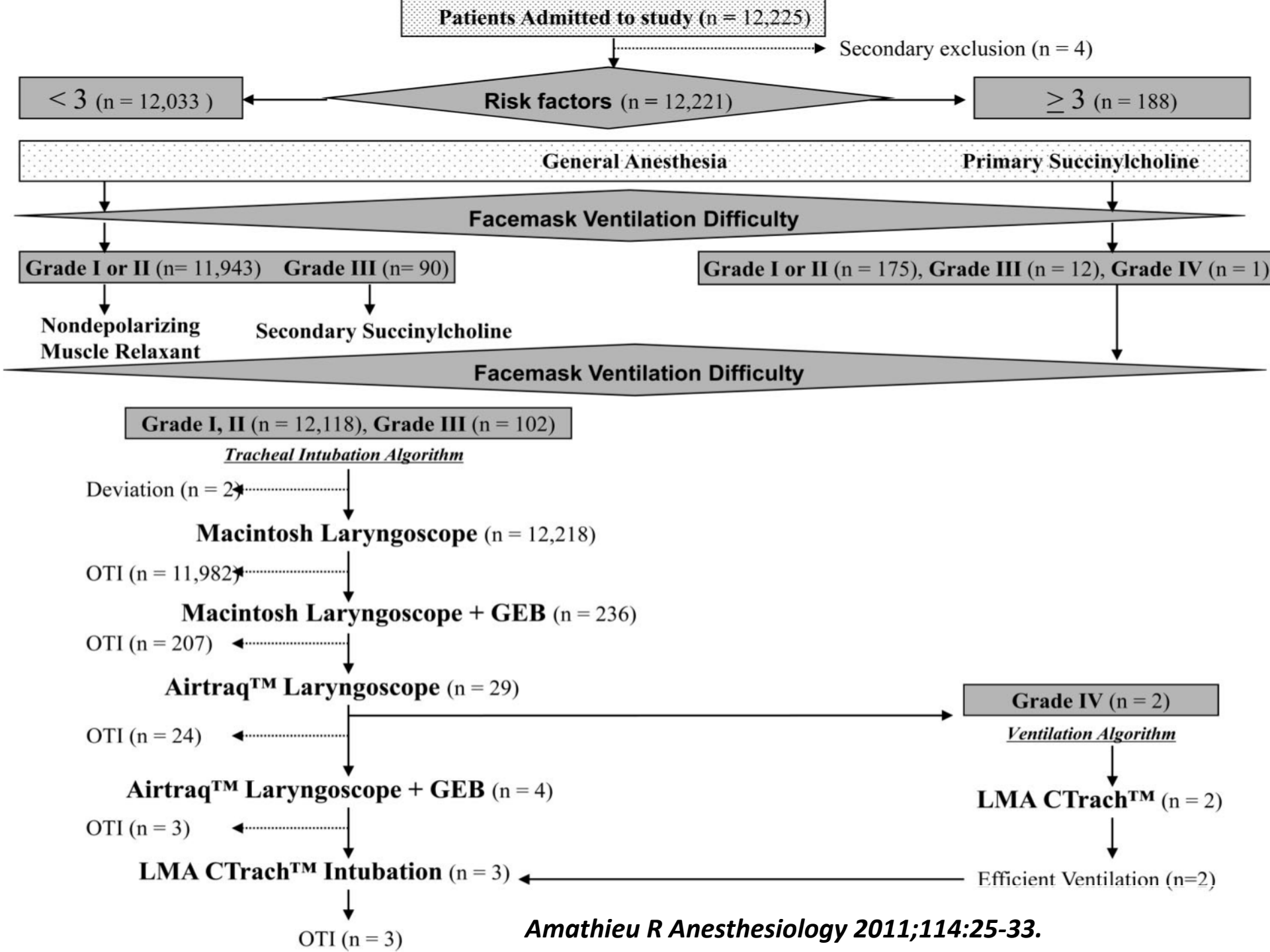
Mhyre JM Anesth Analg 2011;112:648-652.

An Algorithm for Difficult Airway Management, Modified for Modern Optical Devices (Airtraq Laryngoscope; *LMA CTrach*™)

A 2-Year Prospective Validation in Patients for Elective Abdominal, Gynecologic, and Thyroid Surgery

Roland Amathieu, M.D.,* Xavier Combes, M.D.,* Widad Abdi, M.D.,† Loutfi El Housseini, M.D.,† Ahmed Rezzoug, M.D.,† Andrei Dinca, M.D.,† Velislav Slavov, M.D.,† Sébastien Bloc, M.D.,† Gilles Dhonneur, M.D., Ph.D.‡

Anesthesiology 2011;114:25-33.



Amathieu R Anesthesiology 2011;114:25-33.

Eclampsie

Differential impacts of modes of anaesthesia on the risk of stroke among preeclamptic women who undergo Caesarean delivery: a population-based study

C.-J. Huang [1,2,3], Y.-C. Fan [1] and P.-S. Tsai [4,5,6*]

Br J Anaesth 2010;105:818-826.

- Analyse rétrospective de la base de la « sécurité sociale » de Taiwan (n = 303 862 césariennes dont 378 « *strokes*») sur la période 2002-2006 (1,2 / 1000)
- Analyse du type d'anesthésie pour césarienne pour prééclampsie sur la durée de survie sans « *stroke* » par modèle de Cox

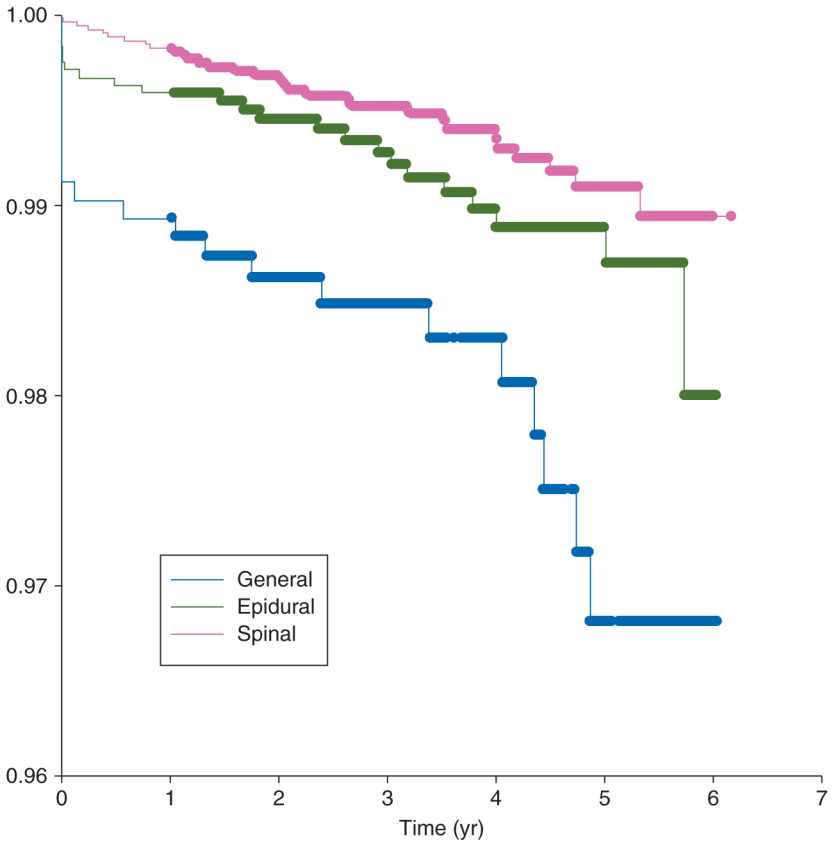


Fig 1 Stroke-free survival rate by different modes of anaesthesia as estimated by the Kaplan–Meier method in the preeclamptic women undergoing CS. General anaesthesia *vs* epidural anaesthesia, $P=0.008$; general anaesthesia *vs* spinal anaesthesia, $P<0.001$ by the log-rank test. The *y*-axis of the figure is modified, so that it only displays the survival estimates between 0.96 and 1.00.

Mode of anaesthesia	HR	95% CI	*P*-value
General			
Unadjusted	2.81	1.69–4.64	<0.001
Multivariate adjusted*	2.38	1.33–4.28	0.004
Propensity score only adjusted	2.29	1.29–4.06	0.005
Neuraxial	1.0 (reference)		

Mécanisme ???
-Modulation du stress
-Facteur thromboembolique
-Dysfonction endothéliale

Huang CJ Br J Anaesth 2010;105:818-826.

Prediction of adverse maternal outcomes in pre-eclampsia: development and validation of the fullPIERS model

Peter von Dadelszen, Beth Payne, Jing Li, J Mark Ansermino, Fiona Broughton Pipkin, Anne-Marie Côté, M Joanne Douglas, Andrée Gruslin, Jennifer A Hutcheon, K S Joseph, Phillipa M Kyle, Tang Lee, Pamela Loughna, Jennifer M Menzies, Mario Merialdi, Alexandra L Millman, M Peter Moore, Jean-Marie Moutquin, Annie B Ouellet, Graeme N Smith, James J Walker, Keith R Walley, Barry N Walters, Mariana Widmer, Shoo K Lee, James A Russell, Laura A Magee, for the PIERS Study Group

Summary

Background Pre-eclampsia is a leading cause of maternal deaths. These deaths mainly result from eclampsia, uncontrolled hypertension, or systemic inflammation. We developed and validated the fullPIERS model with the aim of identifying the risk of fatal or life-threatening complications in women with pre-eclampsia within 48 h of hospital admission for the disorder.

Methods We developed and internally validated the fullPIERS model in a prospective, multicentre study in women who were admitted to tertiary obstetric centres with pre-eclampsia or who developed pre-eclampsia after admission. The outcome of interest was maternal mortality or other serious complications of pre-eclampsia. Routinely reported and informative variables were included in a stepwise backward elimination regression model to predict the adverse maternal outcome. We assessed performance using the area under the curve (AUC) of the receiver operating characteristic (ROC). Standard bootstrapping techniques were used to assess potential overfitting.

Findings 261 of 2023 women with pre-eclampsia had adverse outcomes at any time after hospital admission (106 [5%] within 48 h of admission). Predictors of adverse maternal outcome included gestational age, chest pain or dyspnoea, oxygen saturation, platelet count, and creatinine and aspartate transaminase concentrations. The fullPIERS model predicted adverse maternal outcomes within 48 h of study eligibility (AUC ROC 0·88, 95% CI 0·84–0·92). There was no significant overfitting. fullPIERS performed well (AUC ROC >0·7) up to 7 days after eligibility.

Interpretation The fullPIERS model identifies women at increased risk of adverse outcomes up to 7 days before complications arise and can thereby modify direct patient care (eg, timing of delivery, place of care), improve the design of clinical trials, and inform biomedical investigations related to pre-eclampsia.

Lancet 2011;377:219-227.

Analgésie après césarienne

British Journal of Anaesthesia **106** (5): 706–12 (2011)
doi:10.1093/bja/aer061

BJA

OBSTETRICS

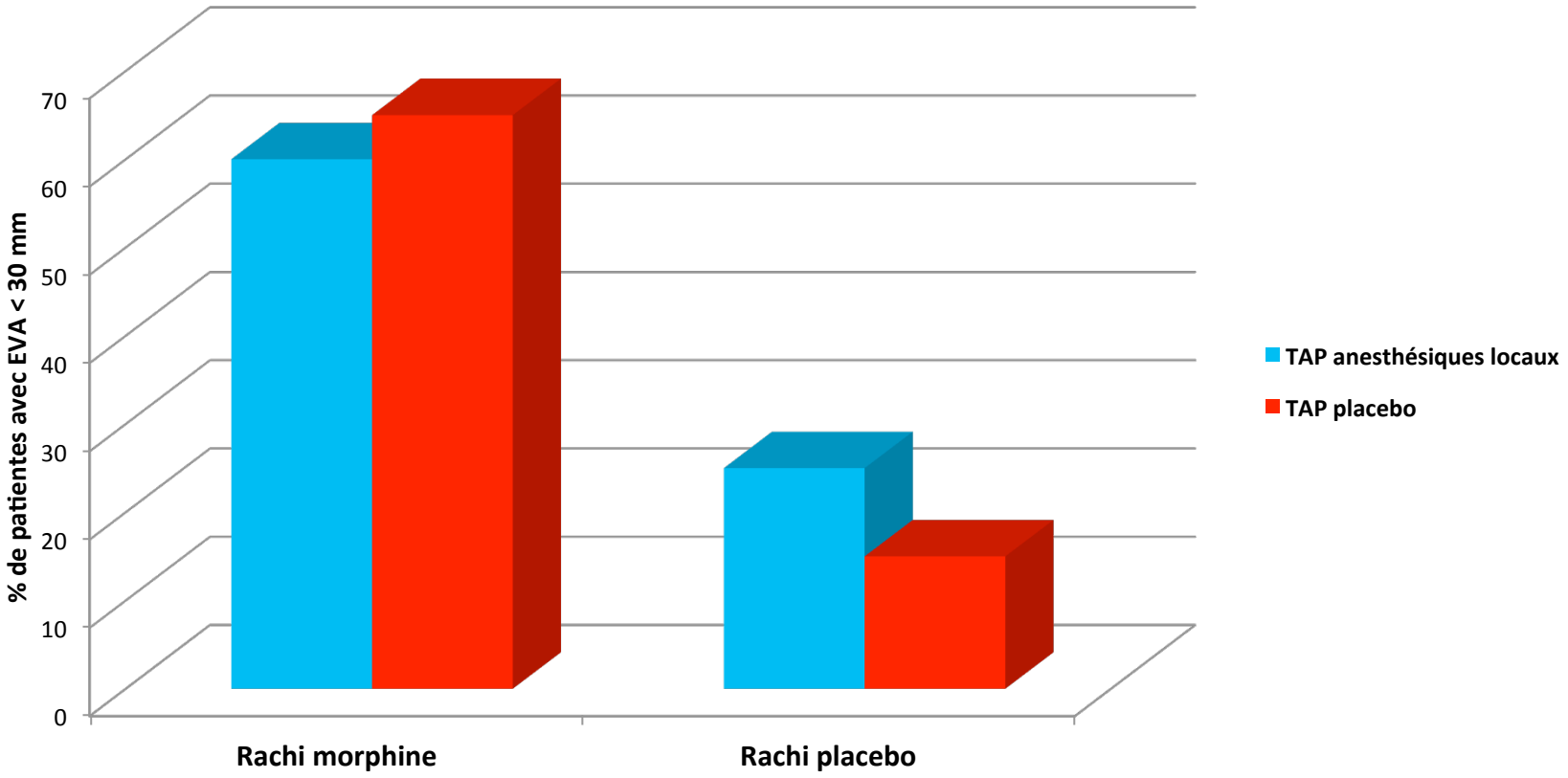
Comparison of transversus abdominis plane block *vs* spinal morphine for pain relief after Caesarean section

R. C. N. McMorrow [1], R. J. Ni Mhuircheartaigh [1], K. A. Ahmed [1], A. Aslani [1], S.-C. Ng [1], I. Conrick-Martin [1], J. J. Dowling [1], A. Gaffney [1], J. P. R. Loughrey [1] and C. L. McCaul [1,2*]

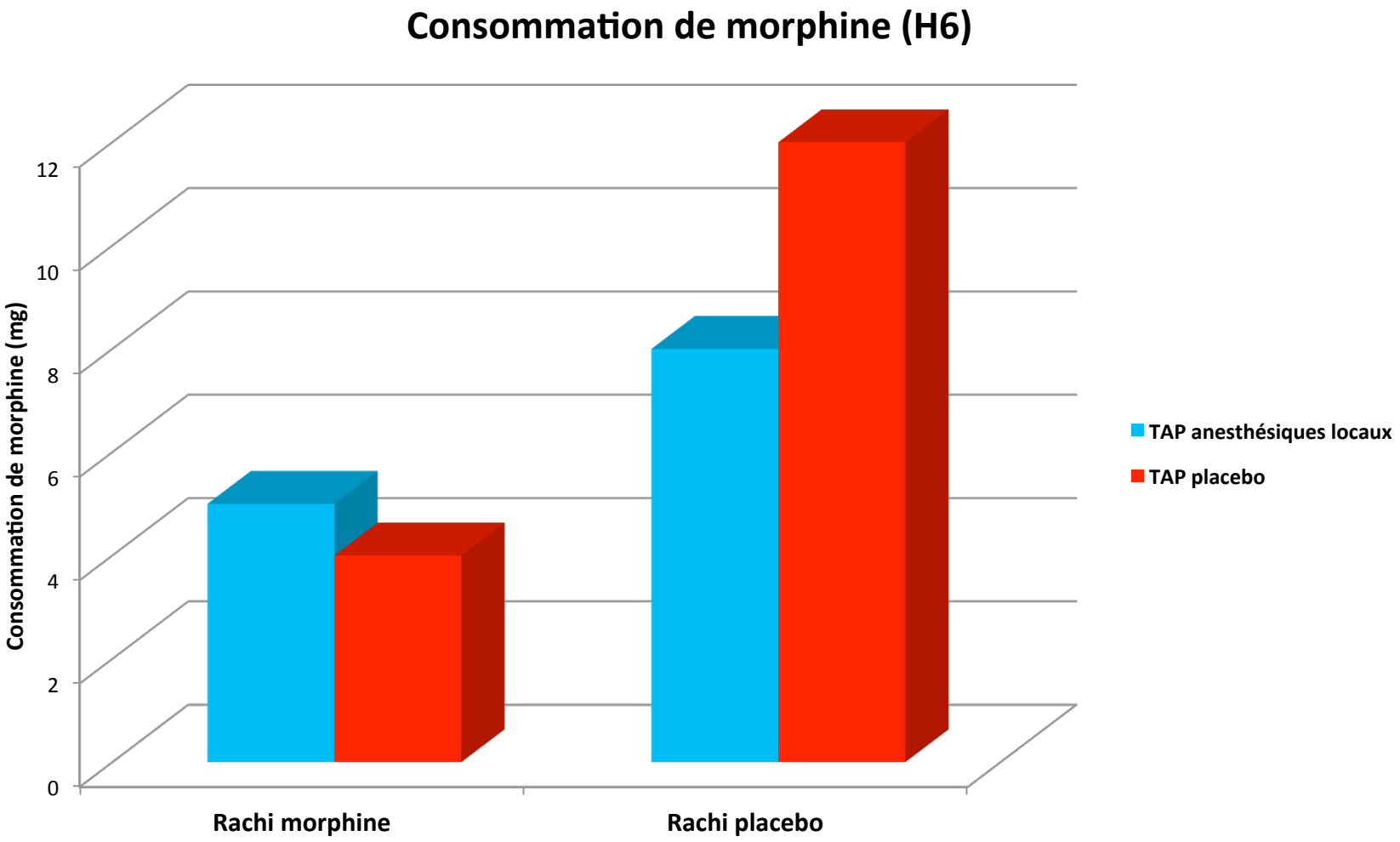
[1] Department of Anesthesia, Rotunda Hospital, Parnell Square, Dublin 1, Ireland
[2] University College Dublin School of Medicine and Medical Science, Dublin, Ireland

- Essai randomisé en double aveugle
- **Quatre groupes de 20 patientes:**
  - **100 µg de morphine en rachi: TAP- ou TAP + (bupi 2 mg/kg)**
  - **sérum salé en rachi: TAP- ou TAP + (bupi 2 mg/kg)**
- Analgésie postopératoire: paracetamol 1grx4/j, diclofenac 100 mg / j et PCA morphine
- Groupes témoins **sans morphine intrathécale**
- Critère de jugement principal: **douleur à la mobilisation**

Douleur à la mobilisation (H6)



McMorrow RCN Br J Anaesth 2011;106:706-712.



McMorrow RCN Br J Anaesth 2011;106:706-712.

Gabapentin Improves Postcesarean Delivery Pain Management: A Randomized, Placebo-Controlled Trial

Albert Moore, MD,* Joseph Costello, MD,* Paul Wieczorek, MD,* Vibhuti Shah, MD,†
Anna Taddio, PhD,§ and Jose C. A. Carvalho, MD, PhD*‡

Anesth Analg 2011;112:167-173.

- Gabapentine = Neurontin® (Traitement des névralgies: début à 300 mg x 3/jour et dose maximale 3600 mg/j)
- Liaison aux canaux calciques voltage-dépendant présynaptiques médullaires (inhibiton libération neurotransmetteurs excitateurs)
- A éviter en cas d'allaitement (CRAT)

- Essai randomisé en double aveugle
- Césarienne sous rachi: bupi 12 mg, fentanyl 10 µg et morphine 100 µg
- Analgésie postopératoire par:
  - Ketorolac 30 mg et paracetamol 1 gr en fin de chirurgie
  - Puis diclofenac 50 mg x 3 /j, paracetamol 1 gr x 4 / j et morphine sous-cutanée 5 mg « à la demande »
- **Gabapentin 600 mg en dose unique per os 1 à 2 heures avant la chirurgie versus placebo**
- Critère de jugement principal: **EVA à la mobilisation à 24 heures**
- Nombre de sujets nécessaires: 50 par groupe soit 100 au total (inclus au final 44)

Moore A Anesth Analg 2011;112:167-173.

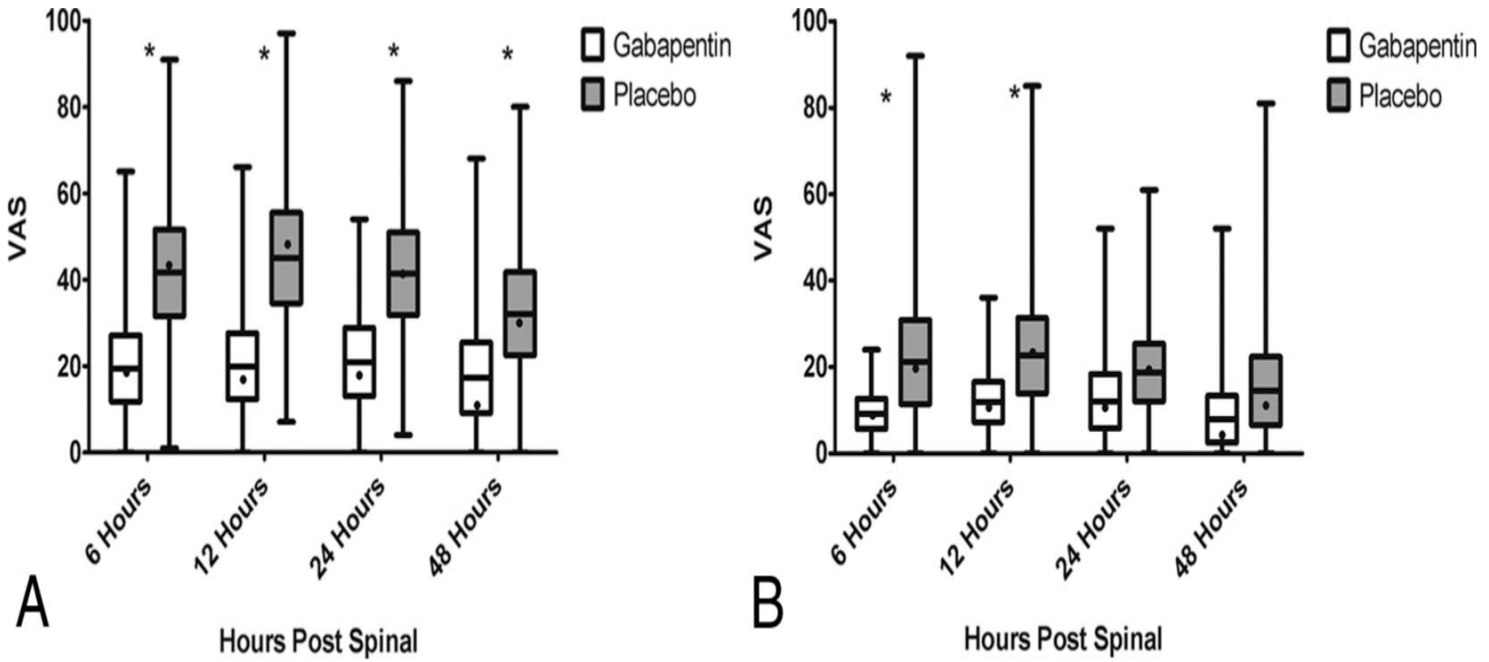


Figure 2. (A) Visual Analog Scale (VAS) scores on movement for gabapentin and placebo groups at each postoperative assessment. Data are presented with inner lines representing mean values, boxes representing 95% confidence intervals, dots representing medians, and error bars representing minimum and maximum values. * indicates significantly lower VAS scores in the gabapentin group ($P < 0.001$ at 6 hours; $P < 0.001$ at 12 hours; $P = 0.001$ at 24 hours; $P = 0.02$ at 48 hours). (B) Visual Analog Scale (VAS) scores at rest for gabapentin and placebo groups at each postoperative assessment. Data are presented with inner lines representing mean values, boxes representing 95% confidence intervals, dots representing medians, and error bars representing minimum and maximum values. * indicates significantly lower VAS scores in the gabapentin group ($P = 0.01$ at 6 hours; $P = 0.02$ at 12 hours; $P = 0.2$ at 24 hours; $P = 0.2$ at 48 hours).

Pas de différence sur la consommation de morphine

Moore A Anesth Analg 2011;112:167-173.

Ocytociques et césarienne

British Journal of Anaesthesia **104 (3):** 338–43 (2010)
doi:10.1093/bja/aeq004

BJA

OBSTETRICS

Minimum effective bolus dose of oxytocin during elective Caesarean delivery

A. J. Butwick*, L. Coleman, S. E. Cohen, E. T. Riley and B. Carvalho

- Etude dose-réponse en double aveugle
- Rationnel: une dose unitaire inférieure à 5 unités est :
  - probablement efficace (dose-réponse)
  - Probablement associée à moins d'effets secondaires (hémodynamiques)
- Cinq doses d'ocytocine testées: 0, 0.5, 1, 3 et 5 unités injectées sur 15 secondes après clampage du cordon
- Critère de jugement principal: **tonicité utérine adéquate évaluée par l'obstétricien 2 minutes après l'injection**

Table 2 Prevalence of adequate UT at 2, 3, 6, and 9 min after oxytocin administration and total number of patients requiring supplemental oxytocin during the study period. Data presented as *n* (%). *Obstetrician unable to perform manual assessment of UT for one patient. †3 units oxytocin *vs* 0 unit oxytocin at 3 min; *P*=0.04. ‡Obstetrician unable to perform manual assessment of UT due to peritoneal closure for one patient. ¶Obstetrician unable to perform manual assessment of UT due to peritoneal closure for four patients. §3 units oxytocin *vs* 0 unit oxytocin; *P*=0.006

	Oxytocin dose				
	0 unit	**0.5 unit**	**1 unit**	**3 units**	**5 units**
Time=2 min	11/15 (73%)	15/15 (100%)	13/14 (93%)	14/14* (100%)	14/15 (93%)
Time=3 min	10/15 (66%)	14/15 (93%)	12/14 (86%)	15/15 (100%)†	14/15 (93%)
Time=6 min	15/15 (100%)	13/15 (87%)	12/14 (86%)	15/15 (100%)	15/15 (100%)
Time=9 min	15/15 (100%)	14/15 (93%)	11/13‡ (85%)	11/11¶ (100%)	14/14 (100%)
Patients requiring supplemental oxytocin	7/15 (47%)	3/15 (20%)	3/14 (21%)	0/15 (0%)§	2/15 (13%)

Butwick AJ Br J Anaesth 2010;104:338-343.

Five Unit Bolus Oxytocin at Cesarean Delivery in Women at Risk of Atony: A Randomized, Double-Blind, Controlled Trial

Kylie J. King, MBBS, FANZCA,* M. Joanne Douglas, MD, FRCPC,† Waldemar Unger, MD, FRCSC,‡ Areta Wong, BSc,† and Robert A. R. King, PhD§

Anesth Analg 2010;111:1460-1466.

- Etude randomisée en double aveugle de **supériorité**
- Césariennes **à risque d'atonie**
- Cinq unités d'ocytocine sur 30 secondes après clampage du cordon versus placebo suivi de 40 unités sur 30 min et 20 unités sur 8 heures
- Critère de jugement principal: **nécessité d'administrer des utérotoniques additionnels au cours des premières 24 heures**

Table 2. Inclusion Criteria

	Oxytocin (n = 70)	Saline (n = 73)	P value
Multiple gestation	24 (34)	16 (22)	0.10[a]
Macrosomia	16 (23)	21 (29)	0.41[a]
>8 h intrapartum oxytocin	15 (21)	22 (30)	0.25[a]
Posterior placenta previa	9 (13)	10 (14)	0.82[a]
History of PPH	8 (11)	5 (7)	0.41[a]
Polyhydramnios	3 (4)	4 (6)	1[b]
Chorioamnionitis	3 (4)	3 (4)	1[b]
Parity >5	1 (1)	0 (0)	0.49[b]

Values are expressed as n (%).
PPH = postpartum hemorrhage.
[a] χ^2 test.
[b] Fisher exact test (2-sided alternative).

Table 3. Outcome Measures

Outcome measure	Oxytocin (n = 70)	Saline (n = 73)	P value
Additional uterotonics			
1st h, n (%)	12 (17)	15 (21)	0.38[a]
24 h, n (%)	20 (29)	29 (40)	0.11[a]
Additional oxytocin, mean dose[b]			
1st h (IU)	16.5 (12.5)	20.6 (21.2)	0.28[c]
24 h (IU)	44.0 (42.0)	45.1 (37.5)	0.47[c]
Uterotonics other than oxytocin			
15-Methyl PG $F_{2\alpha}$	2	2	0.67[d]
Ergonovine	1	1	0.74[d]
Misoprostol	1	3	0.93[d]
Estimated blood loss (mL)	812 (761–862)	902 (825–980)	0.92[c]
No. needing blood transfusion	1 (1.4)	3 (4.1)	0.33[d]

Values are n (%), mean (SD), or mean (95% confidence interval).
PG = prostaglandin.
[a] One-sided χ^2 test.
[b] Of those who received additional oxytocin.
[c] t test, 1-sided alternative.
[d] Fisher exact test, 1-sided alternative.

Essai de supériorité
60 unités d'ocytocine au cours des premières 24 heures

King KJ Anesth Analg 2010;111:1460-1466.

Douleur et analgésie du travail

β2-Adrenergic Receptor Genotype and Other Variables that Contribute to Labor Pain and Progress

Elena Reitman, M.D.,* Jessamyn Conell-Price, B.A.,† Jennifer Evansmith,‡ Luke Olson, B.A.,† Sofia Drosinos, M.D.,§ Nancy Jasper, M.D.,§ Paula Randolph, M.D.,§ Richard M. Smiley, Ph.D., M.D.,‖ Steven Shafer, M.D.,# Pamela Flood, M.D.**

Anesthesiology 2011;114:927-939.

Modèle bi-exponentiel décrivant l'évolution de la douleur au cours du travail par 4 variables

- NRS min: douleur en début de travail
- NRS max: douleur en fin de travail
- Gamma: vitesse d'augmentation de la douleur
- CD 50: dilatation du col à laquelle la douleur a atteint 50 % de la douleur maximale

Influence de covariables sur la performance du modèle testée

- Ethnie
- Age
- Taille
- Poids
- Durée de rupture des membranes
- Mode d'accouchement
- Ocytocine
- Sensibilité au froid
- **Génotype OPRM1 du récepteur mu**

Covariables influençant significativement le modèle:
-Manœuvres instrumentales
-Sensibilité au froid
Pas d'effet du génotype OPRM1 du récepteur mu

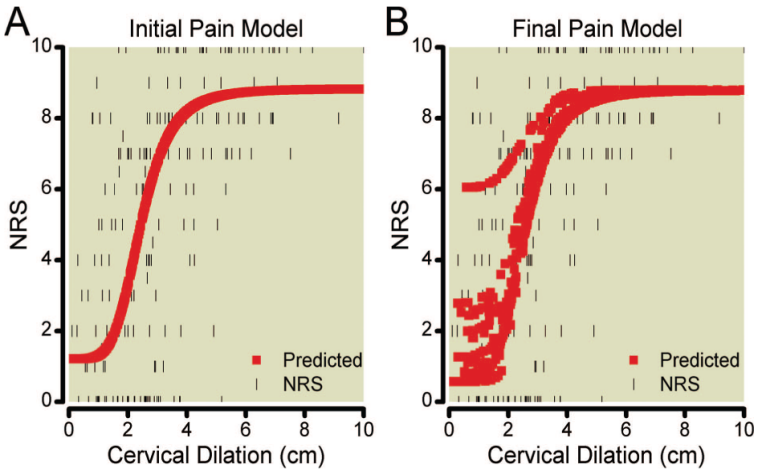


Fig. 6. Pain model. Population prediction (*red squares*) and measurements (*vertical bars*) for the initial pain model without covariates (*A*) and the final pain model incorporating instrumental delivery and sensitivity to cold (*B*). NRS = numeric pain rating scale.

Table 5. Pain Model

	Parameter	*P* Value	95% CI
Initial model, nominal			
NRS_{MIN}	1.77	—	—
NRS_{MAX}	8.85	—	—
CD_{50}, cm	2.48	—	—
γ	4.80	—	—
Error	—	—	—
MPE, cm	0.00	—	—
MAPE, cm	1.57	—	—
Final model	—	0.001	—
NRS_{MIN}	0.79	—	0.27–1.33
NRS_{MAX}	8.78	—	8.20–9.30
CD_{50}, cm	2.55	—	2.22–2.97
γ	5.27	—	4.00–6.99
Instrumental delivery	—	—	—
NRS_{MIN}	5.43	0.01	2.20–9.80
Cold sensitivity effect	—	—	—
NRS_{MIN}	0.14	0.02	0.05–0.24
Error	—	—	—
MPE, cm	0.08	—	—
MAPE, cm	1.48	—	—

95% confidence intervals (CI) were determined with log likelihood profiles. *P* values for each factor in the model represent incremental improvement induced by that factor after correction for other covariates. *P* values for the final models represent improvement from the initial model.

γ = slope function, rate of increase in pain during labor; CD_{50} = cervical dilation at 50% of maximal pain; MAPE = median absolute prediction error; MPE = median prediction error; NRS = numerical pain rating scale; NRS_{MIN} = pain in early labor (*i.e.*, initial labor pain); NRS_{MAX} = pain in late labor (*i.e.*, final reported labor pain).

The effect of manipulation of the programmed intermittent bolus time interval and injection volume on total drug use for labor epidural analgesia: a randomized controlled trial
Wong C Anesth Analg 2011;112:904-911.

- Couplage d'une PCEA conventionnelle (bolus 5 ml, lockout 10 min, pas de débit continu, dose max 15 ml/h) à une pompe délivrant des bolus obligatoires à intervalle fixe
- Intérêts:
  - Réduction consommation d'anesthésique local
  - Réduction du nombre de « top-up »
  - Amélioration de la satisfaction
- Etude de différents volume de bolus et de différents intervalles d'administration
- Critère de jugement principal: consommation totale de bupivacaine par heure de péridurale
  - PCEA et bolus obligatoires
  - Et « *top-up* » ropivacaine

Table 1. Study Group Allocation

Group	Programmed interval (min)	Bolus volume (mL)
2.5/15	15	2.5
5/30	30	5
10/60	60	10

Table 4. Analgesic Characteristics

	Group 2.5/15 (n = 66)	Group 5/30 (n = 60)	Group 10/60 (n = 54)	P value
Total bupivacaine dose per hour of labor (mg/h)*	11.3 (9.5–13.6)	11.1 (9.2–13.3)	10.3 (8.9–11.2)	0.01
Adjusted bupivacaine dose per hour of labor (mg/h)†	10.4 (9.6–11.2)	10.0 (9.3–10.8)	8.8 (8.0–9.7)	0.005
PIEB bupivacaine dose (mg/h)	6.6 (6.1–7.3)	6.8 (6.1–7.3)	6.5 (6.2–6.9)	0.31
Time to first PCEA request (min)	106 (59–193)	123 (65–180)	107 (76–211)	0.68
PCEA requests (n)	10 (3–17)	10 (3–17)	8 (4–11)	0.32
PCEA deliveries (n)	7 (3–11)	6 (4–10)	6 (4–8)	0.69
PCEA bupivacaine dose (mg/h)	2.9 (1.6–4.3)	2.9 (2.1–4.1)	2.4 (1.6–3.3)	0.32
Time to first manual bolus (min)	304 (189–429)	313 (178–479)	349 (253–493)	0.31
No. of manual bolus doses per subject (n)				
0	24	30	27	
1	23	17	17	
2	12	11	7	0.72
3	3	1	1	
4	4	1	2	
Manual bupivacaine dose, all subjects (mg)	12.5 (0–19.0)	0 (0–16.0)	0 (0–17.0)	0.13
Manual bupivacaine dose, subjects receiving a manual bolus (mg)	18.8 (12.5–28.8)	18.8 (12.5–25.0)	18.8 (12.5–28.8)	0.73
Satisfaction with analgesia (mm)	90 (78–99)	94 (80–100)	93 (92–98)	0.85

Values are median (interquartile range) or n (percent).

PIEB = programmed intermittent epidural bolus, PCEA = patient-controlled epidural analgesia.

* Group 10/60 different from group 5/30, P = 0.02, and group 2.5/15, P = 0.005.

† Adjusted bupivacaine consumption based on linear model with basal hourly bupivacaine dose as a fixed effect and visual analog scale · time area under the curve as a random effect. Group 10/60 different from group 5/30, P = 0.02, and group 2.5/15, P = 0.002.

Wong C Anesth Analg 2011;112:904-911.

Evaluation of pregabalin as an adjuvant to patient-controlled epidural analgesia during late termination of pregnancy
Lavand'homme PM Anesthesiology 2010;113:1186-1191

- Prégabaline = Lyrica® (analogue de la Gabapentine = Neurontin®; Traitement des douleurs neuropathiques: 150 à 600 mg par jour en 2 ou 3 prises
- Pregabaline 150 mg/12h débuté à l'induction de la LTOP versus prazepam (Lysanxia ®) 10 mg/12 h et poursuivi jusqu'à l'accouchement
- Critère de jugement principal: consommation totale de ropivacaine péridurale
  - PCEA
  - Et « *top-up* » ropivacaine

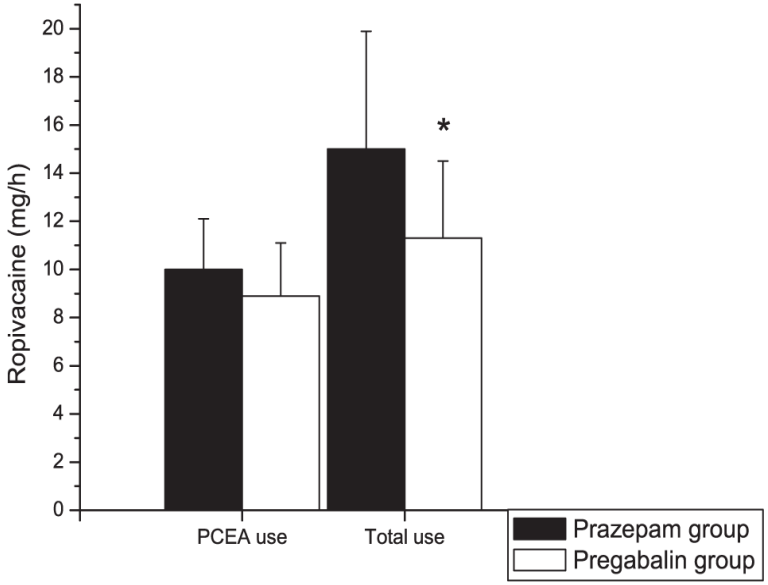


Table 2. Analgesia during the Procedure

	Group Prazepam (n = 24)	Group Pregabalin (n = 24)	*P* Value
PCEA duration, min	677 ± 375	615 ± 318	0.562
Time before PCEA activation, min	260 (115–408.5)	189 (121–300)	0.299
NRS score (0–100) at PCEA activation	54 ± 15	32 ± 14	<0.001
PCEA bolus doses, n	7.9 ± 4.7 (95% CI: 6–10)	6.6 ± 2.7 (95% CI: 5–8)	0.267
Rescue analgesia			
Patients who needed, n	23	18	0.048
Rescue doses, n	2 (1–3)	1 (0–2)	0.005
Ropivacaine dose (mg)*	40 (20–51.5)	20 (20–30)	0.034
Time before first rescue dose, min	300 (170–621)	330 (180–509)	0.962
Cervical dilatation at first rescue dose, cm	2 (1.5–6)	6.5 (3–9)	0.05
Maximal NRS score (0–100) during rescue doses	72.5 ± 15	63 ± 11	0.05

Values are mean ± SD (95% CI) or median (interquartile range). Duration of PCEA use was the time elapsed between patient's request to use epidural analgesia and fetus delivery. Treatment groups were Prazepam (oral administration of prazepam 10 mg/12 h) and Pregabalin (oral administration of pregabalin 150 mg/12 h).

* Rescue doses were administered according to NRS pain score as follows: 10 ml ropivacaine 0.1% at NRS less than 60/100 or 10 ml ropivacaine 0.2% at NRS greater than or equal to 60/100.

CI = confidence interval; NRS = numerical rating scale; PCEA = patient-controlled epidural analgesia.

Lavand'homme PM Anesthesiology 2010;113:1186-1191

A randomized, double-blind, placebo-controlled trial of epidural morphine analgesia after vaginal delivery Macarthur A Anesth Analg 2010;110:159-164.

- Essai randomisé en double aveugle
- Morphine 2,5 mg péridural dans l'heure suivant l'accouchement versus placebo
- Analgésie postpartum par:
  - Ibuprofen 400 mg x 4 /j et paracetamol 1 gr x4/j
  - Secours par opiacés: codeine 30-60 mg/6 h ou morphine 5-10 mg/4h
- Critère de jugement principal: **recours aux opiacés dans les 24 premières heures postpartum**

Table 2. Analgesia and Side Effects

Outcomes	Epidural morphine ($N = 113$)	Epidural saline ($N = 115$)	P
Supplemental analgesia, n/N (%)			
Stratified by parity	8/113 (7%)	37/115 (32%)	<0.001
Primiparous	7/76 (9%)	29/79 (37%)	<0.001
Multiparous	1/37 (3%)	8/36 (22%)	0.01
Time to first request for additional analgesic (h)	22.9 (4.0)	18.9 (8.0)	<0.001
VAS pain score at time of first request for additional analgesic (cm)	5.2 (2.1)	4.6 (2.6)	0.51
Maternal satisfaction[a], n/N (%)			
Strongly disagree/ disagree	10/104 (13%)	14/105 (10%)	0.80
Not sure	6/104 (8%)	8/105 (6%)	
Strongly agree/agree	78/104 (79%)	83/105 (84%)	
Side effects, n/N (%)			
Pruritus	13/108 (12%)	6/109 (6%)	0.10
Nausea	10/107 (9%)	5/109 (5%)	0.20
Drowsiness	2/106 (2%)	0/107 (0%)	0.25
Urinary retention	20/109 (18%)	11/111 (10%)	0.08

Data presented as n/N (%) or mean (SD).

VAS = visual analogue scale.

[a] Study subjects were asked to rate the following question of satisfaction with perineal analgesia at 24 h postdelivery: "I was satisfied with my pain relief in my bottom during the first day."

Macarthur A Anesth Analg 2010;110:159-164.

Neuraxial Labor Analgesia for Vaginal Delivery and Its Effects on Childhood Learning Disabilities

Randall P. Flick, MD, MPH,* KunMoo Lee, MD,* Ryan E. Hofer, BA,† Charles W. Beinborn, SRNA,‡ Ellen M. Hambel, SRNA,‡ Melissa K. Klein, SRNA,‡ Paul W. Gunn, MD,* Robert T. Wilder, MD, PhD,* Slavica K. Katusic, MD,§ Darrell R. Schroeder, MS,‖ David O. Warner, MD,* and Juraj Sprung, MD, PhD*

Anesth Analg 2011;112:1424-1431.

- Etude de cohorte rétrospective (Mayo Clinic, MN, 1976-1982)
- Retard à l'apprentissage à l'âge de 19 ans dans au moins un des 3 domaines suivant: lecture, écriture, calcul
- Complément à une étude antérieure:
  - Risque de retard CS sous ALR neuraxiale < CS sous AG ou AVB (ALR ?)
  - Modulation de la réponse au stress ??
- Effets de l'ALR neuraxiale au cours du travail sur retard d'apprentissage versus pas d'ALR neuraxiale

Table 4. Association Between Neuraxial Labor Analgesia and Development of Learning Disabilities[a]

Model	Hazard ratio	95% confidence interval	*P* value
Unadjusted	1.19	1.03–1.37	0.02
Adjusted[b]	1.15	0.98–1.35	0.08
Adjusted[c]	1.05	0.85–1.31	0.63

[a] Data were analyzed using proportional hazards regression. Three models were fit: (1) unadjusted, (2) adjusted for covariates known to be associated with learning disabilities (LDs), and (3) adjusted for covariates known to be associated with LDs, as well as additional peripartum maternal and child variables. For each model, the hazard ratio and corresponding 95% confidence interval for the association of neuraxial analgesia with LDs is presented.

[b] Adjusted for gestational age (≤31 wk, 32–36 wk, ≥37 wk), sex (male, female), birth weight (<2500 g, ≥2500 g), maternal education (some high school, high school graduate, any college), 5-min Apgar score, and number of anesthesia exposures before the age of 4 y (0, 1, 2 or more).

[c] Adjusted for covariates included in initial adjusted model plus use of forceps or vacuum extraction, fetal presentation, dystocia, prolonged labor, birth trauma, use of any inhaled anesthetics during delivery, use of supplemental regional blocks, use of opioids, labor induction, delivery resuscitation or neonatal intensive care unit admission after delivery, and maternal age.

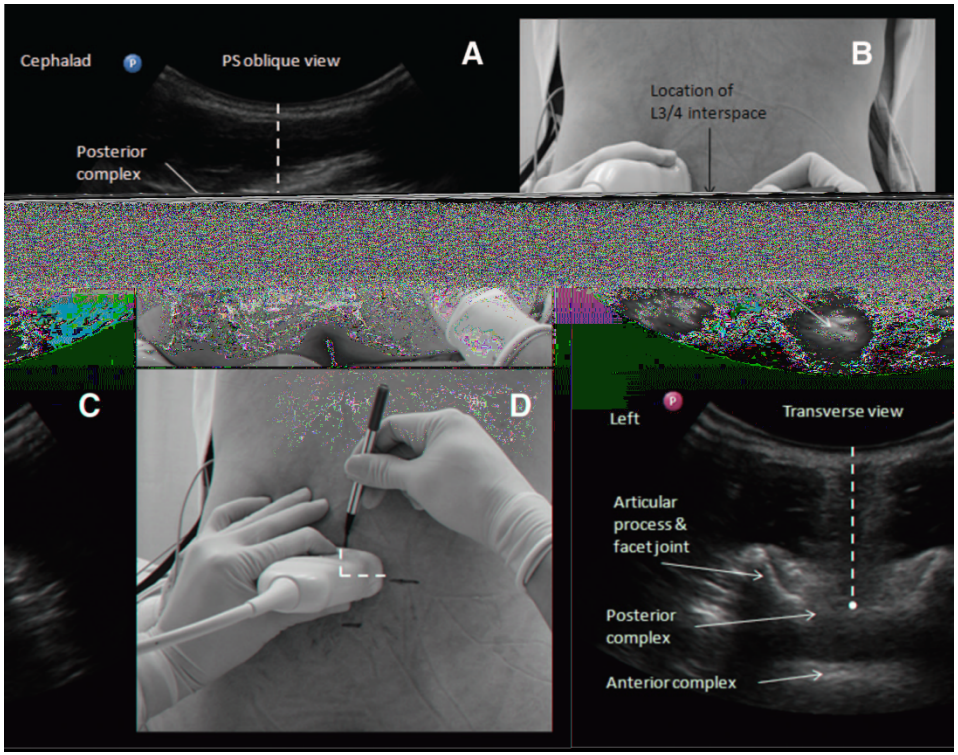
Flick RP Anesth Analg 2011;112:1424-1431.

David S. Warner, M.D., Editor

Ultrasonography of the Adult Thoracic and Lumbar Spine for Central Neuraxial Blockade

Ki Jinn Chin, F.R.C.P.C.,* Manoj Kumar Karmakar, M.D.,† Philip Peng, F.R.C.P.C.‡

Anesthesiology 2011;114:1459-1485



Ultrasound Imaging Facilitates Spinal Anesthesia in Adults with Difficult Surface Anatomic Landmarks

Ki Jinn Chin, F.R.C.P.C.,* Anahi Perlas, F.R.C.P.C.,† Vincent Chan, F.R.C.P.C.,‡
Danielle Brown-Shreves, M.B.B.S.,§ Arkadiy Koshkin, M.D.,§ Vandana Vaishnav, F.C.A.R.C.S.I.‖

Anesthesiology 2011;115:94-101.

- Essai prospectif randomisé avec évaluation indépendante des critères de jugement
- Patients:
  - Difficulté à la palpation et IMC 35 kg/m²
  - Scoliose lombaire
  - ATCD de chirurgie rachidienne lombaire
- Chirurgie orthopédique (PTH ou PTG) sous rachianesthésie
- Rachianesthésie soit avec repérage cutané traditionnel soit avec repérage échographique préalable (« Off-line »)
- Critère de jugement principal: **reflux de LCR à la première insertion de l'aiguille de rachianesthésie sans aucune redirection de celle-ci**

Table 2. Outcomes Reflecting Ease of Performance of Spinal Anesthesia

	Ultrasound-guided Technique (n = 60)	Landmark-guided Technique (n = 60)	*P* Value
Successful dural puncture	—	—	—
On 1st needle insertion attempt	39 (65%)	19 (32%)	< 0.001
On 1st needle pass	16 (27%)	5 (8%)	0.008
Within 5 needle passes	30 (50%)	16 (27%)	0.009
Within 10 needle passes	45 (75%)	26 (43%)	< 0.001
Total number of needle insertion attempts	1 [1–2]	2 [1–4]	< 0.001
Total number of needle passes	6 [1–10]	13 [5–21]	< 0.001
Time taken to establish landmarks (min)	6.7 ± 3.1	0.6 ± 0.5	< 0.001
Time taken to perform spinal anesthetic (min)	5.0 ± 4.9	7.3 ± 7.6	0.038
Total procedure time (min)	12.2 ± 6.0	7.9 ± 7.7	< 0.001

Data are reported as n (%), mean ± standard deviation, or median [interquartile range].

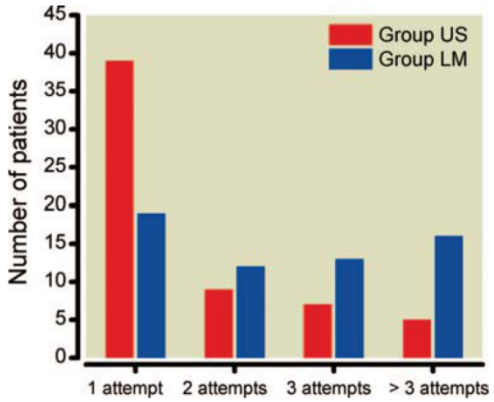


Fig. 2. Comparison of the number of patients requiring one, two, three, or more than three needle insertion attempts for successful dural puncture, depending on whether an ultrasound-guided (group US) or a surface landmark-guided (group LM) technique of spinal anesthesia was used.

Chin KJ Anesthesiology 2011;115:94-101.

Brèches et céphalées

Epidemiology of Anesthesia-Related Complications in Labor and Delivery, New York State, 2002–2005

Cheesman K Anesth Analg 2009;109:1174-1181.

Table 2. Frequency Distribution of Anesthesia-Related Complications in Labor and Delivery in New York State, 2002–2005

Complication type	ICD-9-CM code	Number of complications[a]	%
Systematic complications	668	3712	43.2
Pulmonary complications	668.0	177	2.1
Cardiac complications	668.1	161	1.9
Central nervous system complications	668.2	55	0.6
Other complications	668.8	3290	38.3
Unspecified complications	668.9	29	0.3
Spinal complications	3.95, 324.1, 349.0	4701	54.7
Spinal blood patch	3.95[b]	1787	20.8
Intraspinal abscess	324.1	0	0
Reaction to spinal or lumbar puncture	349.0	2914	33.9
Overdose complications and adverse effects	968.1–968.4, 968.7, E855.1, and E938.1–E938.9, 995.4, 995.86, 995.89, E876.3	184	2.1
Total	All of the above	8597	100.0

[a] A given patient may have more than one complication type.

[b] ICD-9 procedure code.

Cosyntropin for Prophylaxis against Postdural Puncture Headache after Accidental Dural Puncture

Sameh Michel Hakim, M.D.*

Anesthesiology 2010;113:413-420.

- Essai prospectif randomisé double aveugle
- Cosyntropin versus placebo IV 30 minutes après l'accouchement en cas de brèche lors de la pose de la péridurale
- Critère de jugement principal: **survenue de céphalées**

Table 4. Incidence of Postdural Puncture Headache (PDPH) and Need for Epidural Blood Patch (EBP) in Both Groups

Variable	Cosyntropin Group (n = 45)	Control Group (n = 45)	*P* Value
Incidence of PDPH			
PDPH occurred	15 (33.3)	31 (68.9)	0.001
PDPH did not occur	30 (66.7)	14 (31.1)	
Need for EBP			
EBP needed	5 (11.1)	13 (28.9)	0.035
EBP not needed	40 (88.9)	32 (71.1)	
Need for repeat EBP (number received second EBP/number received EBP)	2/5 (40)	4/13 (30.8)	1.0

Data are presented as n (%) or ratio (%).

Mécanismes ????

-↑ Aldostérone (expansion volémique et fermeture de la brèche)

-↑ Production LCR

-↑ Endorphines cérébrales

Hakim SM Anesthesiology 2010;113:413-420.

The Volume of Blood for Epidural Blood Patch in Obstetrics: A Randomized, Blinded Clinical Trial

Michael J. Paech, DM,* Dorota A. Doherty, PhD,†‡ Tracey Christmas, FRCA,§ Cynthia A. Wong, MD,‖ and Epidural Blood Patch Trial Group

Anesthesia Analgesia 2011;113:126-133.

- Essai prospectif randomisé comparant 3 volumes de sang (15, 20 et 30 ml) après une brèche durmèrienne au cours d'une péridurale obstétricale
- Critère de jugement principal: **soulagement permanent ou partiel des céphalées**
  - Permanent = EVN entre 0 et 4 quatre heures après le blood patch sans récurrence
  - Partiel
    - = réduction de l'EVN de 50 % quatre heures après le blood patch sans récurrence
    - = EVN entre 0 et 4 quatre heures après le blood patch avec récurrence

Table 4. Incidence of Headache Relief After Epidural Blood Patch

	<48 hours	≥48 hours	Overall
Permanent or partial relief			
15 mL	33.3 (9.0–65.1)	72.4 (52.8–87.3)	61.0 (44.5–75.8)
20 mL	61.5 (31.6–86.1)	78.6 (59.1–91.7)	73.2 (57.1–85.8)
30 mL	56.3 (29.9–80.3)	73.9 (51.6–89.9)	66.7 (49.8–80.9)
Permanent relief[a]			
15 mL	0.0 (0–26.5)	13.8 (3.9–31.7)	9.8 (2.7–23.1)
20 mL	15.4 (1.9–45.5)	39.3 (21.5–59.4)	32.3 (18.1–48.1)
30 mL	25.0 (7.3–52.4)	26.1 (10.2–48.4)	25.6 (13.0–42.1)

Values are percentages (Clopper–Pearson binomial 95% confidence intervals). Summaries are shown for both strata and overall.

[a] Statistically significant differences in the rates of permanent relief were found between the groups on chi-square test ($P = 0.048$), with the less-than-expected number of permanent responses seen in the 15-mL group. Further comparisons using logistic regression analysis showed that the response achieved in the 20-mL group was significantly higher than that achieved in the 15-mL group (odds ratio [OR] = 4.49, confidence interval [CI] = 1.31–15.42; $P = 0.017$), while the higher response in the 30-mL group was not significantly different from that in the 15-mL group (OR = 3.56, CI = 0.99–12.73; $P = 0.051$).

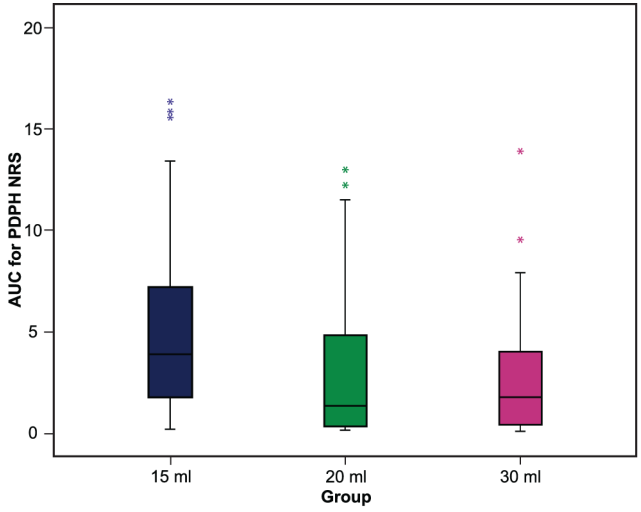


Figure 2. Area under the curve for postdural puncture headache scores between 0 and 48 hours after epidural blood patch. Box and whisker plot with median (interquartile range), 10th–90th percentiles, and outliers represented by asterisks. AUC for PDPH NRS = area under the curve for postdural puncture headache numerical rating scale scores. $P = 0.01$ for group 15 mL versus groups 20 and 30 mL.

Paech MJ Anesthesia Analgesia 2011;113:126-133

Table 1. Epidural Blood Patch Group Participants and Centers ($n = 10$)

Participant/center (country)	No. randomized	No. per group 15/20/30 mL
Paech MJ, Doherty DA, Christmas T: King Edward Memorial Hospital for Women (Australia)	39	14/13/12
Wong CA: Northwestern Memorial Hospital (USA)	26	10/9/7
Douglas MJ: BC Women's Hospital (Canada)	17	6/6/5
Van de Velde M: UZ Gasthuisberg Leuven (Belgium)	10	2/4/4
Elliot D: Westmead Hospital (Australia)	10	3/4/3
Brichant JF: CHR de la Citadelle Liege (Belgium)	8	2/2/4
Hill J: National Women's Hospital (New Zealand)	4	1/2/1
Teoh W: KK Women's and Children's Hospital (Singapore)	3	1/0/2
Angle P: Sunnybrook Hospital (Canada)	2	1/1/0
Caldwell C: Wellington Hospital (New Zealand)	2	1/0/1
Total	121	41/41/39

Allergie au latex

Anaphylactic reactions during cesarean section

Draisci G IJOA 2007;16:63-67.

- 1240 césariennes sous AG (20 %) ou ALR (80 %)
- Année 2004
- 4 réactions anaphylactiques toutes liées au latex

Latex Sensitization

A Special Risk for the Obstetric Population?

Gaetano Draisci, M.D.,* Bruno A. Zanfini, M.D.,* Eleonora Nucera, M.D.,† Stefano Catarci, M.D.,* Raffaella Sangregorio, M.D.,‡ Domenico Schiavino, M.D.,† Alice Mannocci, M.S., Ph.D.,§ Giampiero Patriarca, M.D.†

Anesthesiology ***2011;114:565-569..***

- 294 primipares pour césarienne programmée sous rachianesthésie
- 294 nullipares en âge de procréer pour chirurgie gynécologique programmée sous AG
- Recherche systématique et quantification des IgE anti-latex
- Prick-tests cutanés en cas de réaction peropératoire

Table 1. Demographic and Clinical Variables in Group A (Obstetric Patients) and Group B (Nonpregnant Patients)

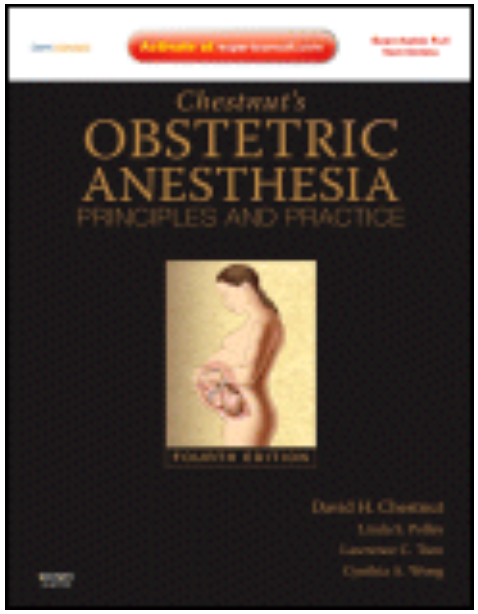
Variables	Group A (n = 294)	Group B (n = 294)	*P* Value
Age, mean (SD)	33.48 (±4.45)	33.96 (±5.54)	0.247*
Latex-specific immunoglobulin E +, n (%)	15 (5.1)	5 (1.7)	0.023†‡
Latex-specific immunoglobulin E serum concentration (in kilounits/l), median (IQR)	1.93 (2.28)	0.78 (1.07)	0.042‡§

Deux réactions anaphylactiques dans le groupe césarienne (prick-tests ?)

Conséquences pratiques ??
-Dépistage en consultation??
-Eviction systématique ??

Draisci G Anesthesiology 2011;114:565-569..

Les incontournables pour la bibliothèque



Chestnut's Obstetric Anesthesia: Principles and Practice
Fourth Edition 2009

Focused reviews in Obstetric Anesthesiology Anesthesia Analgesia

- The Unanticipated Difficult Intubation in Obstetrics
- Clinical Implications of Neuraxial Anesthesia in the Parturient with Scoliosis
- Ropivacaine Versus Bupivacaine for Epidural Labor Analgesia
- Imaging During Pregnancy
- Systemic Remifentanil for Labor Analgesia
- ……

Les hommes sont faits les uns les uns pour les autres. Instruis-les ou supporte-les.

Marc-Aurèle, Pensées, Livre VIII.