Quoi de neuf en Anesthésie Réanimation obstétricale

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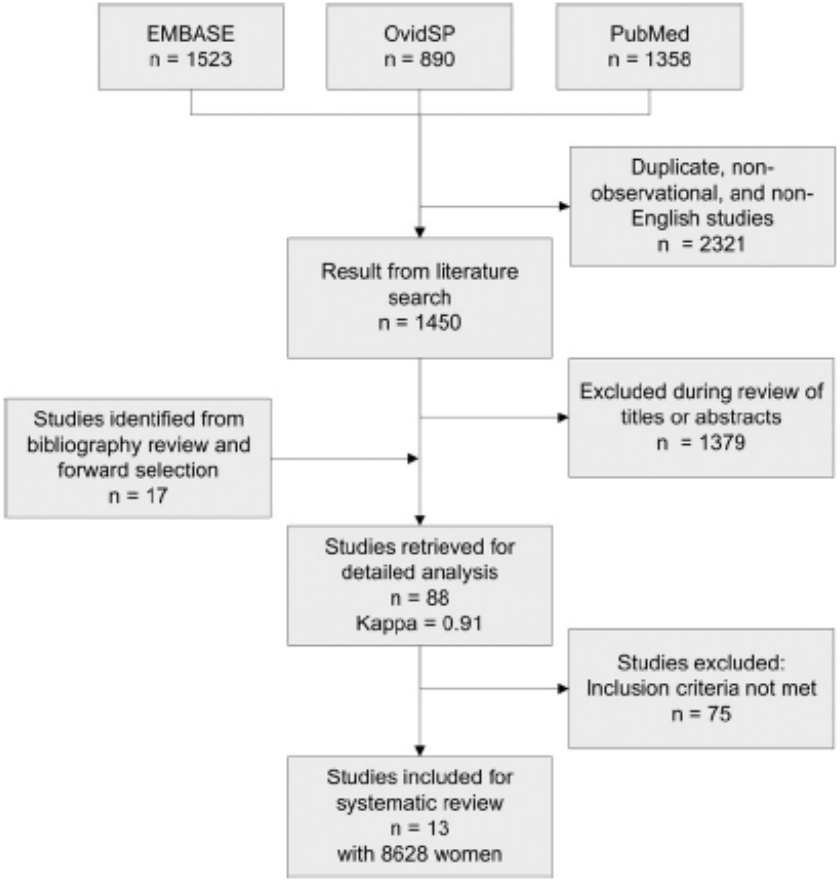
APD

Risk factors for failed conversion of labor epidural analgesia to cesarean delivery anesthesia: a systematic review and meta-analysis of observational trials

M.E. Bauer,[a] J.A. Kountanis,[a] L.C. Tsen,[b] M.L. Greenfield,[a] J.M. Mhyre[a]



13 études observationnelles
8628 patientes

International Journal of Obstetric Anesthesia (2012)

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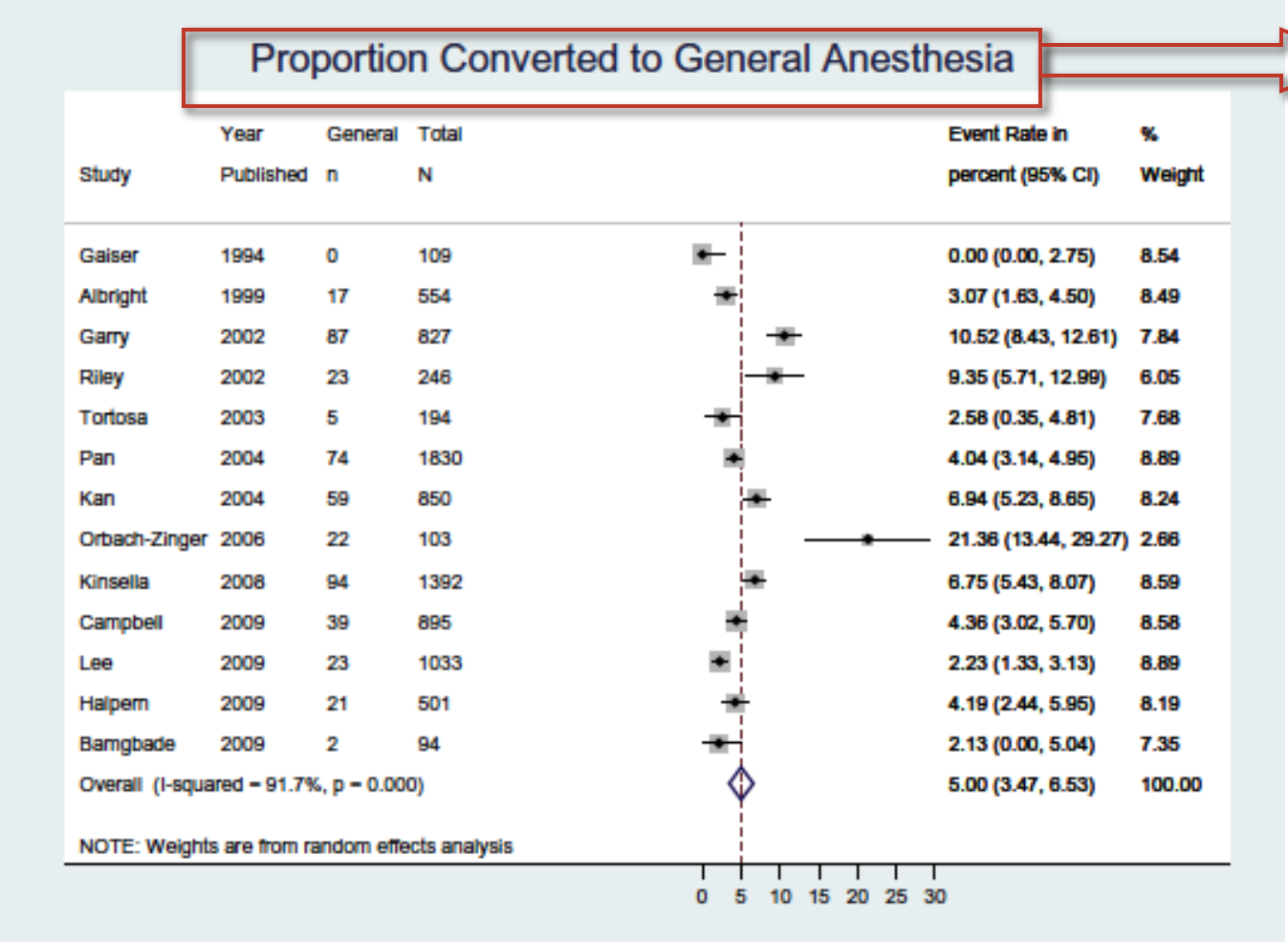

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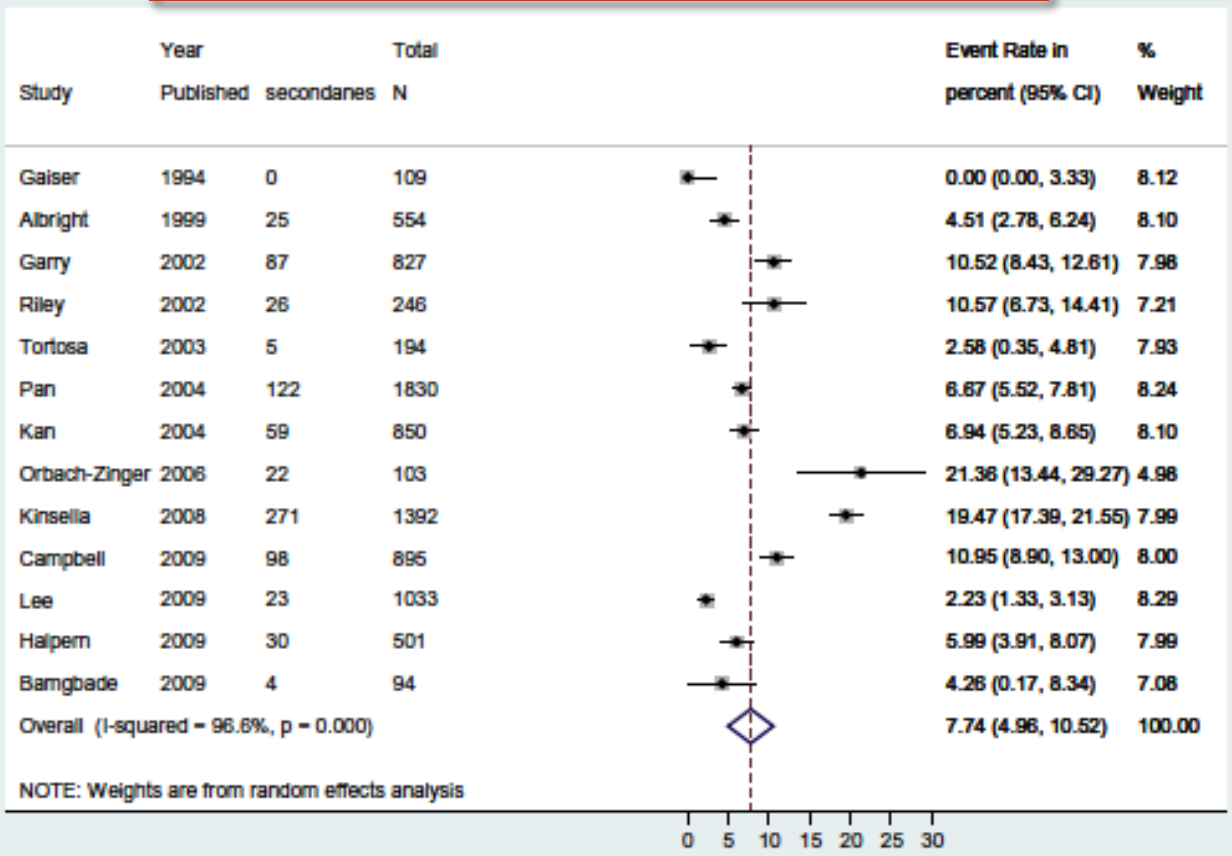
Proportion who Received a Second Anesthetic



7,5%

AG
RachiA
Nvelle APD

International Journal of Obstetric Anesthesia (2012)

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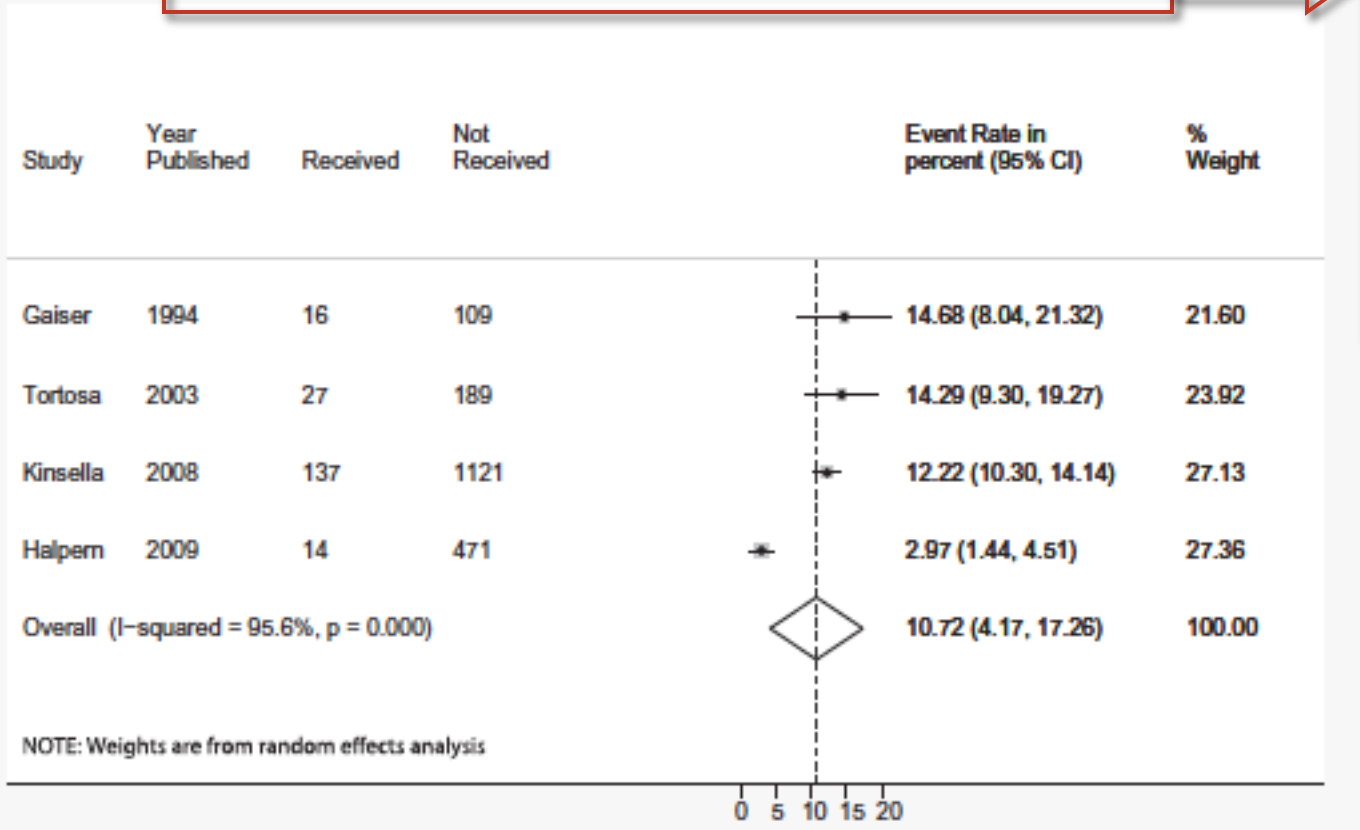
Proportion who Received Supplementation



10%

BZD
Kétamine
N2O
Halogénés

International Journal of Obstetric Anesthesia (2012)

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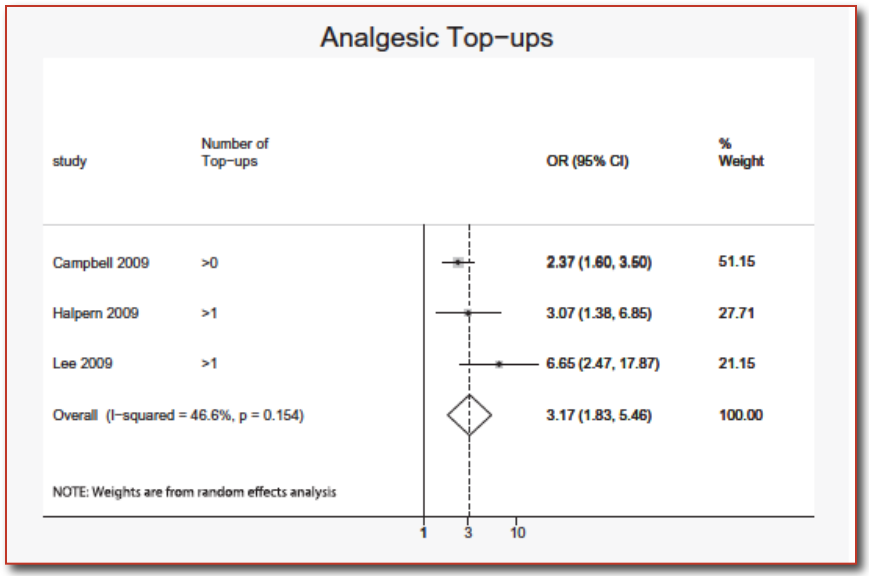
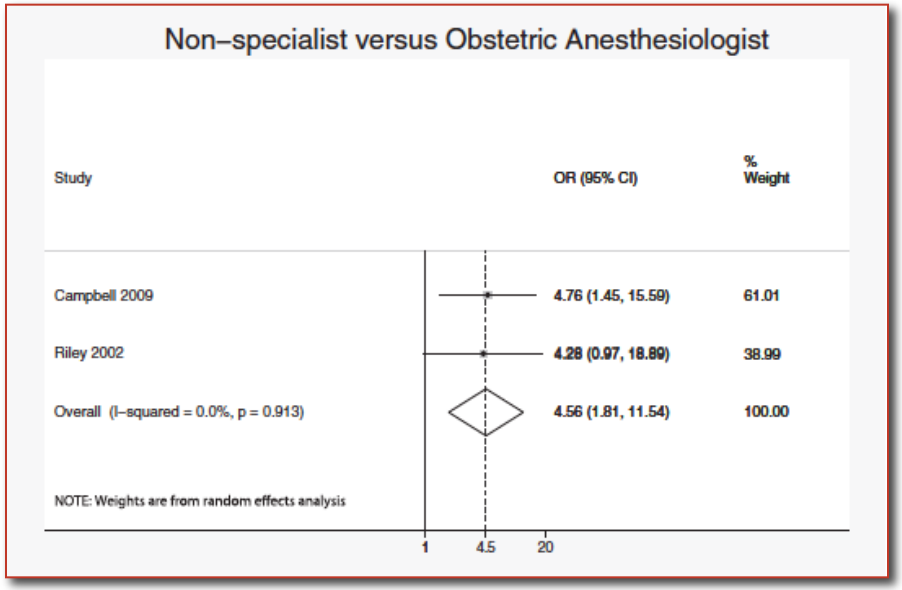


x 3



x 4,5

International Journal of Obstetric Anesthesia (2012)

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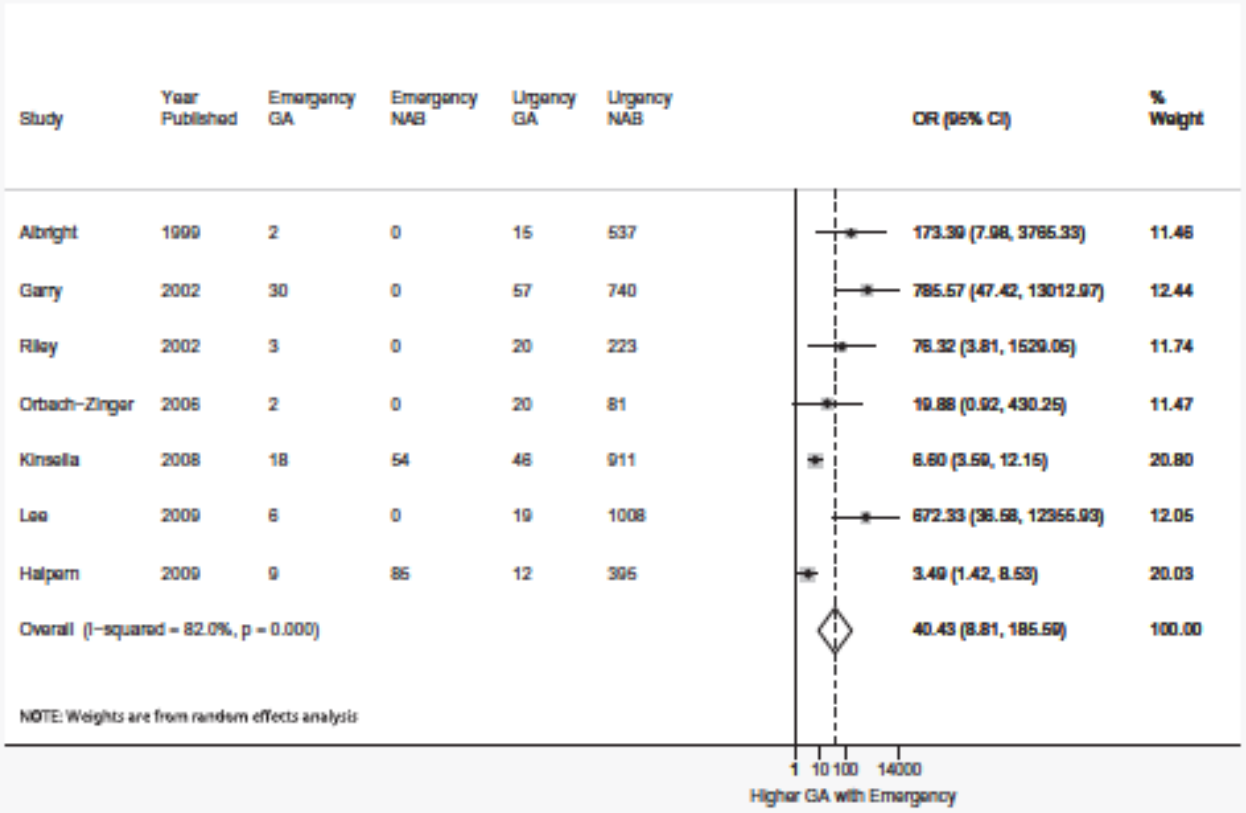
Emergency versus Urgency



x 40

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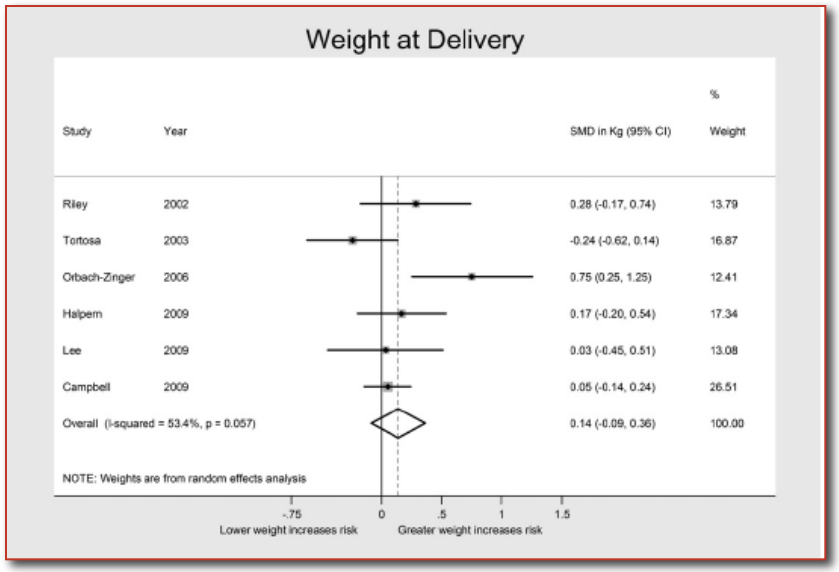
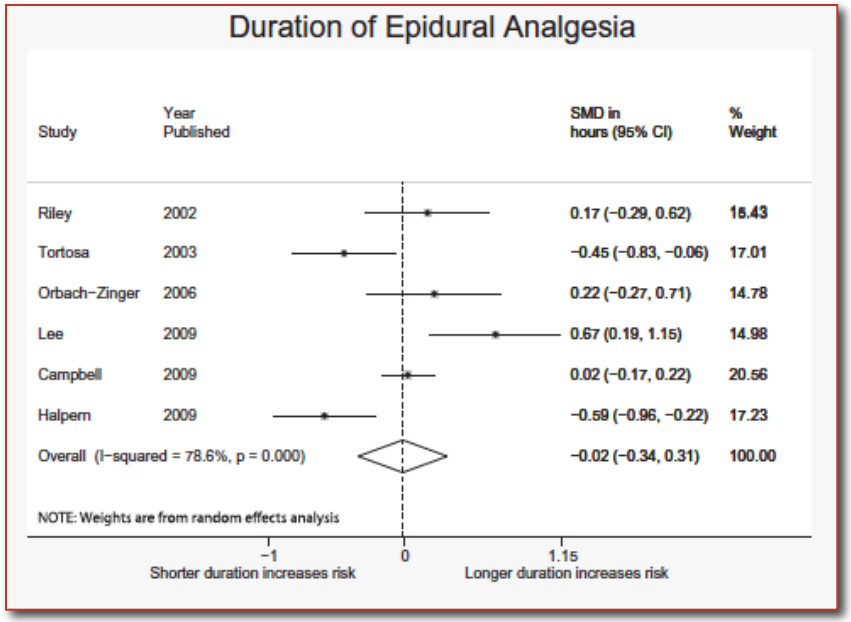
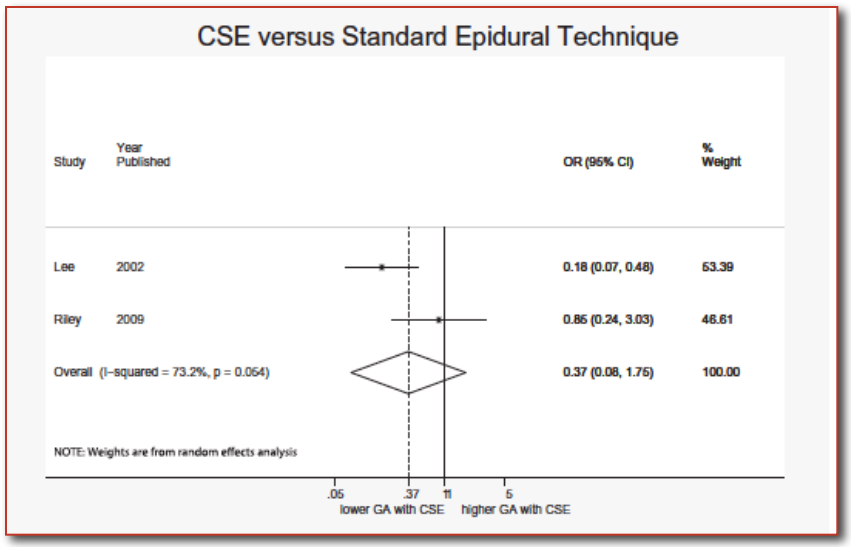






NS

International Journal of Obstetric Anesthesia (2012)

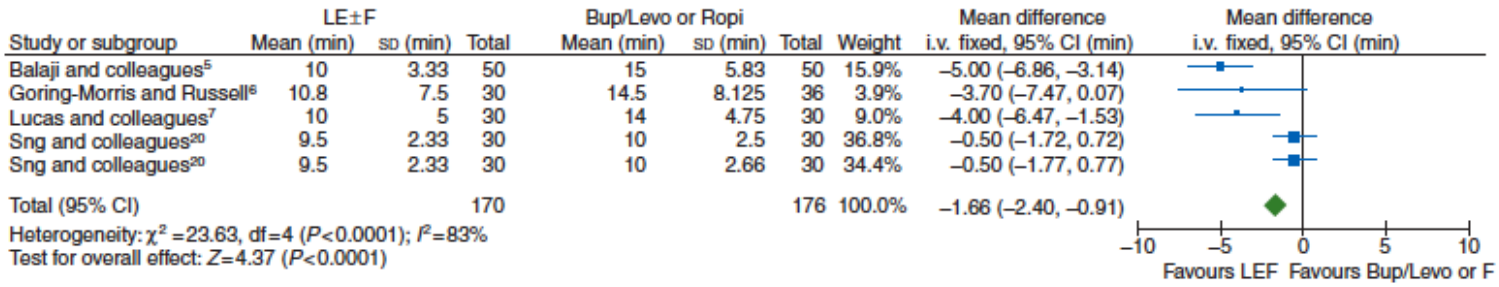
British Journal of Anaesthesia **107** (5): 668–78 (2011)
doi:10.1093/bja/aer300

BJA

Extending epidural analgesia for emergency Caesarean section: a meta-analysis

S. G. Hillyard[1,2*], T. E. Bate[2], T. B. Corcoran[1,3], M. J. Paech[3,4] and G. O'Sullivan[2]

11 études randomisées
779 patientes



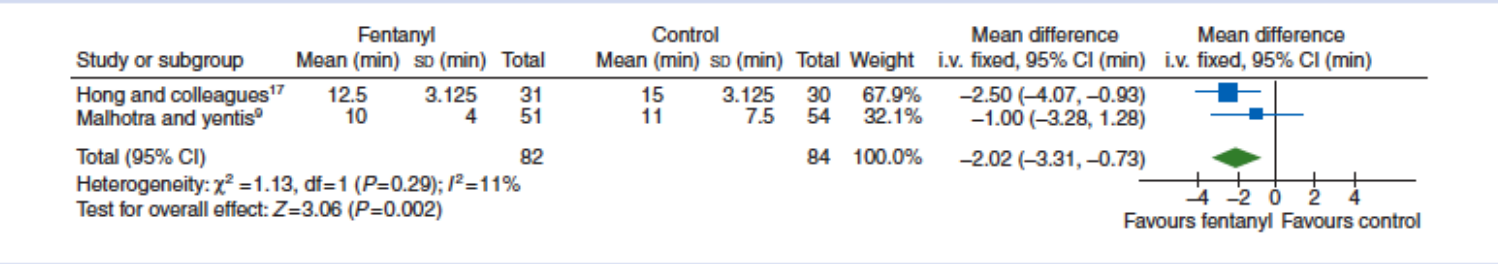
Study or subgroup	LE±F Mean (min)	LE±F SD (min)	LE±F Total	Bup/Levo or Ropi Mean (min)	Bup/Levo or Ropi SD (min)	Bup/Levo or Ropi Total	Weight	Mean difference i.v. fixed, 95% CI (min)
Balaji and colleagues[5]	10	3.33	50	15	5.83	50	15.9%	–5.00 (–6.86, –3.14)
Goring-Morris and Russell[6]	10.8	7.5	30	14.5	8.125	36	3.9%	–3.70 (–7.47, 0.07)
Lucas and colleagues[7]	10	5	30	14	4.75	30	9.0%	–4.00 (–6.47, –1.53)
Sng and colleagues[20]	9.5	2.33	30	10	2.5	30	36.8%	–0.50 (–1.72, 0.72)
Sng and colleagues[20]	9.5	2.33	30	10	2.66	30	34.4%	–0.50 (–1.77, 0.77)
Total (95% CI)			170			176	100.0%	–1.66 (–2.40, –0.91)

Heterogeneity: χ^2 =23.63, df=4 (P<0.0001); I^2=83%
Test for overall effect: Z=4.37 (P<0.0001)

Mean difference i.v. fixed, 95% CI (min)

–10 –5 0 5 10
Favours LEF Favours Bup/Levo or F

Fig 3 The onset time of a block suitable to allow surgery, comparing LE ± F (2% lidocaine, epinephrine, and fentanyl) top-up solutions with either Bup/Levo (0.5% bupivacaine, 0.5% levobupivacaine), or Ropi (0.75% ropivacaine) solutions.



Study or subgroup	Fentanyl Mean (min)	Fentanyl SD (min)	Fentanyl Total	Control Mean (min)	Control SD (min)	Control Total	Weight	Mean difference i.v. fixed, 95% CI (min)
Hong and colleagues[17]	12.5	3.125	31	15	3.125	30	67.9%	–2.50 (–4.07, –0.93)
Malhotra and yentis[9]	10	4	51	11	7.5	54	32.1%	–1.00 (–3.28, 1.28)
Total (95% CI)			82			84	100.0%	–2.02 (–3.31, –0.73)

Heterogeneity: χ^2 =1.13, df=1 (P=0.29); I^2=11%
Test for overall effect: Z=3.06 (P=0.002)

Mean difference i.v. fixed, 95% CI (min)

–4 –2 0 2 4
Favours fentanyl Favours control

Fig 4 The effect of the addition of fentanyl to a top-up solution on the onset time of a block suitable to allow surgery.

Rapidité du bloc : Lidocaïne

British Journal of Anaesthesia **107** (5): 668–78 (2011)
doi:10.1093/bja/aer300

BJA

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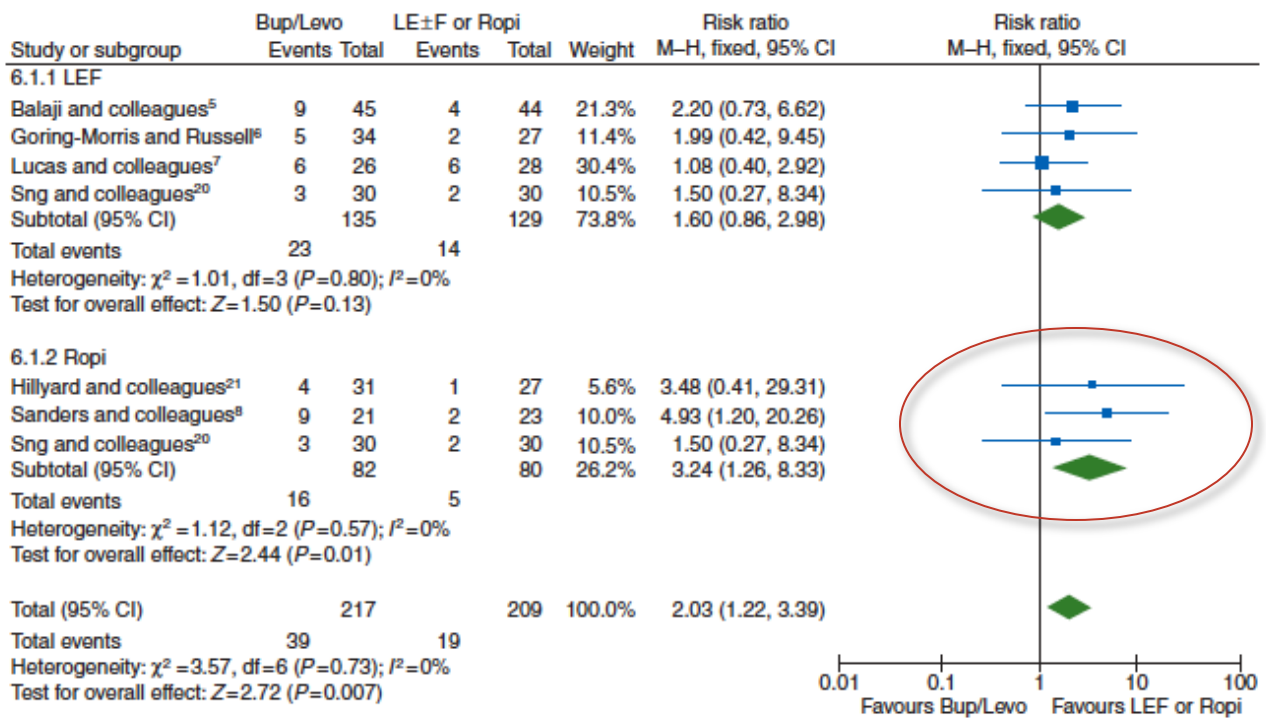


Fig 5 The need for intraoperative supplementation, comparing Bup/Levo (0.5% bupivacaine or 0.5% levobupivacaine) top-up solutions to LE ± F (2% lidocaine, epinephrine, and fentanyl), or Ropi (0.75% ropivacaine) solutions.

Qualité du bloc : Ropivacaïne

Remifentanil

LABOR, DELIVERY AND POSTNATAL MEDICINE Open Access

Remifentanil patient controlled analgesia versus epidural analgesia in labour. A multicentre randomized controlled trial

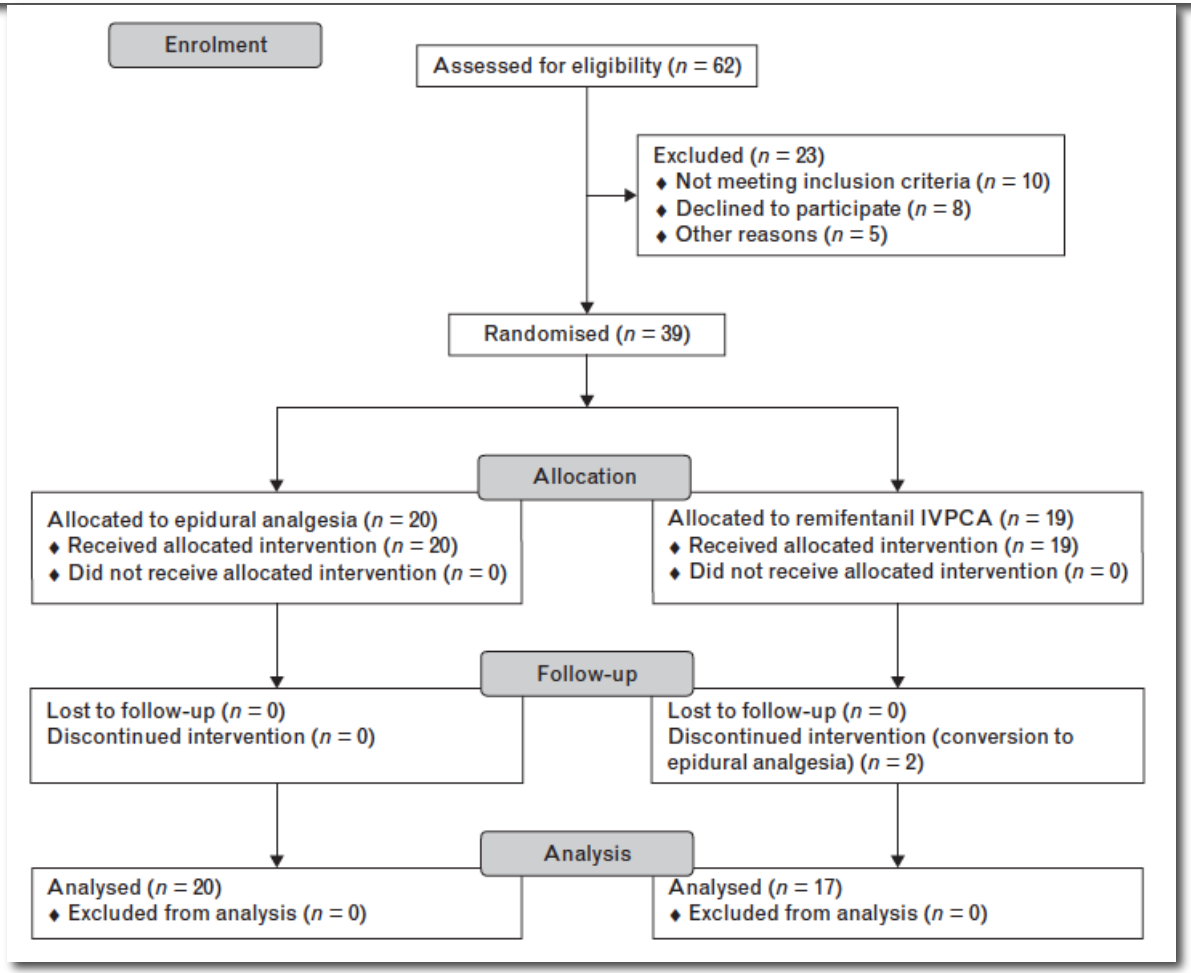
BMC Pregnancy & Childbirth

Liv M Freeman[1*]

- Etude Hollandaise
- APD > PCA Rémifentanil en terme de douleur
- Problème de disponibilité
  - Infrastructures
  - Accouchement à domicile
- Comparaison
  - en terme de satisfaction et non en terme de douleur
  - En terme de coût
- Etude en cours

Labour analgesia: a randomised, controlled trial comparing intravenous remifentanil and epidural analgesia with ropivacaine and fentanyl

Tor O. Tveit, Stephen Seiler, Arthur Halvorsen and Jan H. Rosland



Ropivacaïne 1 mg/ml, 10 ml/h

Bolus 0,15 microg/kg, PR 2 min, DC 100 microg/min

Eur J Anaesthesiol 2012;29:129–136

Labour analgesia: a randomised, controlled trial comparing intravenous remifentanil and epidural analgesia with ropivacaine and fentanyl

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Table 2 Quality of labour analgesia

	Remifentanil ($n=17$)	Epidural anaesthesia ($n=20$)	*P* value
Satisfaction with analgesia			
Very satisfied	13 (76%)	15 (75%)	0.917
Recommend analgesia method	17 (100%)	19 (95%)	0.350
Same analgesia next labour	16 (94%)	18 (90%)	0.647
Feeling of pain control (1–5)	1 (1–2)	2 (1–5)	0.061
Reduction in pain score, VAS (mm)			
End of first stage	27 (38.5)	26 (36.8)	0.920
End of second stage	31 (15.7)	29 (45.1)	0.909
Maximal	61 (19.8)	59 (22.9)	0.855
Pain score, VAS (mm)			
Before start	82 (13.3)	70 (16.2)	–
30 min	49 (21.2)	29 (30.0)	0.027
60 min	38 (17.3)	23 (30.2)	0.066
90 min	39 (24.0) ($n=14$)	24 (28.0) ($n=15$)	0.146
120 min	36 (20.5) ($n=12$)	16 (27.6) ($n=10$)	0.076
180 min	48 (29.5) ($n=9$)	20 (22.7) ($n=7$)	0.051
240 min	60 (18.1) ($n=5$)	35 (38.5) ($n=4$)	0.308

Feeling of pain control presented as median (range), other results as mean (SD) or *n* (%). Pain control are as follows: 1 = very good, 2 = good, 3 = moderate, 4 = poor, 5 = very poor. VAS, visual analogue scale.

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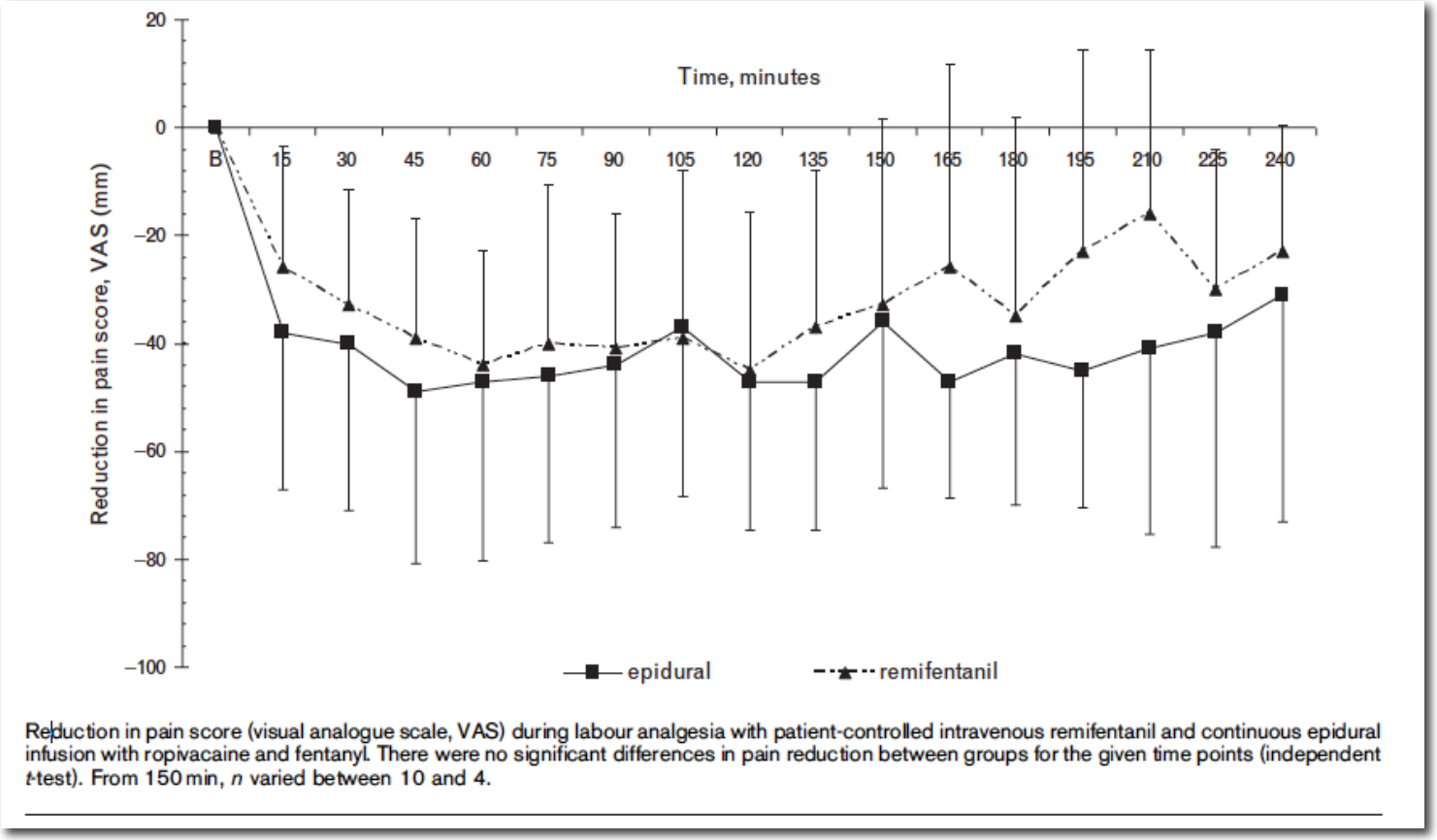

Reduction in pain score (visual analogue scale, VAS) during labour analgesia with patient-controlled intravenous remifentanil and continuous epidural infusion with ropivacaine and fentanyl. There were no significant differences in pain reduction between groups for the given time points (independent *t*-test). From 150 min, *n* varied between 10 and 4.

Eur J Anaesthesiol 2012;29:129–136

Labour analgesia: a randomised, controlled trial comparing intravenous remifentanil and epidural analgesia with ropivacaine and fentanyl

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Table 3 Side-effects during labour

	Remifentanil ($n = 17$)	Epidural anaesthesia ($n = 20$)	*P* value
Respiratory rate (beat/min)			
Before start	17 (3.6)	17 (3.0)	0.746
1 h	16 (3.5)	17 (4.6)	0.508
End of first stage	18 (4.0)	18 (3.7)	0.119
End of second stage[a]	20 (3.3)	19 (5.3)	0.622
Oxygen saturation (%)			
Before start	97 (1.3)	97 (1.0)	0.592
1 h	95 (1.6)	97 (1.3)	<0.01
End first stage	97 (1.6)	98 (1.3)	0.119
End second stage[b]	97 (1.5)	98 (1.6)	0.223
Oxygen supplement	11 (65%)	0	<0.01
Respiratory depression (<9 beats/min)	0	0	
Itching	0	3 (16%)	0.096
Nausea	4 (24%)	4 (20%)	0.967
Vomiting	6 (35%)	3 (15%)	0.260
Global sedation score, parturient			
Sedated or very sedated	17/17 (100%)	11/20 (55%)	0.001
Discomfort by sedation	0/17	1/11 (9%)	0.280
Amnesia from labour	2/17 (12%)	1/20 (5%)	0.731
Dizziness	11/17 (65%)	8/20 (40%)	0.365

Given as mean (SD) or *n* (%). [a] n = remifentanil 8, epidural 12. [b] n = remifentanil 8, epidural 11.

Eur J Anaesthesiol 2012;29:129–136

IOT

British Journal of Anaesthesia **106** (5): 617–31 (2011)
Advance Access publication 29 March 2011 · doi:10.1093/bja/aer058

BJA

SPECIAL ARTICLES

Major complications of airway management in the UK: results of the Fourth National Audit Project of the Royal College of Anaesthetists and the Difficult Airway Society. Part 1: Anaesthesia†

T. M. Cook[1*], N. Woodall[2] and C. Frerk[3], on behalf of the Fourth National Audit Project

- Etude de 184 airway catastrophes
  - 133 lors d'une anesthésie générale
  - 36 en réanimation
  - 15 en service d'accueil des urgences
- Réanimation et SAU
  - Plus souvent la nuit
  - Personnel moins expérimenté sur l'IOT
  - Plus de décès et de séquelles
- Prise en charge de bonne qualité 19%
- Prise en charge « pauvre »: 75%
  - Défaut d'indentification des patients à risque
  - Défaut de matériel ou de personnel qualifié
  - Défaut d'utilisation ou d'interprétation du capnographe
- Prise en charge de bonne qualité dans seulement 3 cas de décès…

Incidence of unanticipated difficult airway in obstetric patients in a teaching institution

Weike Tao · Jason T. Edwards · Faping Tu · Yang Xie · Shiv K. Sharma

J Anesth (2012) 26:339–345

- 2001 - 2006
- 82 054 naissances… (16 000/an)
- 20610 césariennes
- 2158 AG/IOT
- 12 intubations difficiles
- 99,9% de succès final
- Mallampati, DTM, OB, … non prédictifs
- L'urgence ne change rien
- Expérience en anesthésie inférieure à un an

Incidence of unanticipated difficult airway in obstetric patients in a teaching institution

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J Anesth (2012) 26:339–345

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- 12 IOT difficile
- 99,9% de succès final
- Mallampati, DTM, OB, … identiques
- L'urgence ne change rien
- Expérience < un an

IOT difficile surestimée
Inexpérience ?

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J Anesth (2012) 26:339–345

J Anesth (2012) 26:324–325
DOI 10.1007/s00540-012-1403-9

EDITORIAL

Keep our guard up against general anesthesia for cesarean section!

Hiroyuki Sumikura

J Anesth (2012) 26:321–323
DOI 10.1007/s00540-012-1375-9

EDITORIAL

Rapid-sequence induction of anesthesia in obstetric women: how safe is it?

Takashi Asai

Unanticipated Difficult Airway in Obstetric Patients

Development of a New Algorithm for Formative Assessment in High-fidelity Simulation

ANESTHESIOLOGY
The Journal of the American Society of Anesthesiologists, Inc.

- Anesthésie obstétricale
  - Fréquence augmentée ?
  - Stratégie rendue difficile par la situation obstétricale
  - Cause de mortalité
  - Acquisition / maintien des compétences
- Ecriture d'un algorithme décisionnel pour l'IOT difficile
- Plusieurs scénarios
- Evaluation de 16 internes d'anesthésie (4eme et 5eme année)

M Balki Anesthesiology Aug 2012

Unanticipated Difficult Airway in Obstetric Patients

ANESTHESIOLOGY
The Journal of the American Society of Anesthesiologists, Inc.

Development of a New Algorithm for Formative Assessment in High-fidelity Simulation

Scenario 1. Fetal emergency (cord prolapse)—critical event involving unanticipated difficult intubation and cannot ventilate.

Scenario 2. Maternal emergency (massive antepartum hemorrhage and fetal distress)—critical event involving unanticipated difficult intubation, can ventilate, and ongoing maternal hemodynamic instability.

Scenario 3. Fetal emergency (ruptured vasa previa)—critical event involving unanticipated difficult intubation and can ventilate.

Scenario 4. Elective CS under general anesthesia (regional technically impossible due to previous spinal surgery)—critical event involving unanticipated difficult intubation and can ventilate.

M Balki Anesthesiology Aug 2012

Unanticipated Difficult Airway in Obstetric Patients

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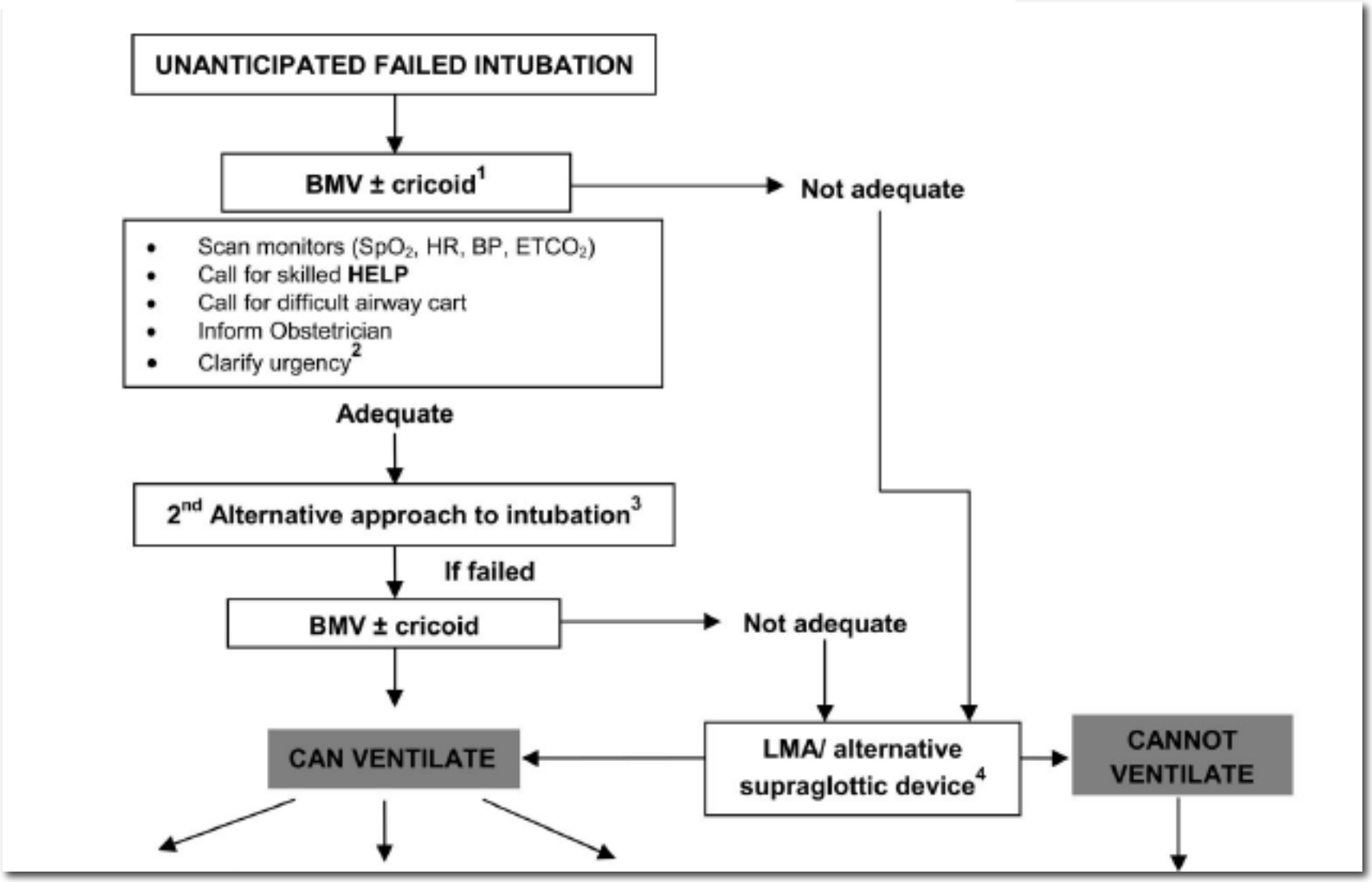

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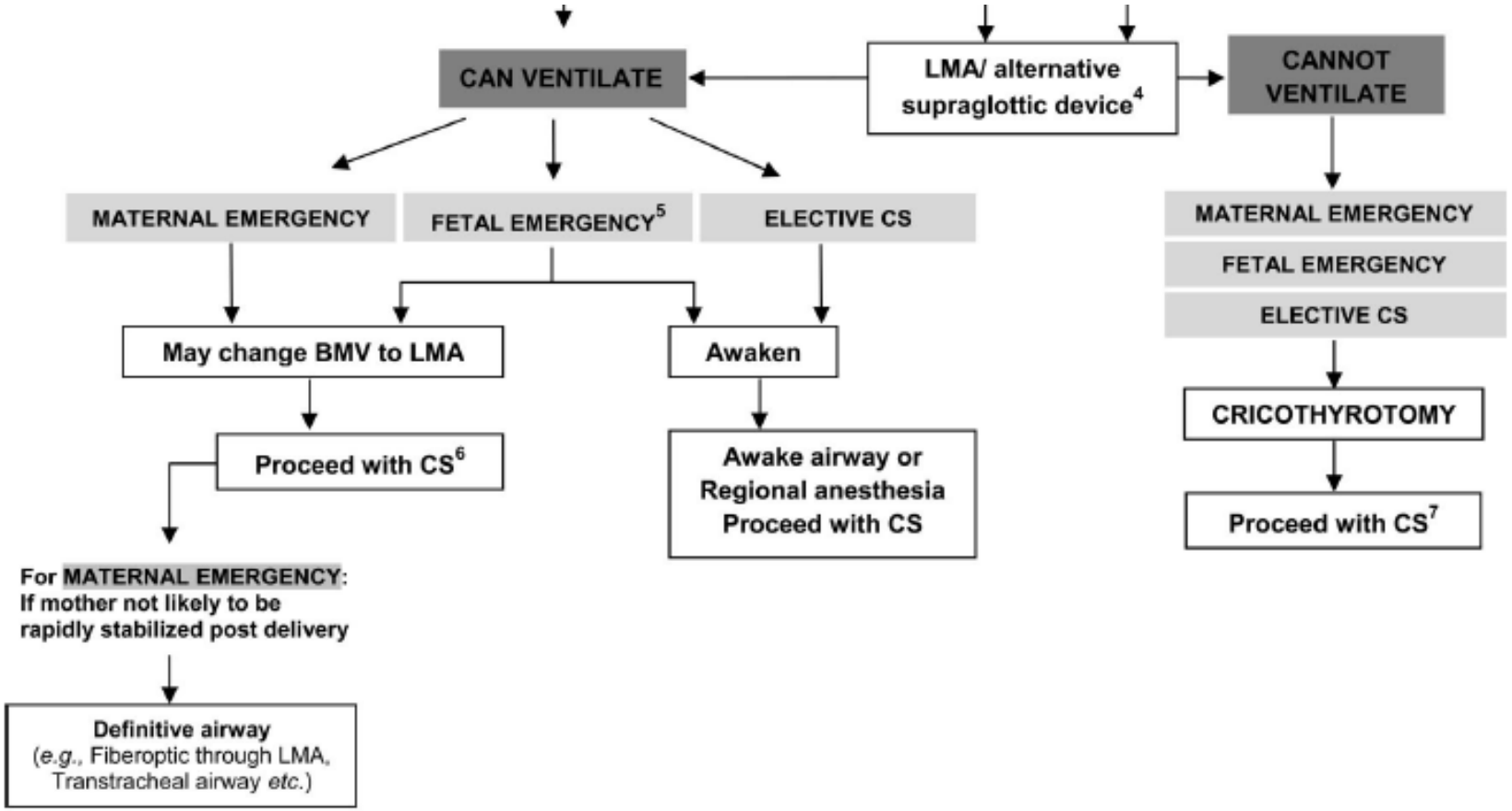

M Balki Anesthesiology Aug 2012

Unanticipated Difficult Airway in Obstetric Patients

ANESTHESIOLOGY
The Journal of the American Society of Anesthesiologists, Inc.

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Table 1. Percentage of Participants Completing the Critical Skills Checklist in Each Scenario

	Scenario 1			Scenario 2			Scenario 3			Scenario 4			Overall		
TASK	2	1	0	2	1	0	2	1	0	2	1	0	2	1	0
1. Recognized failed intubation	100	0	0	100	0	0	100	0	0	100	0	0	100	0	0
2. Recognized ease or difficulty with mask ventilation	81	6	13	94	6	0	100	0	0	100	0	0	94	1	5
3. Scanned monitors for deterioration of oxygen saturation/hemodynamics	56	25	19	63	6	31	94	6	0	100	0	0	78	8	14
4. Called for skilled help	25	6	69	56	31	13	44	19	37	12	13	75	34	17	49
5. Called for difficult airway cart	25	0	75	44	25	31	38	6	56	19	25	56	31	14	55
6. Informed obstetrician	38	31	31	50	25	25	50	31	19	69	25	6	52	28	20
7. Considered second intubation attempt/LMA	33	13	54	75	6	19	56	13	31	69	0	31	59	8	33
8. Used alternative approach for intubation during subsequent attempts	50	6	44	62	13	25	44	19	37	62	0	38	55	9	36
9. Scanned monitors, communicated with team	62	13	25	81	13	6	94	6	0	100	0	0	84	6	10
10. Recognized inadequate oxygenation/maintained adequate oxygenation	50	0	50	81	6	13	87	13	0	100	0	0	80	5	15
11. Performed cricothyrotomy if ventilation/oxygenation difficult by any means	94	6	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	94	6	0
12. Considered CS if maternal/fetal urgency: a) if ventilation possible - allowed even without securing definitive airway; if ventilation not possible - allowed after cricothyrotomy a) If no urgency: stopped the case and awakened the patient	93	7	0	69	12	19	87	13	0	100	0	0	87	8	5
13. Took appropriate steps to manage maternal hemodynamics	n/a	n/a	n/a	63	31	6	n/a	n/a	n/a	n/a	n/a	n/a	63	31	6
14. Considered definitive airway postdelivery if mother unstable	n/a	n/a	n/a	38	6	56	n/a	n/a	n/a	n/a	n/a	n/a	38	6	56
15. Performed appropriate airway management	94	6	0	63	6	31	81	13	6	100	0	0	84	6	10

Checklist items were rated on a 3-point scale (0–2; 0 = not performed, 1 = performed but not timely, 2 = performed timely).
CS = cesarean section; LMA = laryngeal mask airway; n/a = not applicable.

M Balki Anesthesiology Aug 2012

Unanticipated Difficult Airway in Obstetric Patients

Development of a New Algorithm for Formative Assessment in High-fidelity Simulation

ANESTHESIOLOGY
The Journal of the American Society of Anesthesiologists, Inc.

Table 2. Critical Skills Checklist Scores

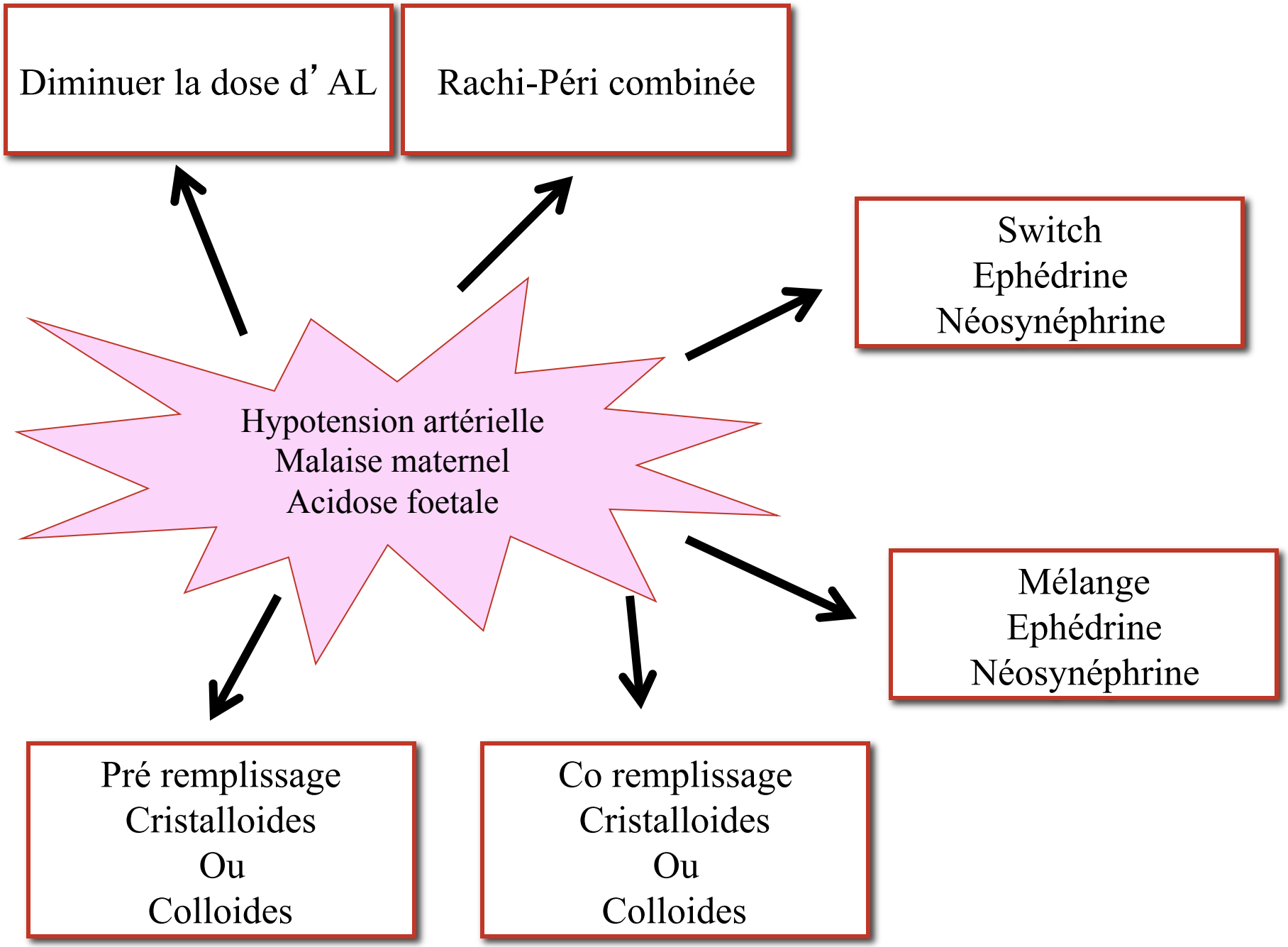
Scores	PGY4	PGY5	Overall
Scenario 1	63.9 (1.4)	64.4 (1.3)	64.1 (1.3)
Scenario 2	70.3 (1.2)	73.5 (1.2)	72.1 (1.2)
Scenario 3	76.4 (1.1)	78.7 (1.1)	77.6 (1.1)
Scenario 4	78.9 (1.1)	80.1 (1.1)	79.6 (1.1)

Scores are reported as geometric means and SD of percent performed.

PGY = postgraduate year.

M Balki Anesthesiology Aug 2012

Hémodynamique et césarienne sous rachi


Diminuer la dose d' AL
Rachi-Péri combinée
Switch
Ephédrine
Néosynéphrine
Hypotension artérielle
Malaise maternel
Acidose foetale
Mélange
Ephédrine
Néosynéphrine
Pré remplissage
Cristalloides
Ou
Colloides
Co remplissage
Cristalloides
Ou
Colloides

Enquête de pratique en région Lorraine sur la prévention et le traitement de l'hypotension au cours de la rachianesthésie pour césarienne programmée

C. Sertznig [a], F. Vial [a], G. Audibert [b], P.-M. Mertes [b], H. El Adssi [c], H. Bouaziz [a,*]

Tableau 1
Taux de réponse selon le niveau du centre de périnatalité.

	Nombre de MAR	MAR répondeurs	Taux de réponse
	(*n* = 100)	(*n* = 65)	(%)
Maternité de niveau I	49	28	57
Maternité de niveau II	43	29	67
Maternité de niveau III	8	8	100

MAR : médecins anesthésistes-réanimateurs.

Tableau 2
Méthodes de prévention.

Méthodes de prévention	Répondeurs (*n* = 65)
	n (%)
Préremplissage seul	16 (25)
Préremplissage et vasopresseur(s)	37 (57)
Coremplissage seul	1 (1)
Coremplissage et vasopresseur(s)	11 (17)
Vasopresseur(s) seul(s)	0 (0)
Aucun	0 (0)

Annales Françaises d'Anesthésie et de Réanimation 30 (2011) 630–635

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Tableau 3
Volumes de solutés administrés pour la prévention de l'hypotension.

Volumes de solutés	Répondeurs ($n=65$)
	n (%)
Cristalloïdes ≤ 500 mL	13 (20)
Cristalloïdes 500–1000 mL	39 (60)
Cristalloïdes ≤ 500 mL + colloïdes ≤ 500 mL	5 (8)
Cristalloïdes 500–1000 mL + colloïdes ≤ 500 mL	7 (11)
Cristalloïdes 500–1000 mL + colloïdes 500–1000 mL	1 (1)

Tableau 4
Choix de vasopresseur(s) pour la prévention et le traitement.

Vasopresseur(s)	Prévention ($n=65$)	Traitement ($n=65$)
	n (%)	n (%)
Éphédrine	24 (37)	38 (58)
Phényléphrine	2 (3)	2 (3)
Éphédrine et phényléphrine	16 (25)	9 (14)
Éphédrine ou phényléphrine en fonction de la fréquence cardiaque de la patiente	6 (9)	16 (25)
Aucun	17 (26)	0 (0)

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Tableau 6
Prise en charge en fonction de l'activité obstétricale exclusive ou non des médecins anesthésistes-réanimateurs (MAR).

	Activité obstétricale exclusive ($n=11$)	Activité obstétricale non exclusive ($n=54$)	p
	n (%)	n (%)	
Méthodes de prévention			<0,001
Préremplissage seul	3 (27)	13 (24)	
Préremplissage et vasopresseur(s)	1 (9)	36 (67)	
Coremplissage seul	0 (0)	1 (2)	
Coremplissage et vasopresseur(s)	7 (64)	4 (7)	
Vasopresseurs pour la prévention			<0,001
Éphédrine	0 (0)	24 (44)	
Phényléphrine	0 (0)	2 (4)	
Éphédrine et phényléphrine	8 (73)	8 (15)	
Éphédrine ou phényléphrine en fonction de la FC	0 (0)	6 (11)	
Aucun	3 (27)	14 (26)	

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Cesarean delivery fluid management

Frédéric J. Mercier

KEY POINTS

- Crystalloid preloading for cesarean delivery under spinal anesthesia is clinically ineffective, and therefore should be abandoned.
- Hydroxyethyl starch (HES) preloading reliably decreases the incidence and severity of hypotension, and may also decrease vasopressor requirements.
- HES coloading appears equally effective as preloading if it is rapidly infused after initiation of anesthesia.
- Crystalloid coloading is a cheaper alternative to colloid but its efficacy appears less reliable, at least when a substantial volume cannot be infused rapidly during onset of spinal sympathetic blockade.
- Fluid loading should be used cautiously in preeclampsia and multiple gestations.

Curr Opin Anesthesiol 2012, 25:286–291

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Préremplissage
Cristalloides
inefficace

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Préremplissage
Cristalloides
inefficace

Pré-remplissage
Colloides
Réduisent l'hypotension
Les doses de vasopresseurs

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Préremplissage
Cristalloides
inefficace

Pré-remplissage
Colloides
Réduisent l'hypotension
Les doses de vasopresseurs

Co-remplissage
Colloides
Efficace et facile

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Préremplissage
Cristalloides
inefficace

Pré-remplissage
Colloides
Réduisent l'hypotension
Les doses de vasopresseurs

Co-remplissage
Colloides
Efficace et facile

Co-remplissage
Cristalloides
Efficace
Plus complexe

Curr Opin Anesthesiol 2012, 25:286–291

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Pré-remplissage
Colloides
Réduisent l'hypotension
Les doses de vasopresseurs

Co-remplissage
Colloides
Efficace et facile

Co-remplissage
Cristalloides
Efficace
Plus complexe

Pré éclampsie
Grossesses multiples
Risque de surcharge

Curr Opin Anesthesiol 2012, 25:286–291

Caesarean delivery vasopressor management

David W. Cooper

KEY POINTS

- The initial hypotensive effect of spinal blockade is caused by a rapid decrease in systemic vascular resistance, which makes α-agonists the logical first-line therapy.
- In contrast to ephedrine, prophylactic phenylephrine can effectively reduce maternal hypotension and nausea during spinal anaesthesia without inducing fetal acidosis.
- Effective prophylactic phenylephrine administration can be associated with reduced maternal cardiac output, but this has not been associated with adverse maternal or fetal effects.
- Effective prevention, or early treatment of hypotension, may pre-empt the supine hypotensive syndrome by simultaneously increasing venous tone.
- Vagolytics can, quite rightly, be given to treat bradycardia associated with hypotension; however, further vasopressor should be administered in a cautious fashion to avoid hypertensive crises.

Curr Opin Anesthesiol 2012, 25:300–308

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Hypotension = vasoplégie
Alfa-agonistes

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Hypotension = vasoplégie
Alfa-agonistes

Néosynéphrine
Efficace (PA, nausée, vomissements)
Sans acidose foetale

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Néosynéphrine
Efficace (PA, nausée, vomissements)
Sans acidose foetale

Néosynéphrine
Baisse du DC maternel
Sans effet délétère

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Sans effet délétère

Diminution de l'hypotension artérielle en position assise

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Néosynéphrine
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Sans effet délétère

Diminution de l'hypotension artérielle en position assise

Atropine efficace sur les bradycardies
Risque d'HTA ++

Curr Opin Anesthesiol 2012, 25:300–308

A sequential compression mechanical pump to prevent hypotension during elective cesarean section under spinal anesthesia

N. Sujata, D. Arora, B.P. Panigrahi, V.M. Hanjoora
Department of Anesthesia, Max Super Speciality Hospital, New Delhi, India

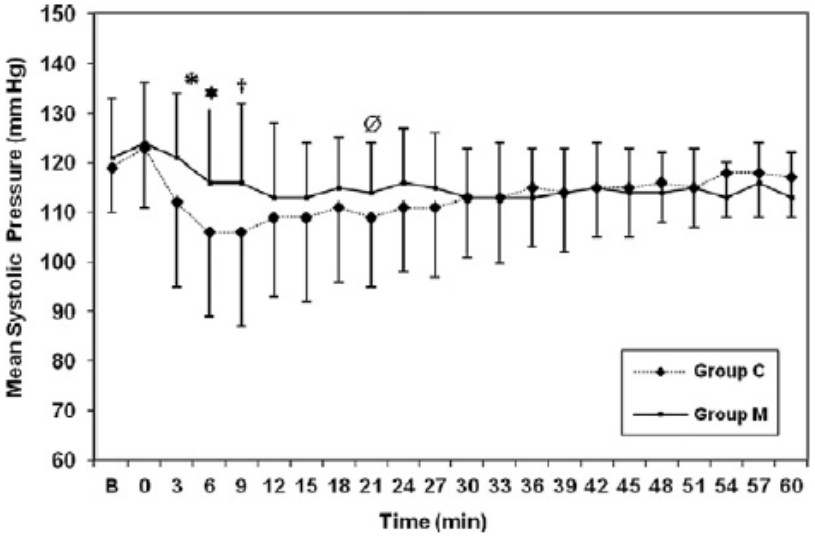

Fig. 2 Mean systolic blood pressure variation over time (Group C vs. Group M), significantly different at 3, 6, 9 and 21 min. $^{*}P = 0.002$, $^{\dagger}P = 0.015$, $^{\varnothing}P = 0.041$.

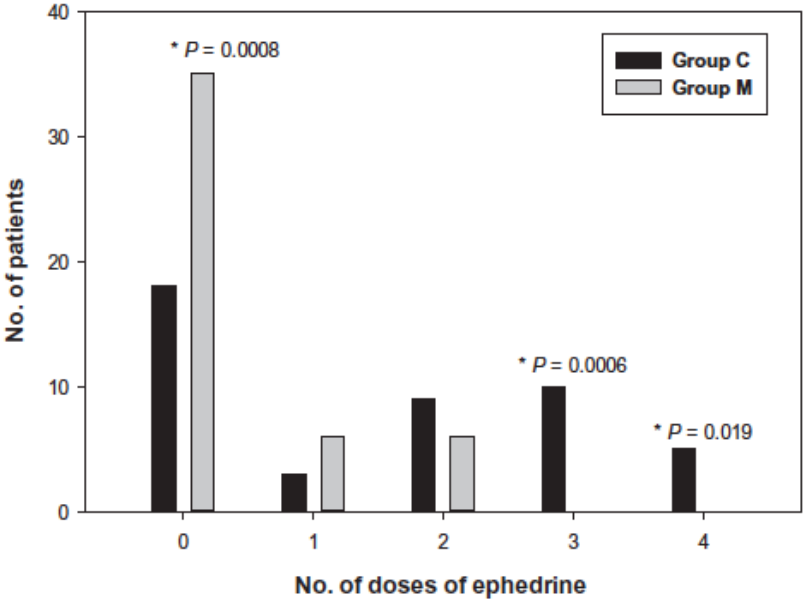

Fig. 3 Number of doses of ephedrine.

International Journal of Obstetric Anesthesia (2012) **21**, 140–145

A sequential compression mechanical pump to prevent hypotension during elective cesarean section under spinal anesthesia

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Table 3 Neonatal and maternal outcomes

	Group C ($n = 45$)	Group M ($n = 47$)	*P* value
Apgar score <7 at 1 min	0	1 (2.1%)	0.33
Apgar score <7 at 5 min	0	0	
Birth weight (kg)	3.0 ± 0.4	3.1 ± 0.4	0.25

Data are mean (±SD) or number (%).

Table 4 Vasopressor management

	Group C ($n = 45$)	Group M ($n = 47$)	*P* value
Minimum systolic blood pressure (mmHg)	90 ± 14	98 ± 9	0.004
Ephedrine			
Time to 1st dose (min)	8.4 ± 4.9	7.5 ± 2.7	0.78
Required during entire procedure	27 (60%)	12 (25.5%)	0.001
Required pre-delivery	25 (55.5%)	12 (25.5%)	0.003
Doses pre-delivery (mg)	6 [0–24]	0 [0–12]	0.002
Doses post-delivery (mg)	0 [0–18]	0 [0–6]	0.01
Cumulative dose (mg)	12 [0–24]	0 [0–12]	<0.001

Data are mean (± SD), number (%) or median [range].

International Journal of Obstetric Anesthesia (2012) **21**, 140–145

Reduction in spinal-induced hypotension with ondansetron in parturients undergoing caesarean section: A double-blind randomised, placebo-controlled study

T. Sahoo, C. SenDasgupta, A. Goswami, A. Hazra
Department of Anaesthesiology, Institute of Post Graduate Medical Education & Research, Kolkata, India

- Rachi A pour césarienne programmée
- Pré remplissage cristalloïde 20 ml/kg
- Bupivacaïne 10 mg
- Décubitus latéral gauche 15°
- Vasopressors protocolés
  - PAS < 90 mmHg ou PAD < 60 mmHg => Néosynéphrine 50 microgrammes
  - FC < 50 bpm => Atropine 0.3 mg
- Randomisation ondansetron *vs* placebo
- Recueil des données en aveugle

International Journal of Obstetric Anesthesia (2012) **21**, 24–28

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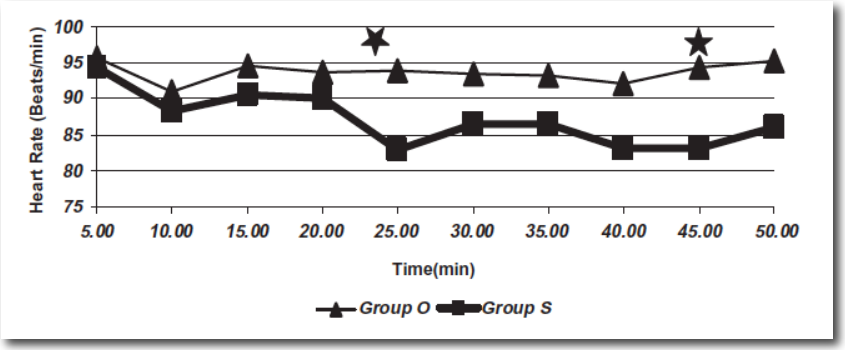

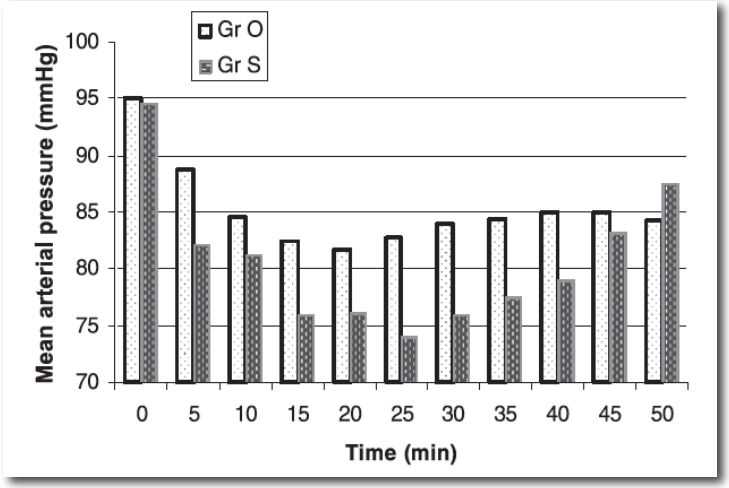

Table 1 Demographic details and side effects

	Group O ($n = 26$)	Group S ($n = 26$)	P value
Age (years)	26.3 (5.07)	25.4 (4.19)	0.476
Weight (kg)	63.4 (6.57)	64.4 (6.55)	0.578
Discomfort/pain	3	5	0.703
Vasopressor use	2	11	0.009
Bradycardia	0	2	0.49
Rigor	2	6	0.249
Nausea	1	7	0.049

Data are mean (SD) or number.

Caesarean delivery vasopressor management

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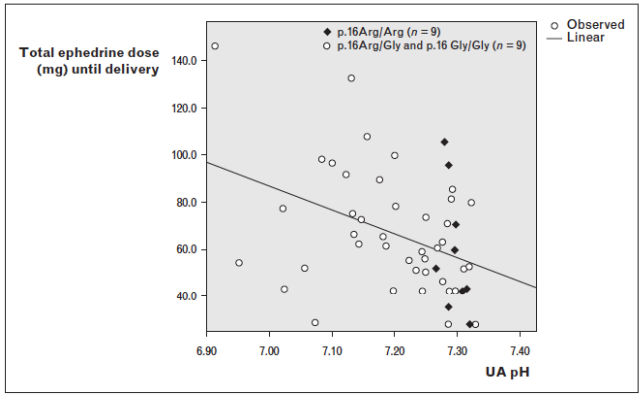

FIGURE 1. Influence of fetal genotype on fetal acidosis during spinal anaesthesia for caesarean delivery wherein ephedrine infusion was used to maintain maternal arterial pressure at baseline. Regression between uterine artery (UA) pH and ephedrine dose (in mg) according to neonatal adrenoreceptor β2 (ADRβ2) genotype at codon 16. The X-axis represents UA pH, and the Y-axis represents total ephedrine dose (in mg) given to the mothers from the time of the spinal injection until delivery of the baby. The line represents the 'fit line' for p.16Arg/Gly and p.16Gly/Gly. Using Pearson correlation rank, UA

Variabilité inter-individuelle
Récepteurs aux catécholamines

Curr Opin Anesthesiol 2012, 25:300–308

The Effect of Maternal and Fetal β2-Adrenoceptor and Nitric Oxide Synthase Genotype on Vasopressor Requirement and Fetal Acid-Base Status During Spinal Anesthesia for Cesarean Delivery

Ruth Landau, MD,* Shih-Kai Liu, MD,* Jean-Louis Blouin, PhD,† Richard M. Smiley, MD, PhD,† and Warwick D. Ngan Kee, MBChB, MD§

A&A ANESTHESIA & ANALGESIA

Table 3. Fetal Acid-Base Status According to Neonatal *ADRB2* Codon 16 Genotype

	p.16Arg/Arg	p.16Arg/Gly	p.16Gly/Gly
All neonates, *N*	32	46	16
UA pH	7.31 ± 0.03[a]	7.24 ± 0.12	7.27 ± 0.07
UA lactate (mmol/L)	2.67 ± 0.99[b]	4.55 ± 3.05	3.51 ± 1.71

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ANESTHESIA & ANALGESIA

Table 4. Ephedrine Group

	p.16Arg/Arg	p.16Arg/Gly	p.16Gly/Gly
Mothers, *N*	18	19	8
Dose of ephedrine (mg)	61 ± 26	72 ± 20	60 ± 29
MA ephedrine concentration (ng/mL)	368.3 ± 186.4	449.2 ± 144.9	428.0 ± 243.2
UV ephedrine concentration (ng/mL)	449.9 ± 250.9	488.2 ± 156.2	442.3 ± 122.2
UA:UV ratio	0.83 ± 0.17	0.83 ± 0.12	0.77 ± 0.11
UV:MA ratio	1.22 ± 0.27	1.09 ± 0.16	1.26 ± 0.24
Neonates, *N*	10	28	7
UA ephedrine concentration (ng/mL)	374.0 ± 204.4	402.8 ± 211.0	314.5 ± 101.0
UV ephedrine concentration (ng/mL)	406.7 ± 191.2	481.3 ± 223.9	384.7 ± 163.6
UA:UV ratio	0.90 ± 0.15	0.86 ± 0.20	0.83 ± 0.13
UV:MA ratio	1.06 ± 0.21	1.19 ± 0.26	1.13 ± 0.14
Neonates, *N*	9	28	7
UA pH	7.30 ± 0.02[a]	7.18 ± 0.11	7.22 ± 0.07
UA lactate (mmol/L)	3.66 ± 1.30[b]	6.10 ± 3.04	4.60 ± 1.86

Table 5. Phenylephrine Group

	p.16Arg/Arg	p.16Arg/Gly	p.16Gly/Gly
Mothers, *N*	16	24	9
Dose of phenylephrine (μg)	1342 ± 436	1403 ± 494	1260 ± 691
Neonates, *N*	22	18	9
UA pH	7.32 ± 0.03	7.34 ± 0.03	7.31 ± 0.05
UA lactate (mmol/L)	2.27 ± 0.43	2.12 ± 0.40	2.67 ± 1.02

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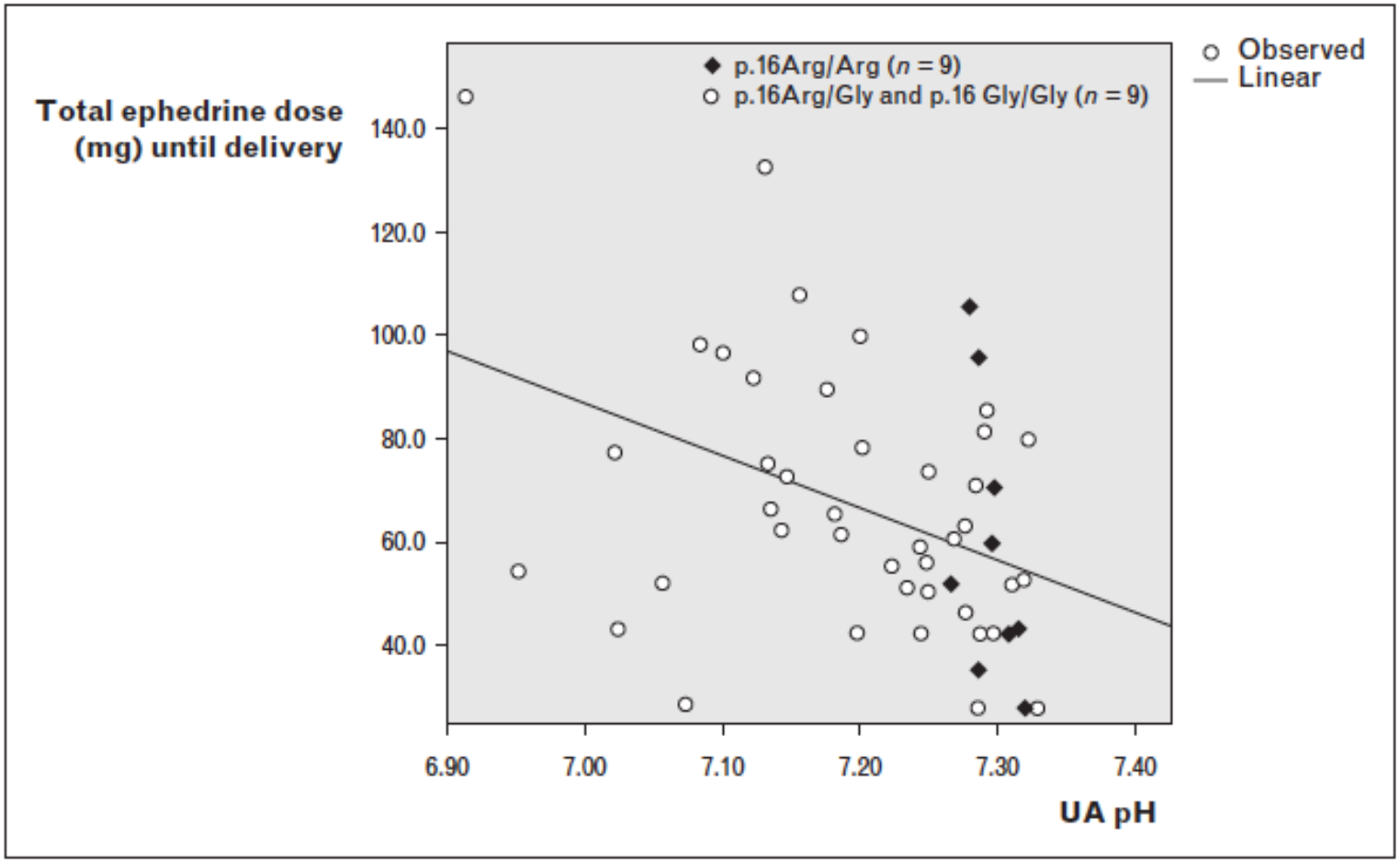

June 2011 • Volume 112 • Number 6

Examens complémentaires

SFAR
Société Française d'Anesthésie et de Réanimation

Société Française d'Anesthésie et de Réanimation

Examens pré interventionnels systématiques

Avec la collaboration de :

- L'Association Française de Chirurgie (AFC)
- L'Association Française d'Urologie (AFU)
- Le Collège National des Gynécologues -Obstétriciens Français (CNGOF)
- L'Etablissement Français du Sang (EFS)
- La Société de Chirurgie Gynécologique et Pelvienne (SCGP)

Recommandations formalisées d'experts SFAR 2012: Examens pré interventionnels systématiques

Il est recommandé d'évaluer le risque hémorragique d'après l'anamnèse personnelle et familiale de diathèse hémorragique et d'après l'examen physique. (GRADE 1+).

Il faut probablement utiliser un questionnaire standardisé à la recherche de manifestations hémorragiques pour évaluer l'anamnèse personnelle et familiale. (GRADE 2+).

Il est recommandé de ne pas prescrire de façon systématique un bilan d'hémostase chez les patients dont l'anamnèse et l'examen clinique ne font pas suspecter un trouble de l'hémostase, quel que soit le type d'anesthésie choisi (anesthésie générale, anesthésie neuraxiale, blocs périphériques ou techniques combinées), y compris en obstétrique. (GRADE 1-).

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Morbi-mortalité maternelle

What about the mothers? An analysis of maternal mortality and morbidity in perinatal health surveillance systems in Europe

BJOG An International Journal of Obstetrics and Gynaecology © 2012

M-H Bouvier-Colle,[a] AD Mohangoo,[b] M Gissler,[c] Z Novak-Antolic,[d] C Vutuc,[e] K Szamotulska,[f] J Zeitlin[a] for The Euro-Peristat Scientific Committee*

Table 1. Live births, maternal deaths, maternal mortality ratios, repartition (%) of the maternal deaths according to the obstetric causes, by country in 2003/04

Countries*	Live births (*n*)	Maternal deaths (*n*)	MMR per 100 000 live births	Causes of maternal deaths (%)**						
				H	AFE	OTE	CHT	OD	AI	UK
Austria[1]	155 912	10	6.4	0	10	10	20	10	50	0
Belgium[2]	156 167	7	4.5							
Cyprus	No data									
Czech Republic	191 349	19	9.9	11	16	21	0	26	21	5
Denmark[2]	129 466	12	9.3							
Estonia[3]	27 028	8	29.6	0	20	0	20	60	0	0
Finland	114 018	9	7.9	11	11	0	11	44	22	0
France	1 529 280	107	7.0	18	14	14	14	28	8	4
Germany[4]	1 320 820	67	5.1	7	5	7	2	16	16	47[3]
Greece[5,2]	104 355	2	1.9							
Hungary	190 274	14	7.4	14	0	14	0	36	29	7
Ireland	No data									
Italy[4,6]	539 066	17	3.2	18	6	6	6	53	6	6[3]
Latvia	41 340	5	12.1	0	20	20	0	0	60	0
Lithuania	61 017	6	9.8	0	0	17	17	67	0	0
Luxembourg[7]	27 252	2	7.3	0	0	0	0	100	0	0
Malta	7923	0	0.0							
The Netherlands	362 012	32	8.8	9	0	13	13	13	34	19
Norway[2]	113 409	4	3.5							
Poland	707 203	31	4.4	39	13	3	6	39	0	0
Portugal[2]	221 945	17	7.7							
Slovakia	No data									
Slovenia[7]	34 907	4	11.5	50	0	25	0	0	25	0
Spain	896 472	41	4.6	0	0	0	25	75	0	0
Sweden[2]	200 316	4	2.0							
United Kingdom	1 411 545	108	7.7	6	14	8	9	41	22	0
All countries	8 308 853	519	6.2	13	11	10	9	32	17	8
Countries with <10% of unknown causes	6 626 021	420	6.3							

AFE, amniotic fluid embolism; AI, all indirect; CHT, complications of hypertension; H, obstetric haemorrhage; OD, other direct (other direct obstetric causes: chorioamnionitis/sepsis, abortion/ectopic pregnancy; anaesthetic; uterine rupture and others); OTE, Other thromboembolisms; UK, unknown.

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Table 3. Severe maternal morbidity rates per 1000 women by pathologies or interventions, according to the countries

Countries	No. of women	Eclampsia	ICU admission	Blood transfusion whatever the number of units*	Hysterectomy	Embolisation
Austria**						
Belgium Flanders	59 956	NA	NA	11.5	NA	NA
Cyprus**						
Czech Republic	96 771	0.2	NA	NA	0.8	NA
Denmark	63 781	0.3	NA	11.0	0.3	0.0
Estonia	13 879	0.6	NA	NA	0.9	NA
Finland	56 878	0.2	NA	0.1	0.2	0.2
France	774 870	1.1	0.5	2.1	0.3	0.3
Germany–Bavaria	105 490	0.7	3.1	10.7	1.0	0.0
Greece						
Hungary	93 913	0.5	NA	NA	1.0	0.0
Ireland**						
Italy	534 568	1.6	NA	4.6	0.9	0.0
Latvia	20 256	0.4	NA		0.8	NA
Lithuania**						
Luxembourg						
Malta	3838	1.3	NA	5.2	0.5	NA
The Netherlands	187 910	0.7	2.2	6.4	0.3	0.3
Norway**						
Poland	213 190	0.2	NA	NA	NA	NA
Portugal**						
Scotland only	53 342	0.6	NA	NA	0.2	NA
Slovakia**						
Slovenia	17 629	1.1	NA	10.6	0.6	NA
Spain–Valencia	38 389	0.3	NA	6.5	0.3	NA
Sweden**						
United Kingdom (Wales and Scotland)	82 911	0.67***	NA	NA	0.13***	NA

Understanding regional differences in maternal mortality: a national case–control study in France

M Saucedo, C Deneux-Tharaux, M-H Bouvier-Colle

Table 1. Distribution of characteristics of women and deliveries among cases and controls

	Cases (n = 328)	Controls (n = 14 878)	P value*
Region	328	14 878	<0.001
Ile-de-France	29.9	21.3	
Overseas districts (DOM)	12.8	4.1	
Rest of continental France	57.3	74.6	
Age (years)	328	14 687	<0.001
<25	11.6	19.2	
25–34	47.3	64.7	
35+	41.2	16.1	
Nationality	328	14 469	<0.001
French	80.8	88.0	
Foreign	19.2	12.0	

BJOG 2012;119:573–581.

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Accès au soin ?

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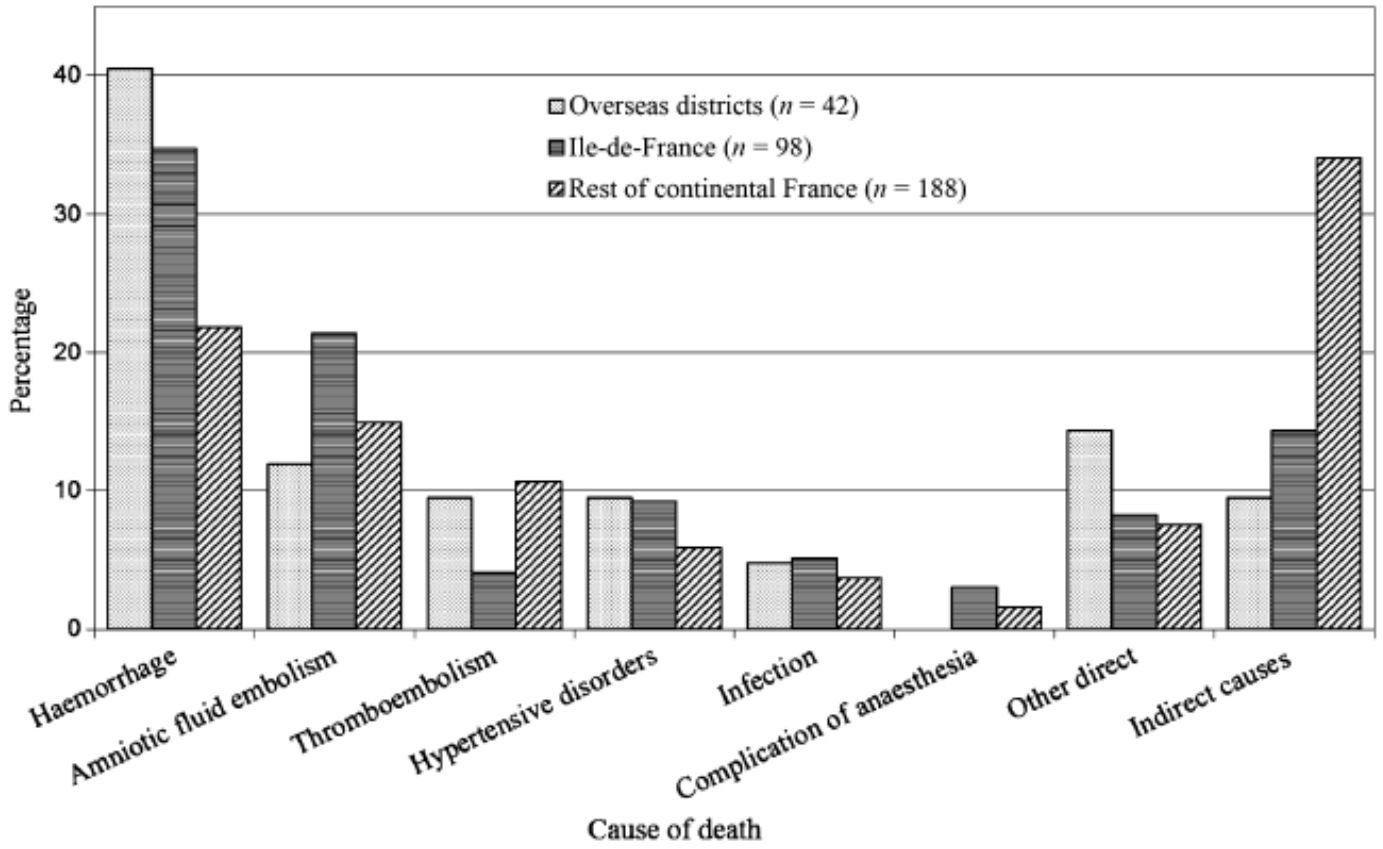

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Yes	9.6	4.6	
Induced labour	195	14 234	<0.001
No	38.5	67.8	
Yes	61.5	32.1	
Mode of delivery	209	14 230	<0.001
Vaginal	38.2	80.4	
Caesarean	60.8	19.6	
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déclenchement

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césarienne

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césarienne

En urgence

BJOG 2012;119:573–581.

Pré éclampsie

Maternal and Fetal Outcomes After Introduction of Magnesium Sulphate for Treatment of Preeclampsia and Eclampsia in Selected Secondary Facilities: A Low-Cost Intervention

Jamilu Tukur · Babatunde Ahonsi · Salisu Mohammed Ishaku · Idowu Araoyinbo · Ekechi Okereke · Ayodeji Oginni Babatunde

- Nigeria
- Mortalité maternelle 500 à 1000/100 000… = 1%
- Introduction MgSO4 à la place du diazepam
  - Formation des équipes
  - Preeclampsie sévère + Eclampsie
  - Protocole:
    - Hydratation
    - Hydralazine pour PAD < 110 mmHg
    - Dose de charge: 4g IVL + 10 g IM
    - Entretien: 5 g / 6 h IM pendant 24 heures après la dernière crise ou la naissance
    - Vérification des réflexes avant chaque injection

Matern Child Health J Septembre 2012

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    - Vérification des réflexes avant chaque injection

MORTALITE MATERNELLE
20.9 => 2.3%
MORTALITE NEONATALE
35.3 = > 12.3%

Matern Child Health J Septembre 2012

Low-dose magnesium sulphate in the control of eclamptic fits: a randomized controlled trial

M. A. Abdul · U. I. Nasir · N. Khan · M. D. Yusuf

- Nigeria…
- Etude randomisée
  - Low dose (n = 39):
    - Dose de charge: 4 g IVL + 5 g IM
    - Dose d'entretien: 2.5 g / 4 h IM pendant 24h après la dernière crise ou la naissance
    - **24 grammes de $MgSO_4$**
  - Standard dose (n = 33):
    - Dose de charge: 4 g IVL + 10 g IM
    - Dose d'entretien: 5 g / 4 h IM pendant 24h après la dernière crise ou la naissance
    - **44 grammes de $MgSO_4$**
  - Récurrence des crises => 2 g IVL
  - Surdosage => 10 ml de $GlCa^{2+}$ à 10%

Arch Gynecol Obstet. Août 2012

Prise en charge multidisciplinaire des formes graves de prééclampsie

Date de publication : 27 janvier 2009

Recommandations formalisées d'experts communes SFAR/CNGOF/SFMP/SFNN

Prise en charge hospitalière des PE

(G1+)En cas de PE sévère, la prévention de la crise d'E par du $MgSO_4$ est recommandée devant l'apparition de signes neurologiques (céphalées rebelles, ROT polycinétiques, troubles visuels) et en l'absence de contre-indication (insuffisance rénale, maladies neuromusculaires).

(G2+) Le schéma thérapeutique initial comporte un bolus (4 g) de $MgSO_4$ puis une perfusion IV continue de 1 g/h

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Prise en charge multidisciplinaire des formes graves de prééclampsie

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Eclampsie

(G1+) Le $MgSO_4$ est recommandé car il est supérieur au diazépam, à la phénytoïne et à l'association *(phénergan, dolosal, largactyl*) pour le traitement d'une crise en cours et pour la prévention de sa récidive

(G2+) En cas de récidive critique, l'injection d'une dose additionnelle de 1,5 à 2 g IV est possible

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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

THE LANCET

Lancet 2011; 377: 219–27

Panel: Variables considered in PIERS modelling

Demographic characteristics
Maternal age at expected date of delivery (years)
Number of fetuses
Gestational age at eligibility (weeks)
Gestational age at delivery (weeks)
Weight on admission (kg)
Body-mass index (kg/m²)
Gravidity (n)
Parity (n)
Smoking in this pregnancy (yes/no)

Past obstetric history
Gestational hypertension (yes/no)
Gestational proteinuria (yes/no)
Gestational diabetes mellitus (previous pregnancy) (yes/no)
Gestational diabetes mellitus (this pregnancy) (yes/no)

Past medical history
Hypertension (yes/no)
Renal disease (yes/no)
Diabetes mellitus (yes/no)

Symptoms
Severe nausea and vomiting (yes/no)
Frontal headache (yes/no)
Visual disturbance (yes/no)
Right upper quadrant/epigastric pain (yes/no)
Chest pain/dyspnoea (yes/no)
One or more symptom (yes/no)

Cardiorespiratory signs
Diastolic blood pressure at eligibility (mm Hg)
Systolic blood pressure at eligibility (mm Hg)
Mean arterial pressure at eligibility (mm Hg)
SpO_2 (%)/SpO_2 (filled)* (%)

(Continues in next column)

(Continued from previous column)

Haematological tests
Total leucocyte count (×10⁹/L)
Platelet count (×10⁹/L)
Mean platelet volume (fL)
Mean platelet volume/platelet ratio
International normalised ratio
Activated partial thromboplastin time (s)
Fibrinogen (μmol/L)

Renal signs and tests
Dipstick (categorical)†
Dipstick (continuous)‡
24-h urine protein (g per day)
Urinary protein:creatinine ratio (mg/mmol)
Creatinine (μmol/L)
Uric acid (mmol/L)

Hepatic tests
Aspartate transaminase (U/L)
Alanine transaminase (U/L)
Lactate dehydrogenase as a ratio of the local normal range midpoint (U/L)
Bilirubin (μmol/L)
Albumin (g/L)
Random glucose (mmol/L)

Fetal assessment tests
Fetal heart rate (normal/suspicious/pathological)§
Estimated fetal weight[V] (percentile category)¶
Abdominal circumference (percentile category)¶
Umbilical artery Doppler end diastolic flow

SpO_2=oxygen saturation (pulse oximetry). *Missing data filled assuming 97% (described in the Methods). †Classified as 0, trace, 1+, 2+, 3+, and 4+. ‡Classified as 0, 0·5, 1, 2, 3, and 4. §On the basis of Royal College of Obstetricians and Gynaecologists definitions.[34] ¶Classified as <1·0%, 1·0–2·4%, 2·5–4·9%, 5·0–9·9%, 10·0–49·9%, 50·0–89·9%, 90·0–94·9%, 95·0–97·4%, 97·5–98·9%, >99·0% on the basis of BC Women's Hospital published data.[35]

	Within 48 h of eligibility	Within 7 days of eligibility	At any time
Total	106 (5%)	203 (10%)	261 (13%)
Maternal death	0	0	0
CNS			
Eclampsia (≥1)	6	10	11
Glasgow coma score <13	1	1	3
Stroke or reversible ischaemic neurological deficit	0	0	1
Transient ischaemic attack	0	1	1
Cortical blindness or retinal detachment	0	0	0
Posterior reversible encephalopathy	0	0	0
Cardiorespiratory			
Positive inotropic support	0	0	3
Infusion of a third parenteral antihypertensive drug	0	1	3
Myocardial ischaemia or infarction	1	1	1
SpO_2 <90%	11	30	41
≥50% FiO_2 for >1 h	12	21	32
Intubation (other than for caesarean section)	1	4	6
Pulmonary oedema	22	52	63
Haematological			
Transfusion of any blood product	28	63	85
Platelet count <50×10⁹ per L, with no transfusion	22	36	40
Hepatic			
Dysfunction	9	11	12
Haematoma or rupture	0	0	0
Renal			
Acute renal insufficiency (creatinine >150 μmol/L; no pre-existing renal disease)[37]	3	4	6
Acute renal failure (creatinine >200 μmol/L; pre-existing renal disease)[37]	4	4	4
Dialysis	0	0	1
Placental abruption	15	24	34
Other adverse events			
Severe ascites	1	2	2
Bell's palsy	0	1	1

SpO_2=oxygen saturation (pulse oximetry). FiO_2=fraction of inspired oxygen. *Definitions available on the PIERS study website.

Table 2: Occurrence of adverse maternal outcomes by mortality or morbidity event*

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

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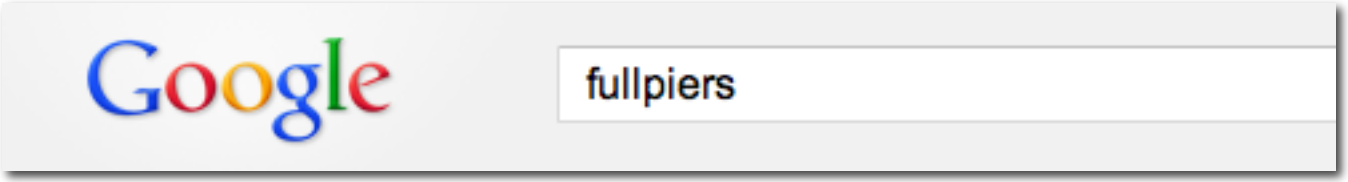
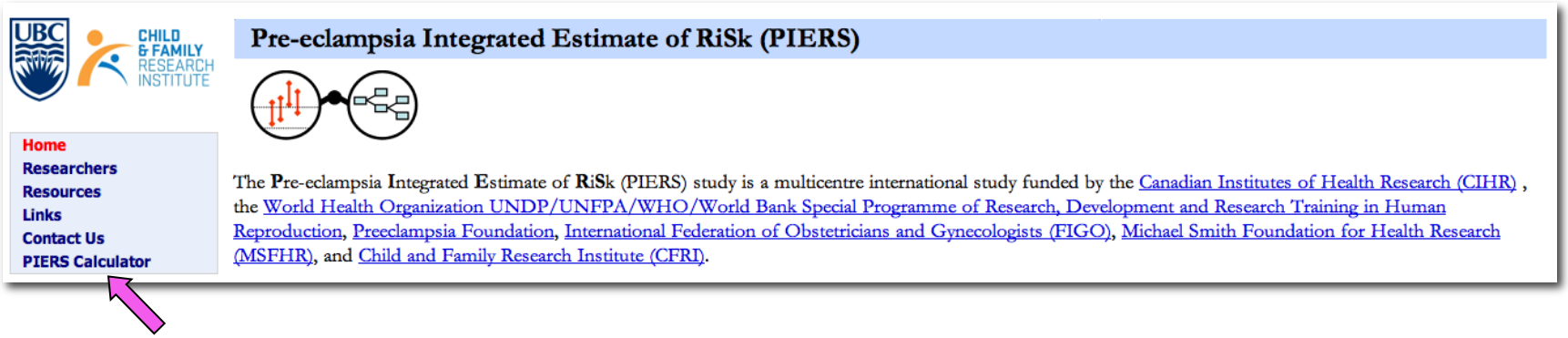
P**re-eclampsia **I**ntegrated **E**stimate of **RiSk
*Final full **PIERS** equation*

$$\text{Logit}(pi) = 2.68 + (-5.41 \times 10^{-2};\ \text{age gestationnel}) + 1.23\ (\text{douleur thoracique ou dyspnée}) + (-2.71 \times 10^{-2};\ \text{créatininémie}) + (2.07 \times 10^{-1};\ \text{plaquettes}) + (4.00 \times 10^{-5};\ \text{plaquettes}^2) + (1.01 \times 10^{-2};\ \text{ASAT}) + (-3.05 \times 10\text{-}6;\ \text{AST}^2) + (2.50 \times 10^{-4};\ \text{créatininémie x plaquettes}) + (-6.99 \times 10^{-5};\ \text{plaquettes x ASAT}) + (-2.56 \times 10^{-3};\ \text{plaquettes x SpO}^2)$$

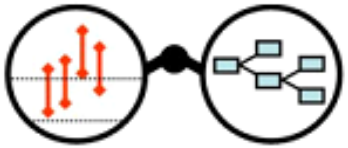


PIERS Website
piers.cfri.ca/ - Traduire cette page
The Pre-eclampsia Integrated Estimate of RiSk (**PIERS**) study is a multicentre international study funded by the Canadian Institutes of Health Research (CIHR) ...



Lancet 2011; 377: 219–27

Pre-eclampsia Integrated Estimate of RiSk (PIERS)



Lancet 2011; 377: 219–27

PIERS Calculator

SI units | Imperial units

Gestational age (at delivery, if *de novo* postpartum pre-eclampsia):

weeks days

Did the patient have chest pain or dyspnoea? -- Select one --

SpO2* (use 97% if unknown): %

Platelets (×109/L):

Creatinine (μmol/L):

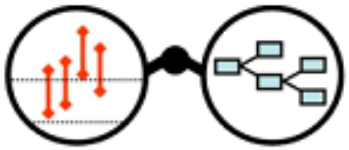
AST (U/L):

* - Oxygen saturation by pulse oximetry

Probability of adverse maternal outcomes: %

Calculate

Pre-eclampsia Integrated Estimate of RiSk (PIERS)



Lancet 2011; 377: 219–27

PIERS Calculator

SI units | Imperial units

Gestational age (at delivery, if *de novo* postpartum pre-eclampsia):

32 weeks 4 days

Did the patient have chest pain or dyspnoea? Yes

SpO2* (use 97% if unknown): 95 %

Platelets (×109/L): 120

Creatinine (µmol/L): 110

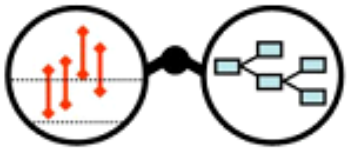
AST (U/L): 25

* - Oxygen saturation by pulse oximetry

Probability of adverse maternal outcomes: 21.7 %

Calculate

Pre-eclampsia Integrated Estimate of RiSk (PIERS)



Lancet 2011; 377: 219–27

PIERS Calculator | SI units | Imperial units

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Platelets (×109/L): 120

Creatinine (µmol/L): 110

AST (U/L): 25

* - Oxygen saturation by pulse oximetry

Probability of adverse maternal outcomes: 21.7 %

Calculate

REMARQUE

? Céphalée ?

Flou visuel

PAS et PAD

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

THE LANCET

Lancet 2011; 377: 219–27

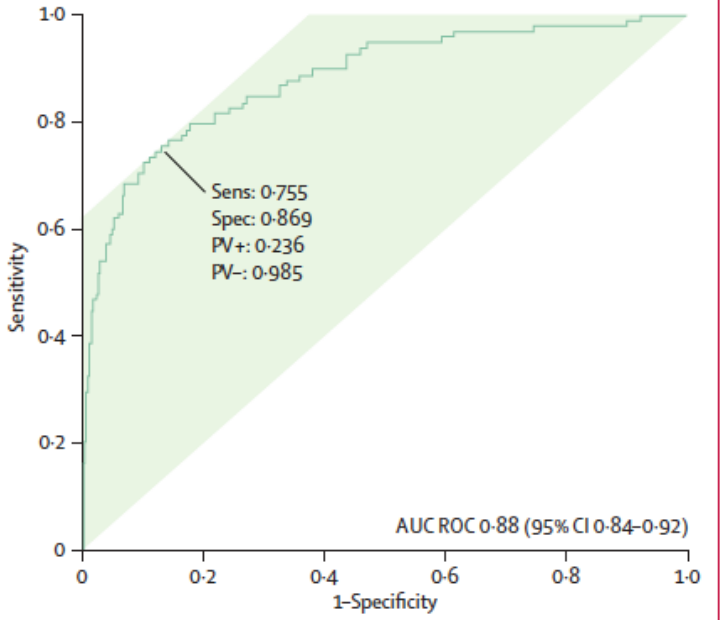

Figure 1: **Performance of the fullPIERS model, developed with data from first 48 h after eligibility**

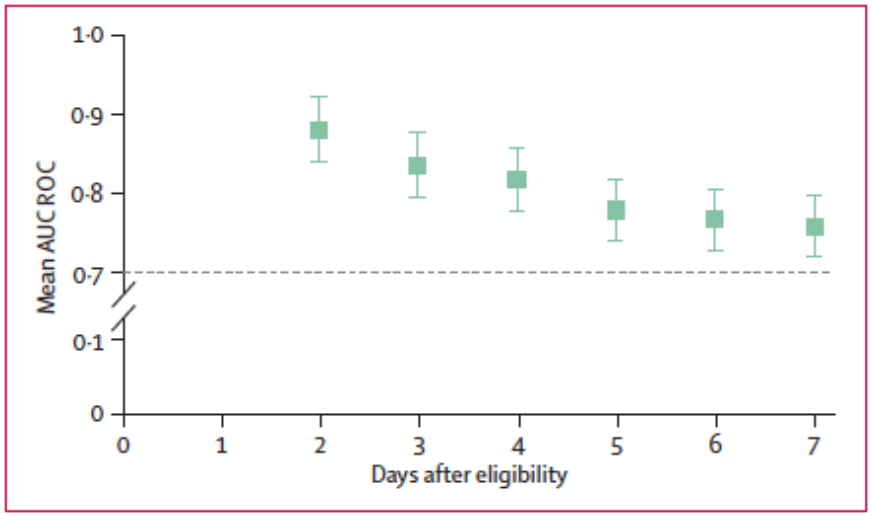

Figure 2: **Mean fullPIERS area under the curve of the receiver operating characteristic, 2–7 days after PIERS study eligibility**

Error bars show 95% CIs. AUC ROC=area under the curve of the receiver operating characteristic.

Clinical risk prediction for pre-eclampsia in nulliparous women: development of model in international prospective cohort

Robyn A North et al, BMJ 2011

BMJ

Table 3 | Clinical risk factors at 15 weeks and ultrasound scan variables at 20 weeks included in logistic regression model for pre-eclampsia

	Clinical risk factors at 15 weeks*			Plus ultrasound scan at 20 weeks†		
	No pre-eclampsia (n=3343)	Pre-eclampsia (n =186)	Adjusted OR (95%CI)	No pre-eclampsia (n=3167)	Pre-eclampsia (n=180)	Adjusted OR (95%CI)
Risk factors‡						
Decrease of 5 years in age	28.2 (5.8)	27 (5.8)	1.2 (1.1 to 1.4)	—	—	—
Increase of 5 mm Hg in MAP§	78 (8)	84 (8)	1.4 (1.3 to 1.5)	78 (8)	84 (8)	1.4 (1.2 to 1.5)
Increase of 5 in BMI	25.4 (5.1)	28.2 (6.7)	1.3 (1.1 to 1.4)	25.4 (5.1)	28.3 (6.8)	1.3 (1.1 to 1.5)
Family history of pre-eclampsia	309 (9%)	35 (19%)	2.0 (1.3 to 3.0)	299 (9%)	35 (19%)	1.9 (1.3 to 2.9)
Family history of coronary heart disease¶	384 (12%)	35 (19%)	1.9 (1.2 to 2.8)	359 (11%)	35 (19%)	1.8 (1.2 to 2.8)
Decrease of 500 g in woman's birth weight**	3293 (552)	3177 (540)	1.2 (1.1 to 1.4)	3292 (551)	3177 (547)	1.2 (1.1 to 1.4)
Vaginal bleeding ≥5 days	125 (4%)	13 (7%)	2.0 (1.1 to 3.8)	116 (4%)	12 (7%)	1.9 (1.0 to 3.7)
≤6 months in sexual relationship††	—	—	—	256 (8%)	26 (14%)	1.7 (1.04 to 2.6)
Bilateral notches	—	—	—	327 (10%)	33 (18%)	1.7 (1.1 to 2.6)
Increase of 0.1 in mean uterine artery RI	—	—	—	0.56 (0.10)	0.60 (0.12)	1.2 (1.04 to 1.5)
Protective factors						
One miscarriage ≤10 weeks, same partner	301 (9%)	8 (4%)	0.45 (0.22 to 0.93)	284 (9%)	8 (4%)	0.44 (0.21 to 0.92)
≥12 months to conceive	384 (12%)	12 (7%)	0.40 (0.22 to 0.75)	357 (11%)	12 (7%)	0.41 (0.22 to 0.76)
High fruit intake (≥3/day)	1347 (40%)	52 (28%)	0.69 (0.49 to 0.98)	1266 (40%)	48 (27%)	0.65 (0.45 to 0.92)
Alcohol consumption 1st trimester	1705 (51%)	69 (37%)	0.60 (0.44 to 0.83)	1616 (51%)	65 (36%)	0.57 (0.41 to 0.79)
Increase of 5 cigarettes/day	0.8 (3.0)	0.6 (2.4)	0.73 (0.53 to 1.0)	—	—	—

MAP=mean arterial pressure, BMI=body mass index, RI=uterine resistance index.

*Risk score for pre-eclampsia from logistic regression model based on clinical risk factors is calculated as −6.8855−0.0393×age+0.0659×MAP+0.0483×BMI+0.6861×family history of pre-eclampsia+0.6232×family history of coronary heart disease−0.3881×participant's birth weight (kg)+0.7129×vaginal bleeding ≥5 days−0.8033×one miscarriage ≤10 weeks, same partner −0.9070×≥12 months to conceive−0.3733×high fruit intake at 15 weeks−0.508×alcohol consumption in first trimester−0.063×No of cigarettes/day at 15 weeks.

†Risk score for pre-eclampsia from logistic regression model based on clinical risk factors and ultrasound scan data calculated as −9.1113+0.0634×MAP+ 0.0485×BMI+0.6539×family history of pre-eclampsia+0.6093×family history of coronary heart disease−0.3787×participant's birth weight (kg)+0.6493×vaginal bleeding ≥5 days+0.5008×months in sexual relationship ≤6 months +0.5084×bilateral notches+2.0802×mean uterine artery RI− 0.8248×one miscarriage ≤10 weeks, same partner−0.8983×≥12 months to conceive−0.4389×high fruit intake at 15 weeks −0.5573×alcohol consumption in first trimester.

‡Variable name (unit change for adjusted odds ratio (OR).

§MAP calculated from second blood pressure measurement at 14-16 weeks.

¶Participant's father had coronary heart disease.

**Because of missing data numbers for woman's birth weight were 3145, 174, 2993, and 168, respectively.

††≤6 months in sexual relationship with father of baby before conceiving.

Clinical risk prediction for pre-eclampsia in nulliparous women: development of model in international prospective cohort

Robyn A North et al, BMJ 2011

BMJ

Facteurs de risque à 14-16 SA

Age maternel
Pression artérielle moyenne
Index de masse corporel
ATCD familiaux de pré éclampsie
ATCD familiaux de pathologie coronaire
Poids de naissance maternel
Métrorragie > 5 jours

Facteurs protecteurs à 14-16 SA

ATCD de FCS avec le même partenaire
Délai de conception > 12 mois
Consommation élevée de fruits
Tabac
Alcool au premier trimestre

Clinical risk prediction for pre-eclampsia in nulliparous women: development of model in international prospective cohort

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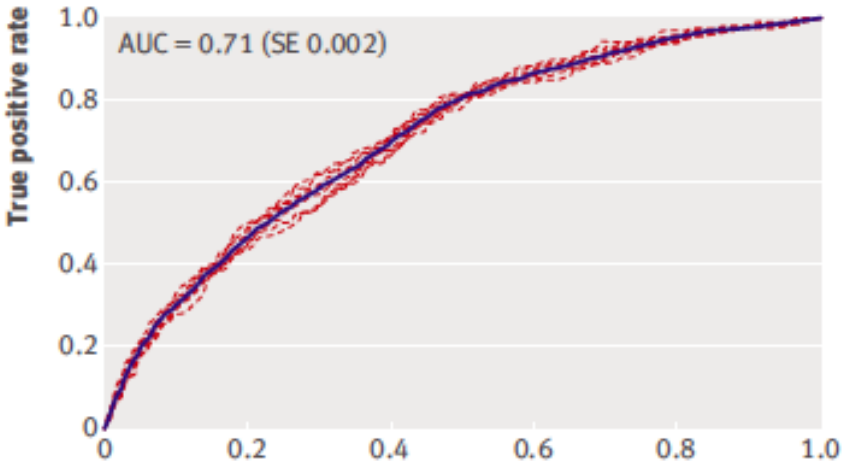

Fig 2| Receiver operating characteristics curves based on independent predicted values from ten 10-fold cross validation runs of model of clinical risk factors at 15 weeks

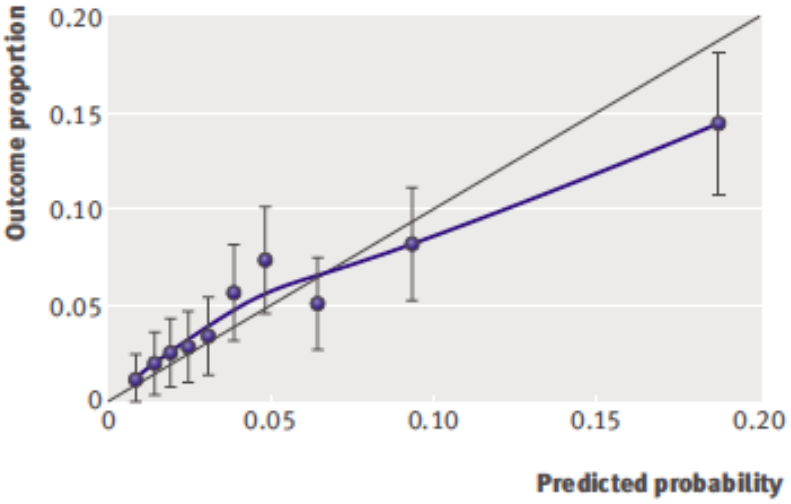

Fig 3 | Observed rate of pre-eclampsia compared with predicted probabilities of pre-eclampsia based on clinical risk factors model

Aire sous la courbe : 0,71 (non amélioré par les dopplers)

Clinical risk prediction for pre-eclampsia in nulliparous women: development of model in international prospective cohort

Robyn A North et al, BMJ 2011

BMJ

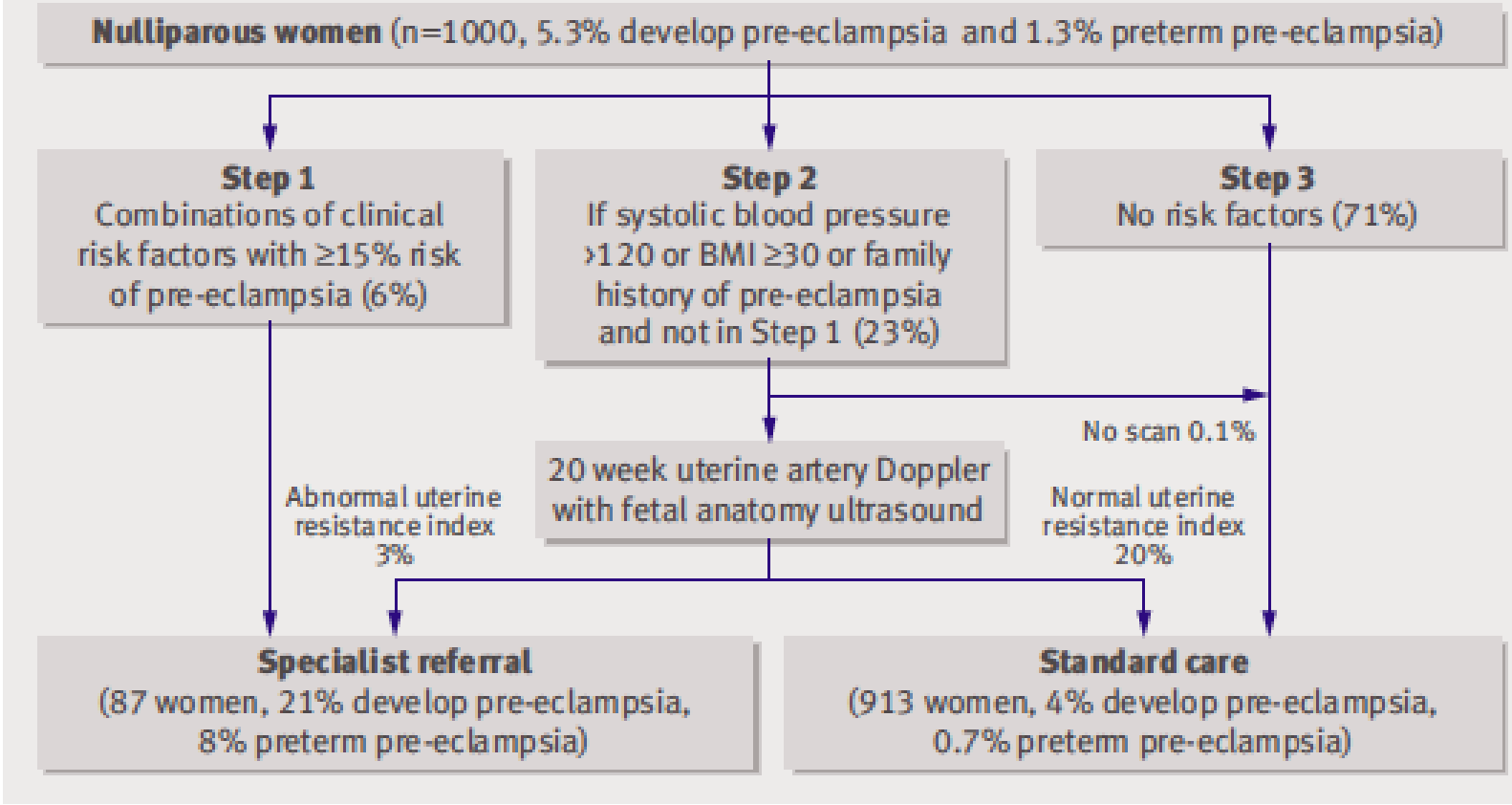

Fig 4 | Framework for specialist referral when estimated risk of pre-eclampsia is ≥15% in model or presence of clinical risk factor with abnormal result on uterine artery Doppler scan

Biomarkers in pre-eclampsia: A novel approach to early detection of the disease

S. Masoura[1], I. A. Kalogiannidis[1], G. Gitas[2], A. Goutsioulis[1], E. Koiou[3], A. Athanasiadis[2] & N. Vavatsi[4]

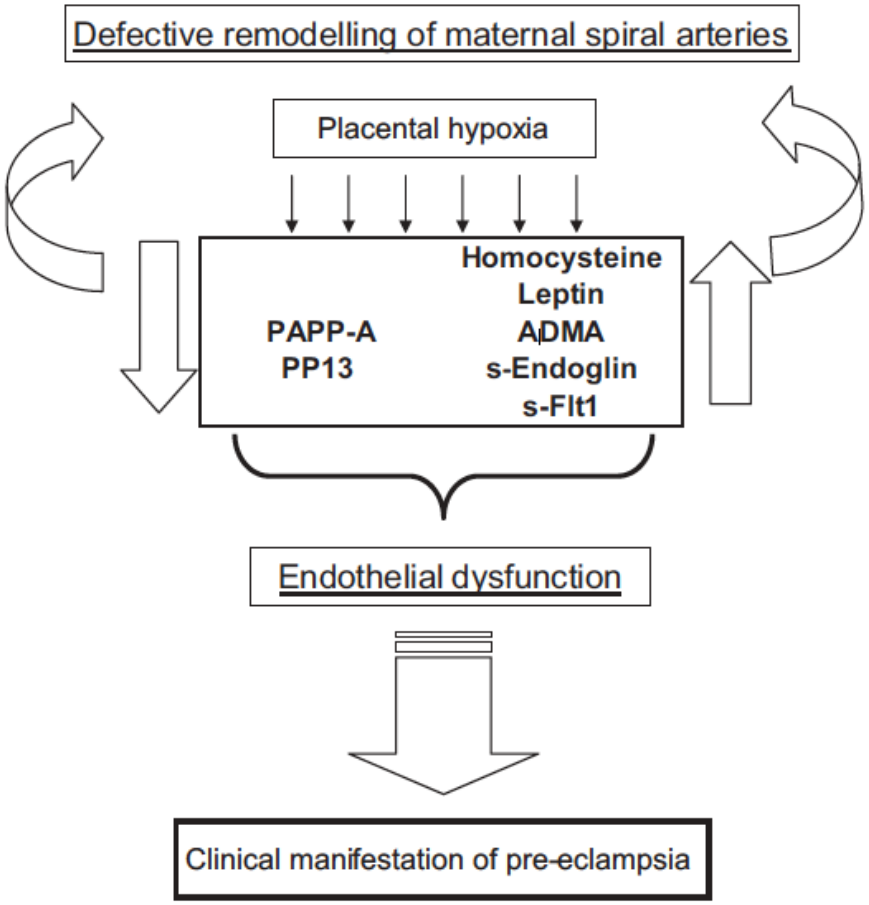

Figure 1. Mechanism of clinical manifestation of pre-eclampsia.

Journal of Obstetrics and Gynaecology, October 2012; 32: 609–616

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Nom	*Rôle*	*Résultat prédictif de prééclampsie*
PAPP-A Pregnancy Associated Plasma Protein-A	Facteur d'invasion trophoblastique	Abaissé au premier trimestre
PP-13 Plasma Protein 13	Transformation des artères spiralées	Abaissé au premier trimestre
Homocystéine	Croissance cellulaire Pro-inflammatoire FdR cardiovasculaire et thromboembolique	Elevé au premier trimestre
Endoglin soluble	Fonction vasculaire/endothéliale	Elevé au premier trimestre
ADMA Asymetric Dimethylarginine	Inhibiteur endogène de la NO synthase	Elevé au premier trimestre
Leptine	Régulation de la masse grasse et de l'appétit	Elevé au premier trimestre
VEGF, PLGF, sFlt-1	Croissance et fonction endothéliale	Elevé (sFlt-1) au premier trimestre

Journal of Obstetrics and Gynaecology, October 2012; 32: 609–616

HPP

carbetocin

Carbetocin for preventing postpartum haemorrhage (Review)

Su LL, Chong YS, Samuel M

Cochrane revue 2012

THE COCHRANE COLLABORATION®

Carbetocin for preventing postpartum haemorrhage (Review)

11 études randomisées
100 mcg de Carbetocin
6 contre l'ocytocine (4 CS, 1 AVB, 1 mode d'accouchement inconnu)
4 contre la syntometrine
1 contre placebo

Authors' conclusions

For women who undergo caesarean section, carbetocin resulted in a statistically significant reduction in the need for therapeutic uterotonics compared to oxytocin, but there is no difference in the incidence of postpartum haemorrhage. Carbetocin is associated with less blood loss compared to syntometrine in the prevention of PPH for women who have vaginal deliveries and is associated with significantly fewer adverse effects. Further research is needed to analyse the cost-effectiveness of carbetocin as a uterotonic agent.

Cochrane revue 2012

Carbetocin for preventing postpartum haemorrhage (Review)

Interventions	**Barton 1996**	Participants were allocated to receive a single intravenous injection of either 100 micrograms of carbetocin or saline
Interventions	**Attilakos 2010**	Women were randomised to receive either carbetocin 100 µg or oxytocin 5 IU intravenously after delivery of the baby
Interventions	**Askar 2011**	Patients were randomised to receive either a single intramuscular dose of carbetocin (100 µg) or a single intramuscular dose of syntometrine (5 units of oxytocin and 500 µg of ergometrine)
Interventions	**Borruto 2009**	Participants were randomised to a single 100 µg intravenous dose of carbetocin with that of a standard 2-hours 10 IU intravenous infusion of oxytocin
Interventions	**Boucher 2004**	Allocation to receiving either carbetocin (100 µg intramuscular injection) or oxytocin (10 units intravenous infusion) given over 2 hours
Interventions	**Boucher 1998**	Allocation to receiving either carbetocin (100 µg intravenous bolus followed by normal saline infusion) or oxytocin (2.5 units of oxytocin as intravenous bolus, 10 units of oxytocin as rapid infusion, followed by 20 units of oxytocin as intravenous infusion for a total of 16 hours)

Carbetocin for preventing postpartum haemorrhage (Review)

Interventions	Barton 1996	Vs placebo => efficace
Interventions	Attilakos 2010	Vs bolus => baisse ocytociques. NS sur l'hémorragie
Interventions	Askar 2011	Vs bolus => baisse saignement post op de 82 ml
Interventions	Borruto 2009	Vs 10 UI sur 2 heures => identique
Interventions	Boucher 2004	Vs 10 UI sur 2 heures => identique pour HPP
Interventions	Boucher 1998	Vs IVL + continu => identique

Haemodynamic effects of carbetocin and oxytocin given as intravenous bolus on women undergoing caesarean delivery: a randomised trial

MG Moertl,[a,b]* S Friedrich,[a] J Kraschl,[a] C Wadsack,[a] U Lang,[a] D Schlembach[a,c]*

Juin 2011

Césariennes programmées sous RA

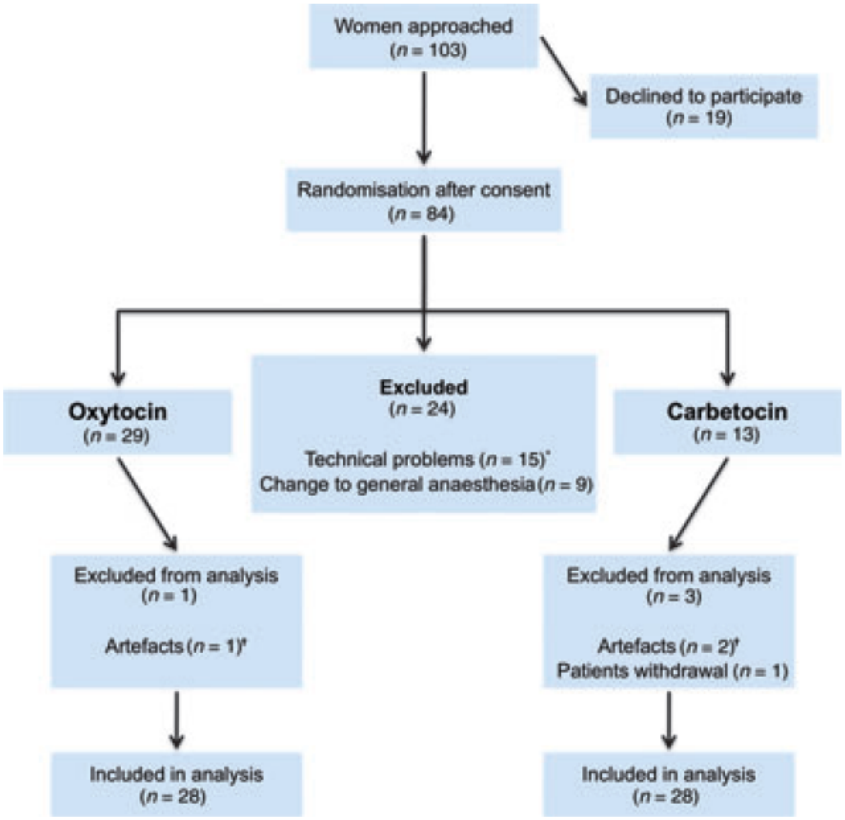

Figure 1. Randomisation flow chart. *Dislocation of electrodes, patient movements, interference with electrocautery; †recording artefacts.

Table 1. Subject characteristics of the entire study group

	Carbetocin (*n* = 28)	Oxytocin (*n* = 28)
Age (years)	30.9 ± 5.8	30.4 ± 4.6
Gestational age at delivery (weeks)	39 ± 2	39 ± 2
Nulliparous	11	11
Body mass index (kg/m^2)	28.96 ± 5.36	27.95 ± 3.92
Indications for caesarean delivery		
Breech presentation	10	12
Previous caesarean delivery	12	10
Others	6	6
Difference in haemoglobin levels Before/after surgery (g/dl)	1.10 ± 0.99	1.14 ± 0.76
Uterine tone (scale from 1 to 10)	7.65 ± 1.56	7.83 ± 1.70
Side effects	10	11
Nausea	3	4
Symptoms of flushing	4	3
Headache	2	2
Tachycardia	0	1
Feeling warm	1	0
Shortness of breath	0	1

Data are given as means ± standard deviations or numbers.

Haemodynamic effects of carbetocin and oxytocin given as intravenous bolus on women undergoing caesarean delivery: a randomised trial

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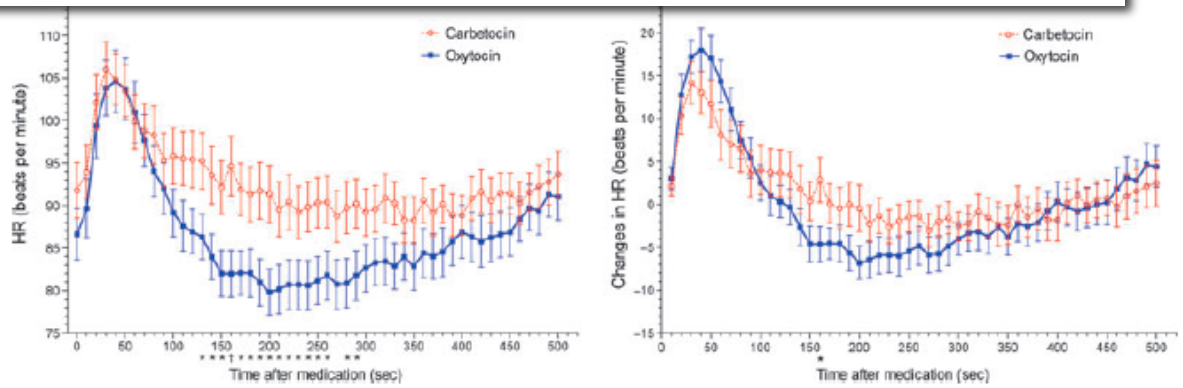


Figure 2. Left: maternal heart rate (HR) after the administration of the study medication. Right: changes in maternal HR following adjustment of different baselines between both groups. Data are displayed as means ± SEMs. Differences between both groups are indicated on the *x*-axis (*$P < 0.05$; †$P < 0.001$).

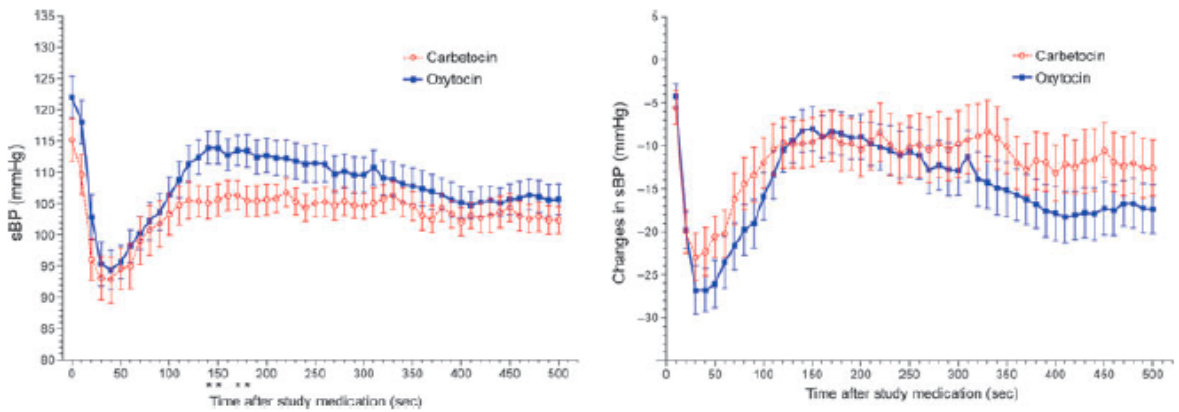
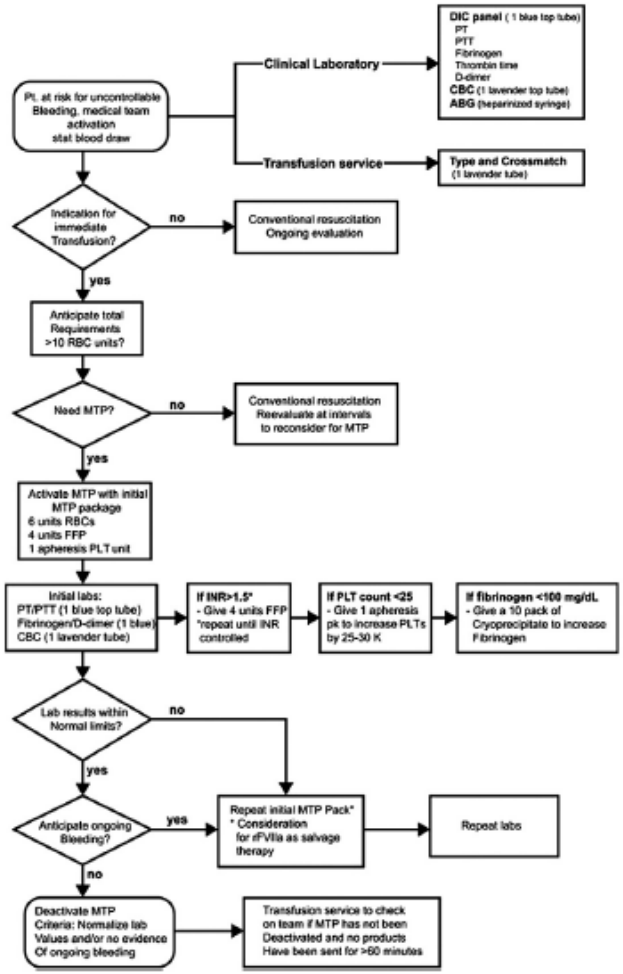


Figure 3. Left: maternal systolic blood pressure (sBP) after the administration of the study medication. Right: changes in sBP following adjustment of different baselines between both groups. Data are displayed as means ± SEMs. Differences between both groups are indicated on the *x*-axis (*$P < 0.05$).

Postpartum hemorrhage treated with a massive transfusion protocol at a tertiary obstetric center: a retrospective study

M.C. Gutierrez,[a] L.T. Goodnough,[b] M. Druzin,[c] A.J. Butwick[a]



International Journal of Obstetric Anesthesia (2012) **21**, 230–235

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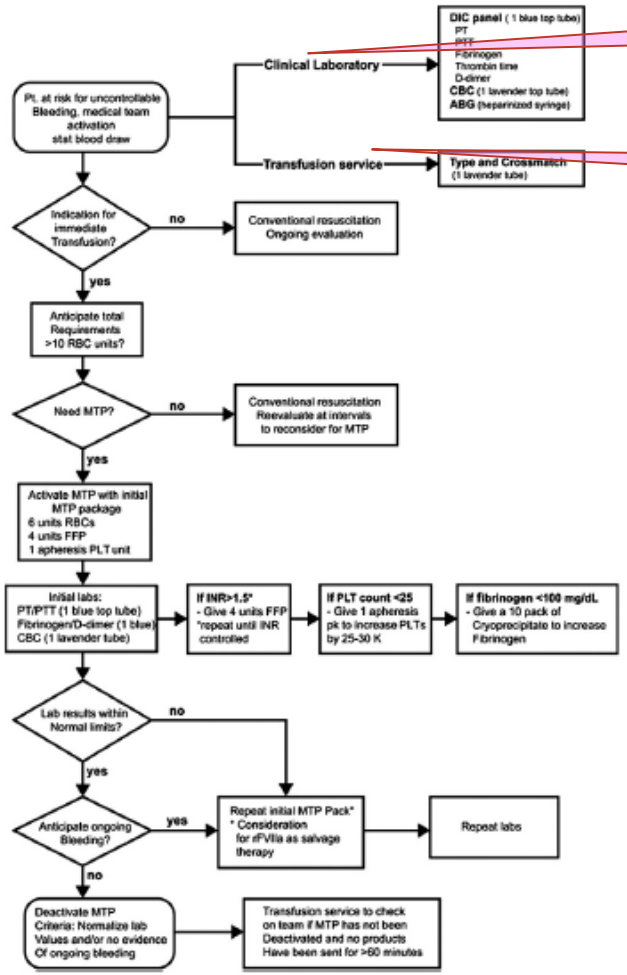

Anticipation biologie
(bilan de CIVD)

CONTACT
Banque du sang

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PREVISION
> 10 CG ?

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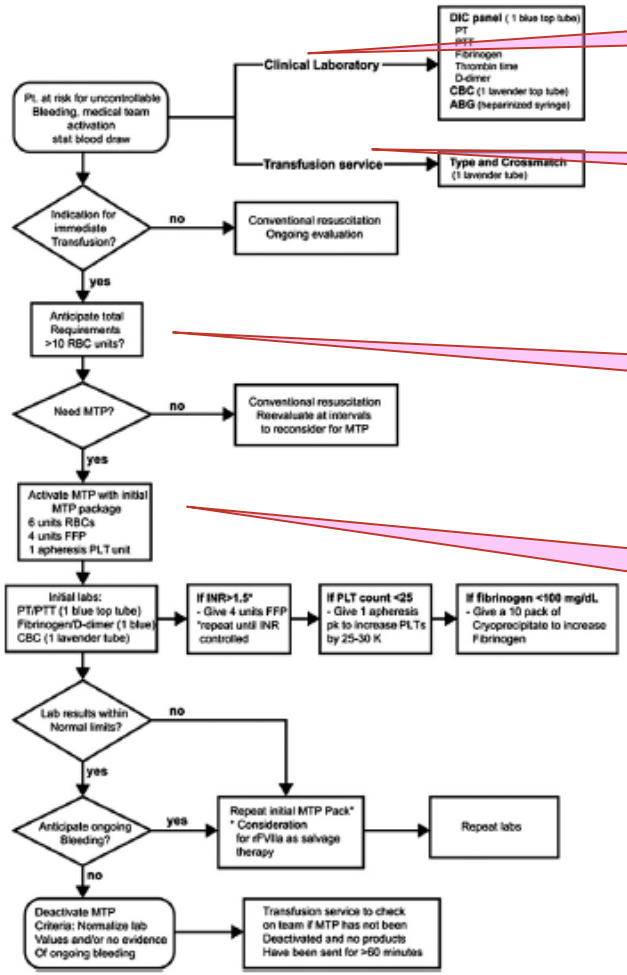

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ACTIVATION
PROTOCOLE TRANSFUSION MASSIVE

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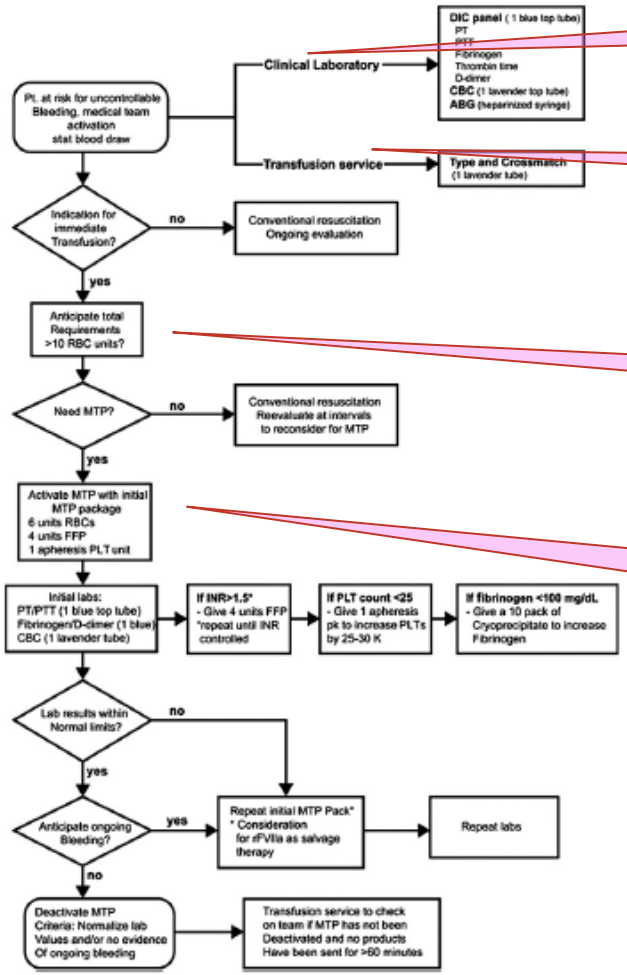

Anticipation biologie
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ACTIVATION
PROTOCOLE TRANSFUSION MASSIVE

6CGR + 4 PFC + 1 UP

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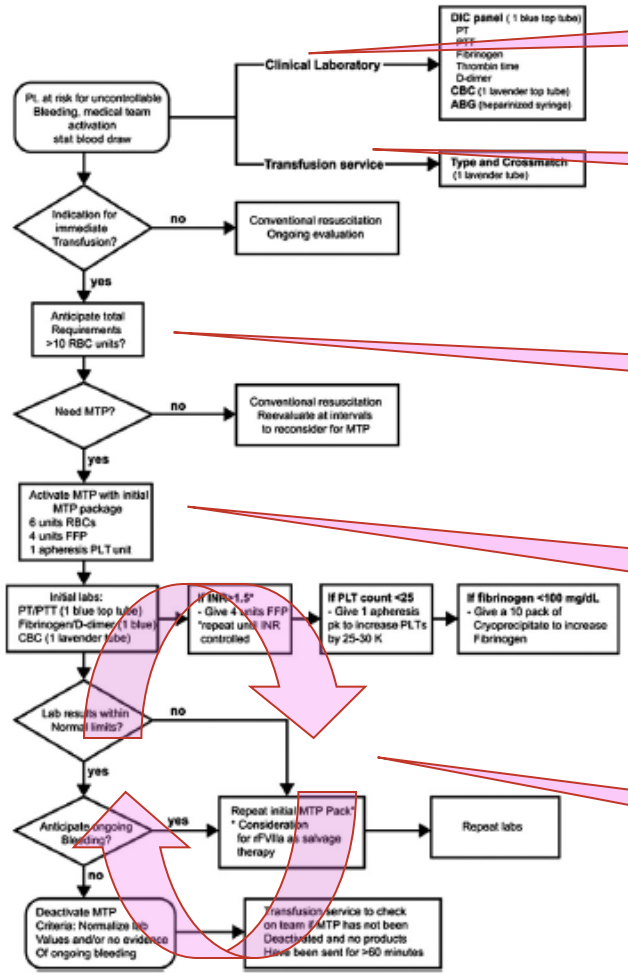

Anticipation biologie
(bilan de CIVD)

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Banque du sang

PREVISION
> 10 CG ?

ACTIVATION
PROTOCOLE TRANSFUSION MASSIVE

6CGR + 4 PFC + 1 UP

Bilan réguliers
Adaptation PFC, Fibrinogène

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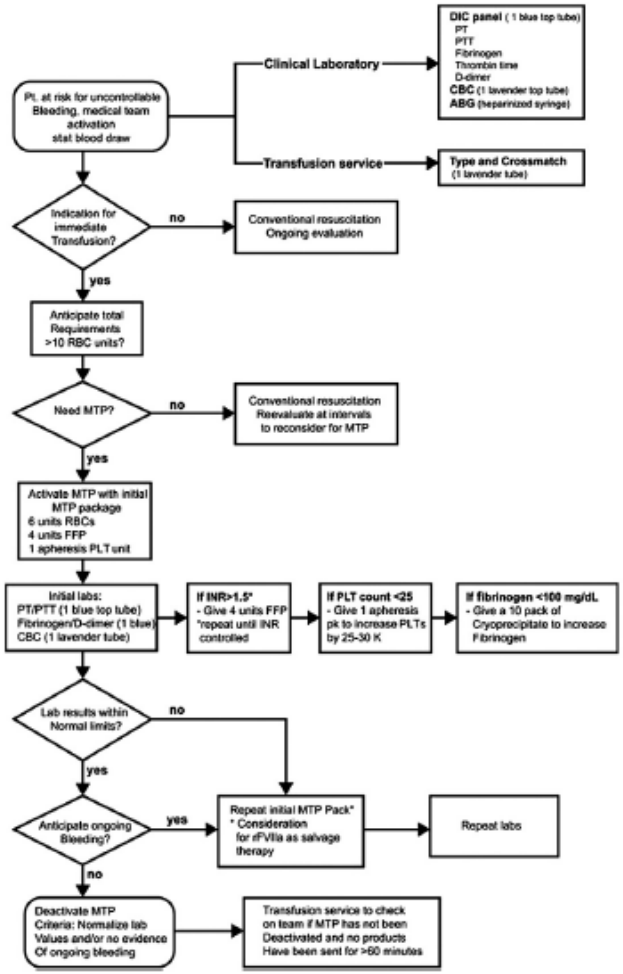


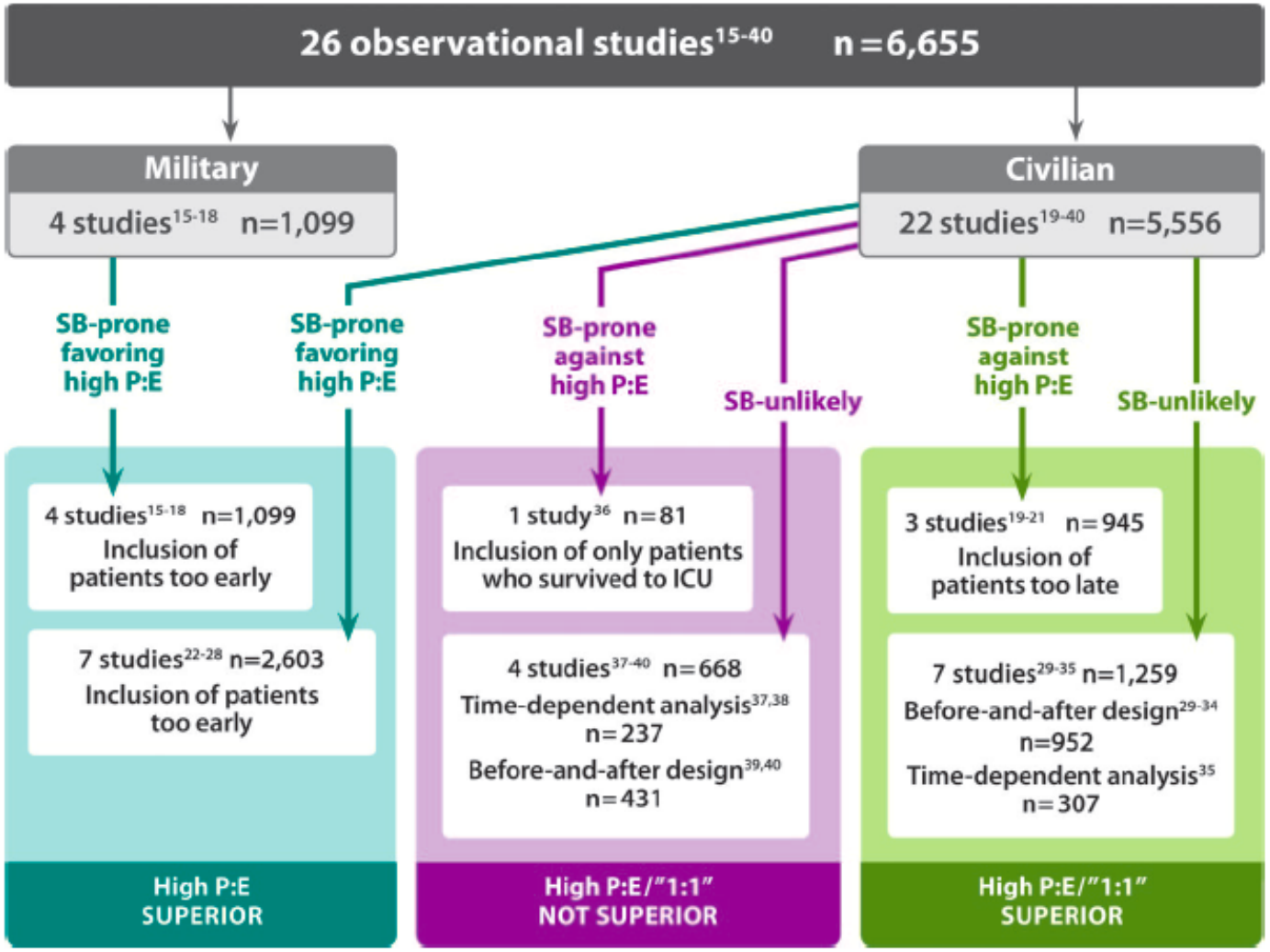
- Effet d'introduction d'une procédure:
  - Etudes randomisées rare sur ce sujet
  - Etudes historiques ou simplement descriptives
  - Bénéfice fréquent de l'introduction de protocoles de service
  - Etude Pithagore6 …
- Adaptation de la transfusion sur la biologie *vs* ratio 1/1/1

International Journal of Obstetric Anesthesia (2012) **21**, 230–235

Prevalence of Survivor Bias in Observational Studies on Fresh Frozen Plasma:Erythrocyte Ratios in Trauma Requiring Massive Transfusion

Anthony M.-H. Ho, M.D.

Anesthesiology 2012; 116:716–28



OBSTETRICS

Association between fibrinogen level and severity of postpartum haemorrhage: secondary analysis of a prospective trial

M. Cortet[1,2,3,4*], C. Deneux-Tharaux[5], C. Dupont[6,7], C. Colin[8], R.-C. Rudigoz[9], M.-H. Bouvier-Colle[5] and C. Huissoud[2,9,10]

British Journal of Anaesthesia **108** (6): 984–9 (2012)

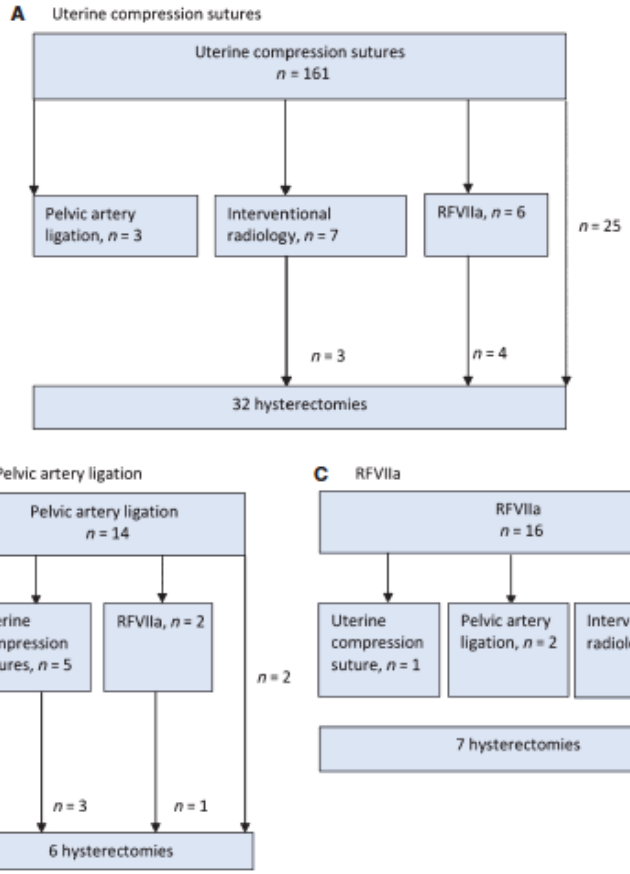
Predictive factors of advanced interventional procedures in a multicentre severe postpartum haemorrhage study

Etienne Gayat

Intensive Care Med (2011)

Specific second-line therapies for postpartum haemorrhage: a national cohort study

G Kayem,[a] JJ Kurinczuk,[a] Z Alfirevic,[b] P Spark,[a] P Brocklehurst,[a] M Knight[a]



Treatment first used	PPH treated successfully *n* (%; 95% CI)
(a)	
Uterine compression sutures, *n* = 161	120 (75; 67–81)
Pelvic vessel ligation, *n* = 14	5 (36; 13–65)
Interventional radiology, *n* = 14**	12 (86; 57–98)
rFVIIa, *n* = 16***	5 (31; 11–59)
(b)	
Uterine compression sutures, *n* = 38	20 (53; 36–69)
Pelvic vessel ligation, *n* = 6	1 (17; 0–64)
Interventional radiology, *n* = 8*	7 (87; 47–100)
rFVIIa, *n* = 15**	4 (27; 8–55)

(a) Après utérotoniques, (b) après ballon intra utérin

BJOG 2011;118:856–864.

STUDY PROTOCOL Open Access

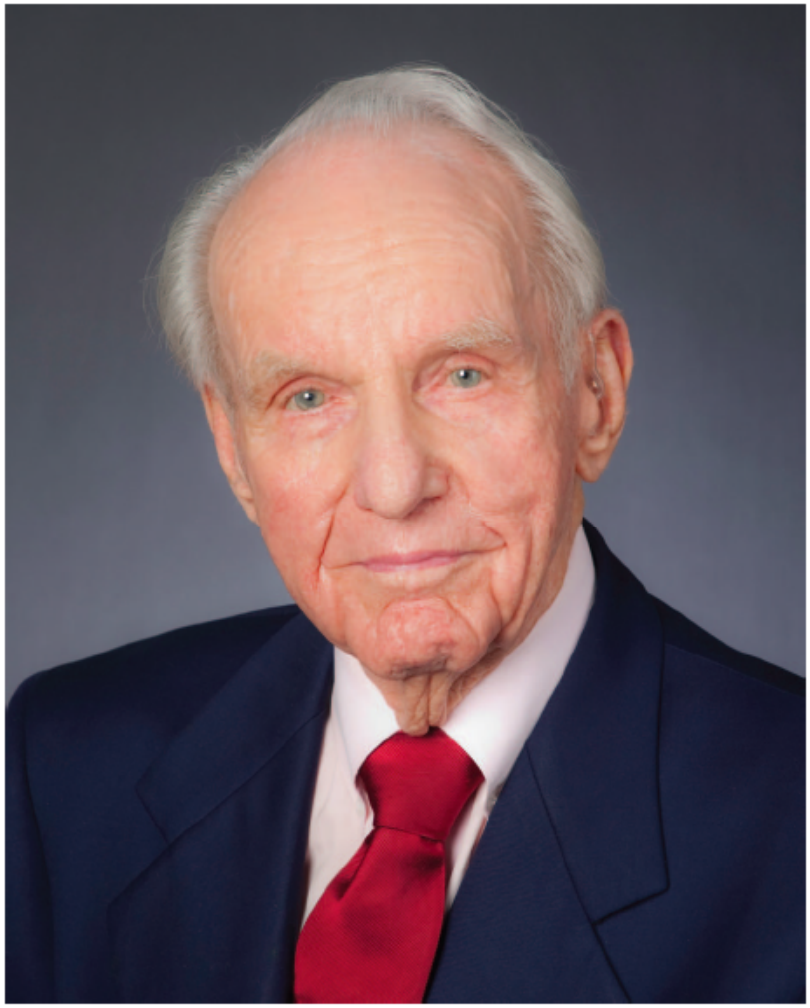
The FIB-PPH trial: fibrinogen concentrate as initial treatment for postpartum haemorrhage: study protocol for a randomised controlled trial

Anne Juul Wikkelsoe[1*], Arash Afshari[2,3], Jakob Stensballe[4], Jens Langhoff-Roos[5], Charlotte Albrechtsen[2], Kim Ekelund[2], Gabriele Hanke[2], Heidi Fosgrau Sharif[5], Anja U Mitchell[1], Jens Svare[6], Ane Troelstrup[7], Lars Møller Pedersen[7], Jeannet Lauenborg[8], Mette Gøttge Madsen[9], Birgit Bødker[10] and Ann M Møller[1]

STUDY PROTOCOL Open Access

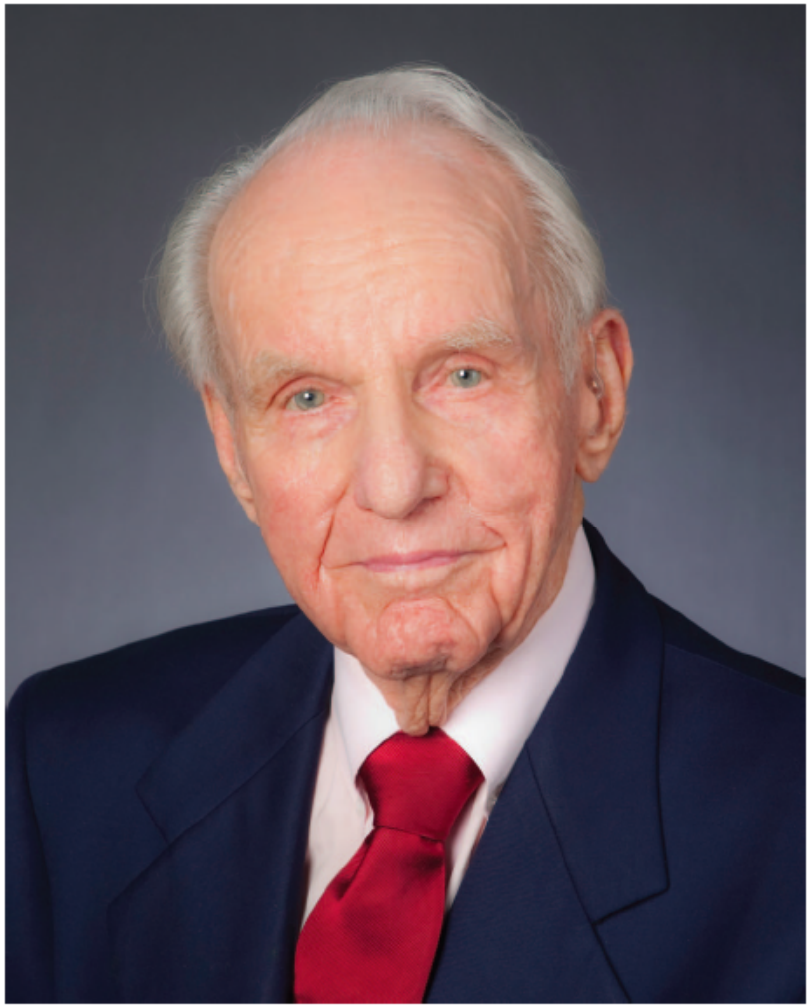
The WOMAN Trial (World Maternal Antifibrinolytic Trial): tranexamic acid for the treatment of postpartum haemorrhage: an international randomised, double blind placebo controlled trial

Haleema Shakur*[1], Diana Elbourne[4], Metin Gülmezoglu[2], Zarko Alfirevic[3], Carine Ronsmans[5], Elizabeth Allen[4] and Ian Roberts[1]



Daniel C. Moore, M.D.

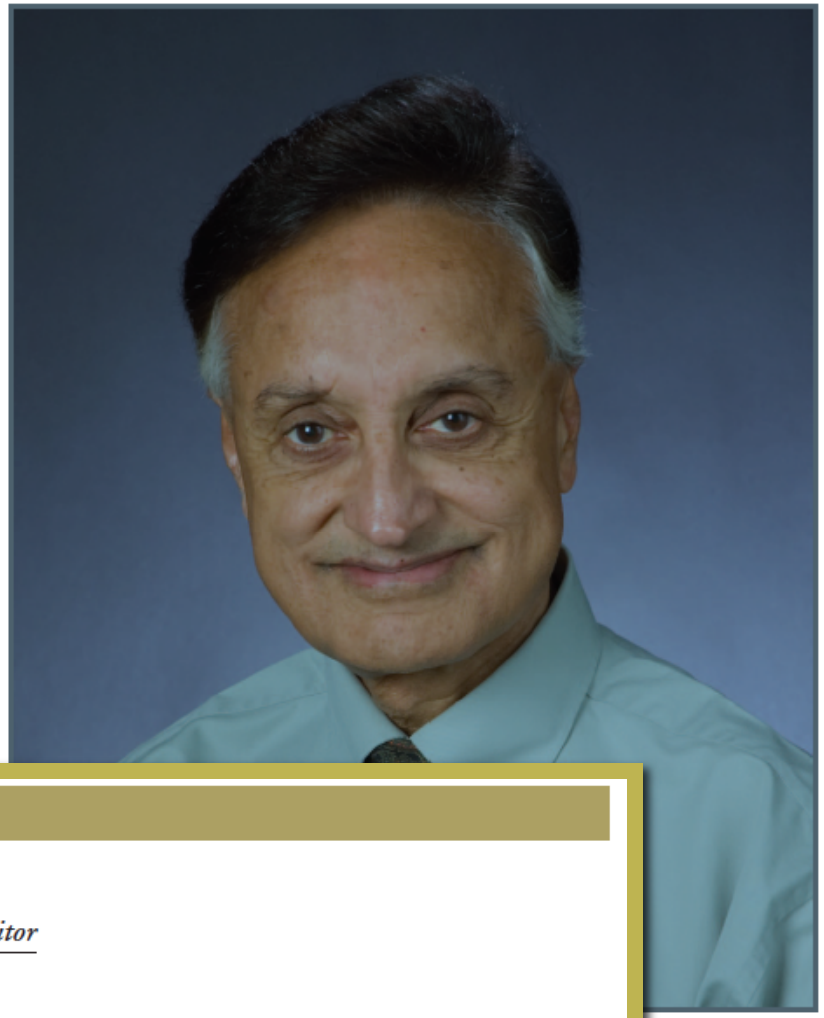
Manbir S. Batra, M.D.



Daniel C. Moore, M.D.

Manbir S. Batra, M.D.

Dose test …



CLASSIC PAPERS REVISITED

David S. Warner, M.D., Editor

Avoiding Subarachnoid or Intravascular Injection of Local Anesthetics

A Single Test Dose

Daniel C. Moore, M.D.,* Manbir S. Batra, M.D.†

Anesthesiology 2012 from... Anesthesiology 1981

International Journal of Obstetric Anesthesia (2012) **21**, 264–272
0959-289X/$ - see front matter
http://dx.doi.org/10.1016/j.ijoa.2012.03.004

REVIEW ARTICLE

The National Institute for Health and Clinical Excellence (NICE) guidelines for caesarean section, 2011 update: implications for the anaesthetist

S. Soltanifar, R. Russell
Nuffield Department of Anaesthetics, John Radcliffe Hospital, Oxford, UK

ABSTRACT
In 2004 the first National Institute for Health and Clinical Excellence guidelines on caesarean section were published with the aim of providing evidence-based recommendations for best practice. With the publication of new evidence, the guidelines have been revised with the second edition released in 2011. This review highlights the changes that have been made which are of specific relevance to obstetric anaesthetists including planned caesarean section compared with vaginal birth in healthy women with an uncomplicated pregnancy; management of the morbidly adherent placenta; mother-to-child transmission of maternal infections; maternal request for caesarean section; decision-to-delivery interval for emergency caesarean section; timing of antibiotic administration and childbirth after caesarean section.

Keywords: NICE guidelines; Caesarean section; Anaesthesia

The National Institute for Health and Clinical Excellence (NICE) guidelines for caesarean section, 2011 update: implications for the anaesthetist

S. Soltanifar, R. Russell

- *Césarienne programmée (confort) vs AVB*
  - *Pronostic maternel:*
    - Mortalité plus élevée dans une étude. NS dans les 2 autres. Etudes de faibles qualité.
    - Plus de douleur à J3 en cas…. d'AVB !
    - Moins d'hystérectomie d'hémostase
    - Moins d'ACR en cas d'AVB
    - Moins de complications d'anesthésie en cas d'AVB dans une étude sur deux de très faible qualité
  - *Pronostic néonatal*
    - Moins d'admission en réanimation en cas d'AVB

International Journal of Obstetric Anesthesia (2012) **21**, 264–272

Cochrane Database Syst Rev. 2012 Mar 14;3:CD004660.

Caesarean section for non-medical reasons at term.

Lavender T, Hofmeyr GJ, Neilson JP, Kingdon C, Gyte GM.

School of Nursing, Midwifery and Social Work, The University of Manchester, Oxford Road, Manchester, UK, M13 9PL.

DATA COLLECTION AND ANALYSIS: We identified no studies that met the inclusion criteria.

MAIN RESULTS: There were no included trials.

AUTHORS' CONCLUSIONS: There is no evidence from randomised controlled trials, upon which to base any practice recommendations regarding planned caesarean section for non-medical reasons at term. In the absence of trial data, there is an urgent need for a systematic review of observational studies and a synthesis of qualitative data to better assess the short- and long-term effects of caesarean section and vaginal birth.

The National Institute for Health and Clinical Excellence (NICE) guidelines for caesarean section, 2011 update: implications for the anaesthetist

S. Soltanifar, R. Russell

Maternal request for caesarean section

If after discussion and offer of support, including perinatal mental health support if appropriate, a vaginal birth is not acceptable to the woman, the guideline states that a planned CS should be offered.

consultation with obstetric anaesthetists to discuss both labour analgesia with women with a fear of childbirth, and anaesthesia with those for planned maternal request CS.

International Journal of Obstetric Anesthesia (2012) **21**, 264–272