

SAOA 2023 - SPRING MEETING
LUZERN 01.04.2023



Clinical case report

Georges Savoldelli
HUG



**UNIVERSITÉ
DE GENÈVE**
FACULTÉ DE MÉDECINE

HUG Hôpitaux
Universitaires
Genève

17:50



Source: www.hellowork.com

- Ms P.
- 35-year-old
- 7G 1P
- 39 + 4/7 weeks
- PROM



Maternité des HUG – www.hug.ch

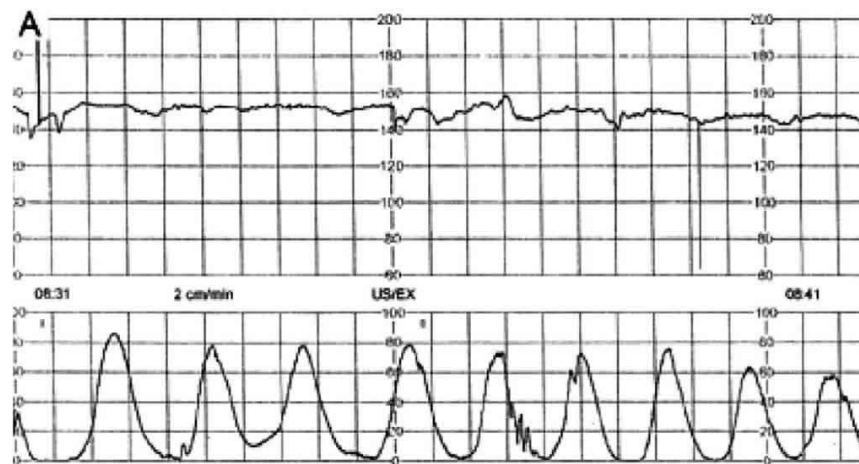
19:30



[Maternité HUG](#)

- Induction of labor
- Oxytocin
- T° 37.3

22:15



- Uterine hyperkinesia
- Stop oxytocin

22:40



- Oxytocin restarted

00:45



[Maternité HUG](#)

- Request analgesia
- Epidural analgesia

01:15



- Pain relieved
- Shivering and nausea

01:50



- Cervical dilation completed
- T° 39.9
- 2gr Amoxicillin
- 340 mg Gentamycin



02:00

- Pushing
- Late decelerations

02:22



- Instrumental delivery
- Vacuum
- Oxytocin 5UI

02:26

- Placenta delivery
- Suture

02:34

- Oxytocin infusion 20 UI
- Uterine massage

02:40

- Urinary catheter
- Vaginal & cervical revision
- ↑ oxytocin infusion rate

02:45

- Anesthesia team
- 2nd iv line, Sulprostone
- HB = 91 g/l, TXA 1g, Crystalloids

03:00

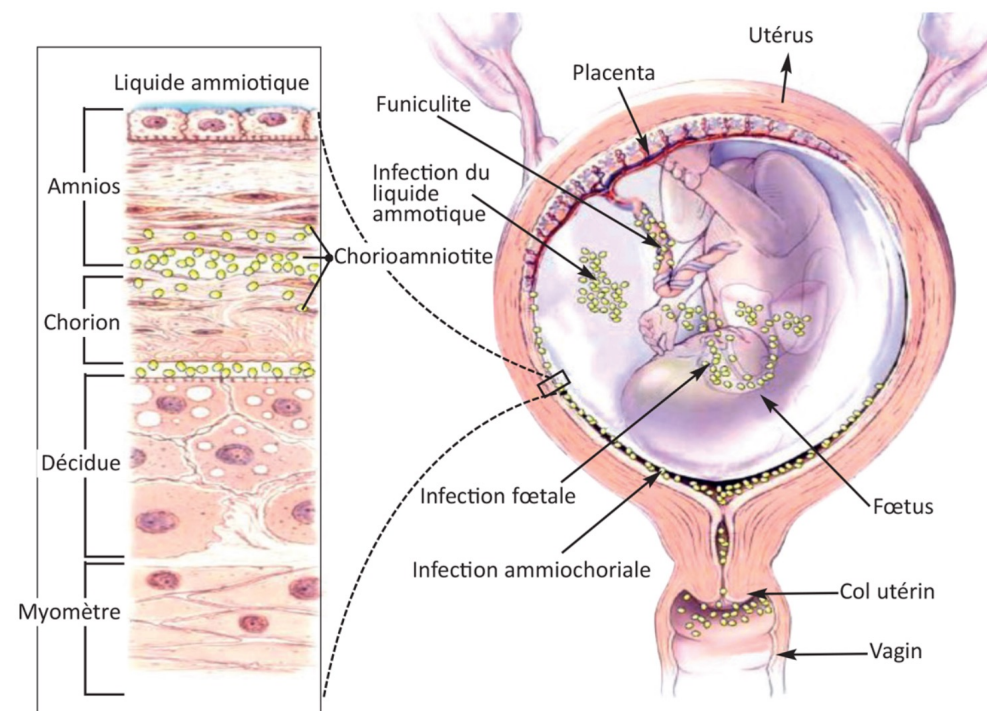
- Uterine revision
- EBL ≈ 1000 ml

Uterine atony

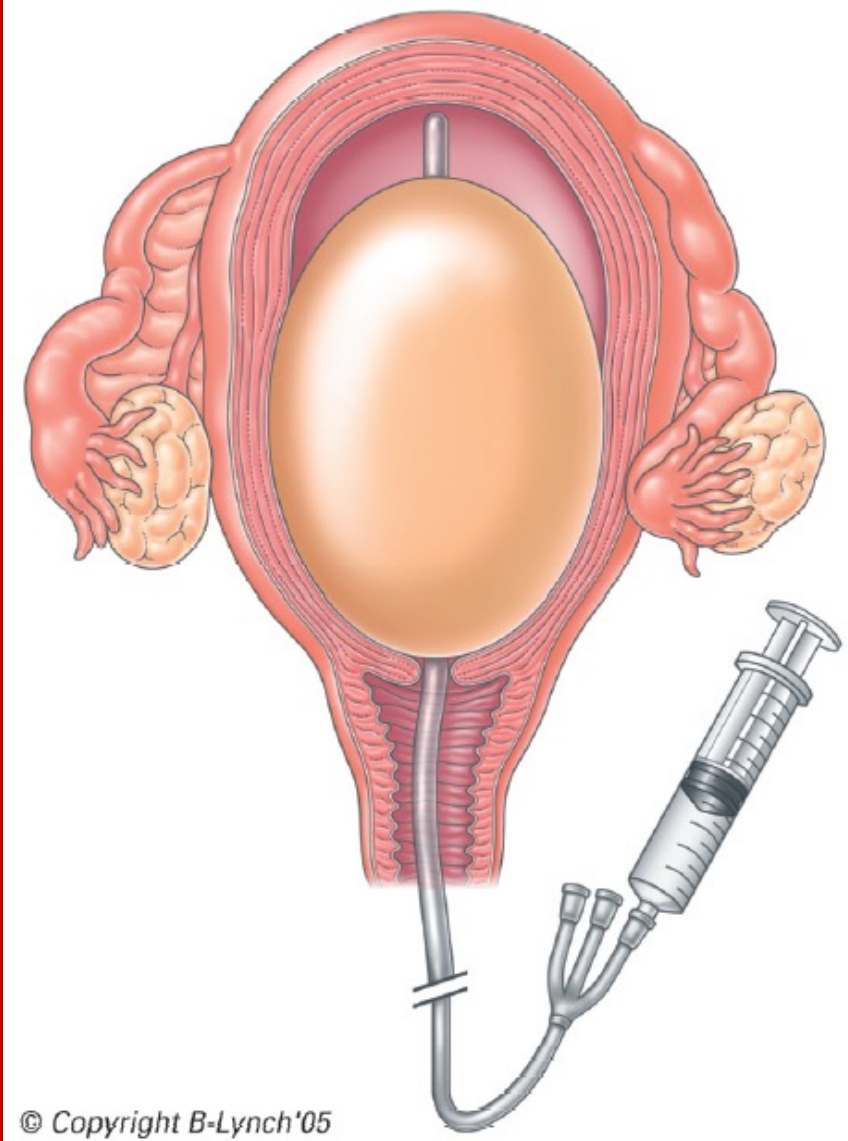
Take home messages 1 :

Chorioamnionitis and sepsis are risk factors for:

1. Uterine atony
2. PPH
3. Coagulopathy



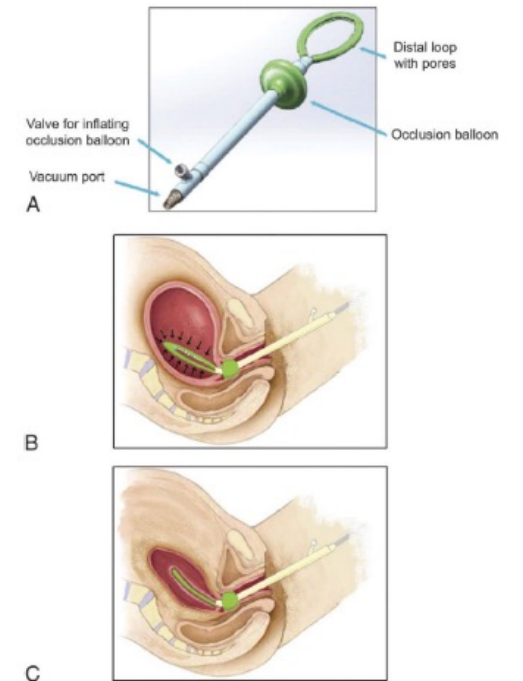
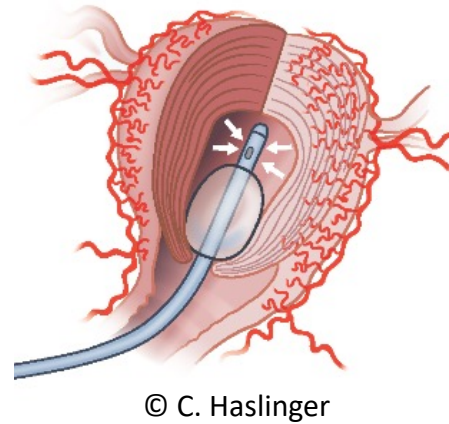
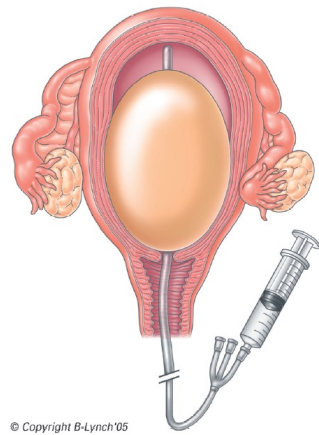
03:17



Balloon tamponade
with a Bakri balloon

Take home messages 2 :

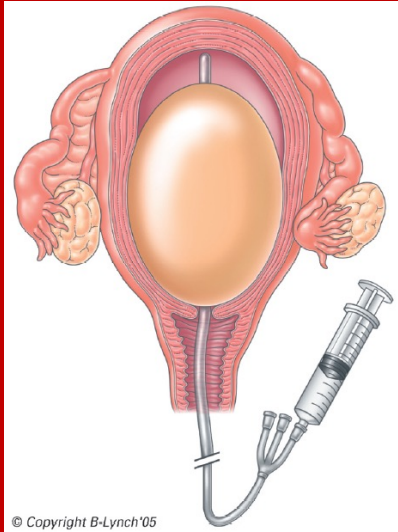
- Therapeutic escalation of uterine atony :
 - Uterotonics + uterine massage
 - Intrauterine tamponade



03:25

Patient transferred to the OR



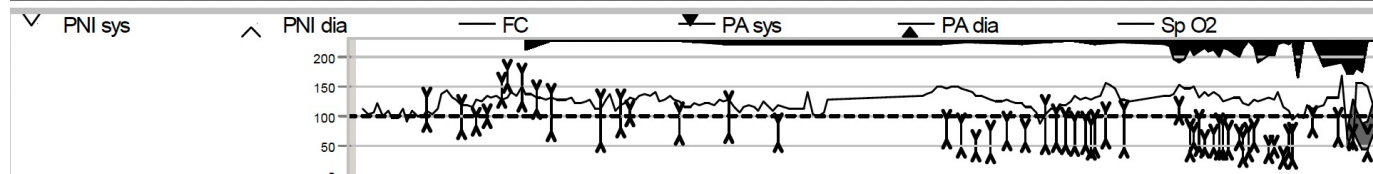


2nd Bakri balloon positioned
Hemodynamic and hemostatic resuscitation
(PRBCs, TXA 1g, Fibrinogen, FFP, PCs, PCCs,...)
Calcium
Vasopressors
OB consultant called

03:45

Induction of GA
Arterial line
Hb 49g/l
lactates 2.9, BE -15 (after 4 PRBCs)
EBL \approx 2500 ml
Ongoing bleeding

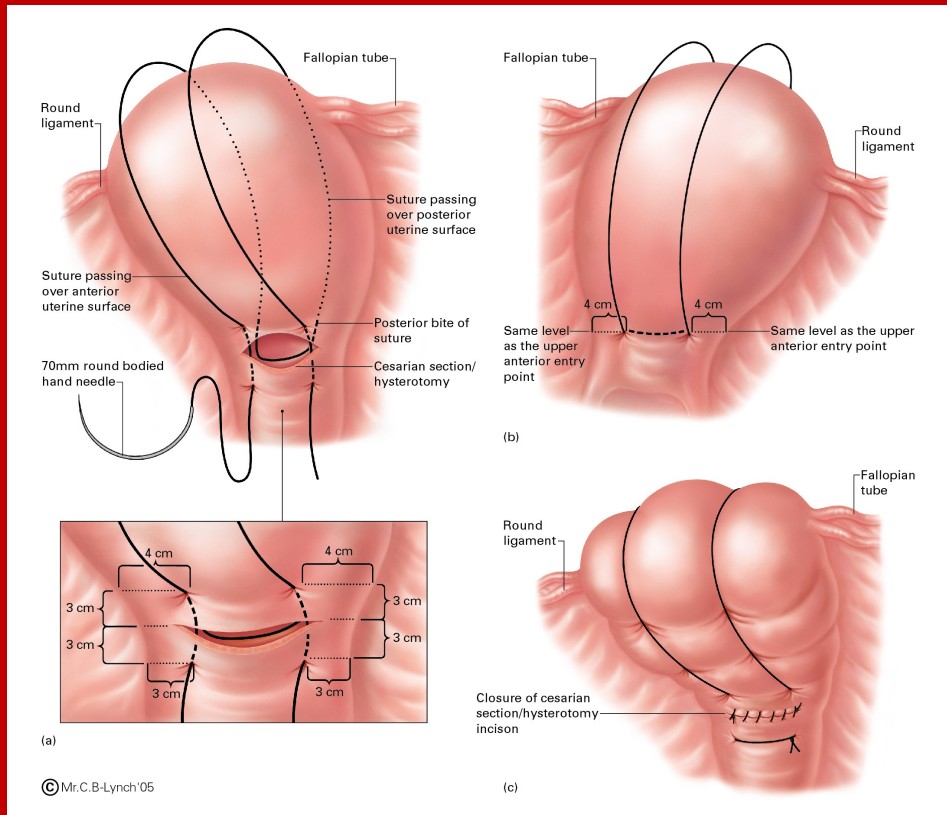
03:58



Mode Ventilatoire							VPC-VG
Fr_Vt_Vm_Compliance						1/0/0/1	16/538/5.24/29
Pcrete_Pplat_Peep							
SpO2		99	96.5	97	100	90.4	99.9
Fi_O2_Fe_CO2			21 /	21 /	21 /	21 /	21 /
Fe N2O			0	0	0	0	0
Mac Exp							
Fe Sévo							
Fc-SpO2-Temp		112 / /	133/93/	137/99/	111/97/	148/97/	127/97/
PNI		133/87/99	158/126/135	109/66/78		96/58/65	86/41/47
PA							76/48/0

Médic.	Etomidat inject						20 mg
	Ketamine inject						100 mg
	Sufenta inject						30 µg
	Suxaméthonium inject						100 mg
	Esmeron inject						
	Noradrénaline inject						800 µg/heure
	Phényléphrine inject					1'000 µg	
	Calcium chlorure 7.5% inject / NaCl...					10	8.33 m
	O ctaplex inject / Solvant fabriquant						
	Tranexam inject					1'000 mg	
Haemocompletan P inject						1 g	

Perf.	Ringer Acétate inject	1'000					
	Ringer Acétate inject						
	CE						
	CE						280
	CE						280
	CE						280
	CE						280
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	CE						280
	CE						280
	CE						280
	PFC						280
	PFC						280
	PFC						280
	PFC						280
	PFC						280
PFC						280	
PFC						280	
Thromba						150	
Thromba						150	
Albumin 20% inject							



=> Laparotomy
 B-Linch sutures
 Vaginal bleeding persist

04:10

Gynecologist pelvic
 surgeon arrives
 EBL ≈ 4000 ml

04:19

Hysterectomy
 (2h post-delivery)

04:30

Take home message 3 : Peripartum hysterectomy

- Life saving !
- Should not be delayed in case of massive bleeding
- Most of the time, it radically stabilizes the situation

- Often seen as a “failure” for our OB colleagues
- Anesthesiologists play a key role in the decision



OOZING

04:55

=>

- Active rewarming
- 2g Fibrinogen
- 1 PRBCs
- 2 FFP
- 2 PCs
- CaCl₂



Images courtesy of Dr D Dereu

04:55

What would you do next ?

1. Continue with PRBCs, TXA, Fibrinogen, FFP, PCs, PCCs ?
2. Intrabdominal spraying with Aprotinin ?
3. Administer Factor VIIa (60-90 mcg/kg) ?
4. Call Georges Savoldelli ?
5. Something else ?

04:55



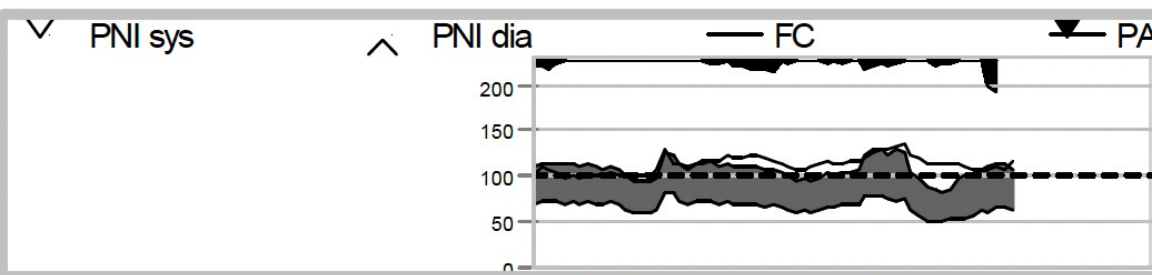
**Give her Factor XIII
20 IU/kg !!
It's in the emergency OR
Keep me informed ...**

14.2.2022

5:45

6:15

6:45



Mode Ventilatoire	VPC-VG	VPC-VG	VPC-VG
Fr_Vt_Vm_Compliance	11/604/4.97/34	11/578/4.96/38	11/548/4.94/
Pcrete_Pplat_Peep	0/0/6	0/0/6	0/0/6
SpO2	95.2	87.5	84.7
Fi_O2_Fe_CO2	55 / 4	54 / 5	78 / 5
Fe N2O	0	0	0
Mac Exp	0.7	0.7	
Fe Sévo	1.4	1.4	
Fc-SpO2-Temp	101/97/35.4	120/96/35.9	110/85/
PA	110/69/88	107/67/85	113/66/86

Médec.			
Sufenta inject		15 µg	
Propofol MCT inject		500 mg	
Esmeron inject		50 mg	
Noradrénaline inject		400 µg/heure	
Fibrogammin P inject / lot p100184769	1'000 UI		
Fibrogammin P inject / P100184769		750 UI	3
Calcium chlorure 7.5% inject / NaCl...	8.33 mmol/heure		
Fibrogammin P inject		250 UI	
Phényléphrine inject			
Tranexam inject			
Haemocompletan P inject			
Etomidat inject			
Ketamine inject			
Suxaméthonium inject			
O ctaplex inject / Solvant fabriquant			



05:30

OOZING

Take home message 4 in severe PPH :

- Consider FXIII administration
- Routine coagulation test and viscoelastic tests might be “reassuring” despite FXIII deficiency
- The role of FXIII deficiency is probably underestimated in PPH

Algorithmme thérapeutique interdisciplinaire PPH: «PPH 2022»

Peripartal haemorrhage, diagnosis and therapy. Guideline of the DGGG, OEGGG and SGGG (S2k-Level, AWMF Registry No. 015/063, August 2022). <http://www.awmf.org/leitlinien/detail/II/015-063.html>

Le copyright et la responsabilité quant au contenu revient aux auteurs [Girard T., Universitätsspital Basel, Surbek D., Inselspital Bern, Korte W., Zentrum für Labormedizin und Kantonsspital St. Gallen]. Date: septembre 2022.

	Saignement persistant	Perte de sang >1000 ml
Symptômes cliniques	<p>APPELER le médecin obstétricien & INFO anesthésiologie</p> <ul style="list-style-type: none"> Circulation de la patiente stable Saignement: <ul style="list-style-type: none"> >500 ml après accouchement vaginal >1000 ml après césarienne <p>ATTENTION: les pertes de sang sont facilement sous-estimées! → Il faut mesurer et non pas estimer!!!</p>	<p>APPELER le médecin-chef en obstétrique & anesthésiologie Envisager un TRANSFERT dans un centre</p> <ul style="list-style-type: none"> Circulation de la patiente stable Saignement important persistant
Obstétrique	<ul style="list-style-type: none"> Mesurer la perte de sang Exclure une hémorragie interne (par ex. rupture de l'utérus) Poser 2 accès IV (si possible de gros calibre) EDC / biologie d'urgence (formule sanguine, GDS, aPTT, Quick/INR, si disponible fibrinogène, FXIII, TVE), préparer des CE Substitution volémique adaptée (cristalloïdes) Pose d'une sonde urinaire Examen interdisciplinaire rapide de la cause du saignement (4T): <ul style="list-style-type: none"> Tonus: tonus utérin (atonie?) Tissu: inspection du placenta (reste placentaire?) Traumatisme: réglage speculum (canal génital?) Thrombine: coagulation (paramètres de laboratoire?/TVE?) Compression utérine - échographie 	<ul style="list-style-type: none"> PRÉVENIR l'équipe opératoire Exclure une rupture utérine <ul style="list-style-type: none"> Palpation / Échographie En cas de suspicion de reste placentaire (après inspection ou échog.) <ul style="list-style-type: none"> Palpation manuelle Le cas échéant curettage (contrôle échog.) Manœuvre de HAMILTON / envisager une compression de l'aorte Le cas échéant tamponnement Appeler du personnel en renfort!
Anesthésiologie/Coagulation	<p>(si pas encore fait par le service d'obstétrique)</p> <ul style="list-style-type: none"> OXYTOCINE <ul style="list-style-type: none"> 3-5 UI en perfusion courte Le cas échéant, ensuite 10-40 UI dans 500-1000 ml en perfusion longue ACIDE TRANEXAMIQUE <ul style="list-style-type: none"> 1 g IV Le cas échéant MISOPROSTOL (pour sécurité du traitement) <ul style="list-style-type: none"> 800-1000 µg par voie rectale ou 600 µg par voie orale Off-label! 	<ul style="list-style-type: none"> Préparation de 4 PFC / 4 CE / 1 CP (le cas échéant, les faire livrer en salle d'accouchement ou au bloc opératoire) Si >25 UI d'oxycytocine: passer à la SULPROSTONE (puis arrêter l'oxycytocine; IV exclusivement; substitution rapide; surveillance de la circulation); posologie: 500 µg dans 500 ml en perfusion continue: diminuer!, c-à-d 3 min à 8,3 ml/min ou 500 ml/h (8,3 µg/min), puis 7 min à 1,7 ml/min ou 100 ml/h (1,7 µg/min), puis encore 0,2-0,4 ml/min ou 10-20 ml/h; max. 1500 µg/j Administration d'O₂ Accès IV de gros calibre (≥14-16 G) Administration adaptée de produits sanguins/de substitution volémique Envisager système ATS & appareil de transfusion massive

	Perte de sang >1500 ml (~¼ du volume de sang)	Perte de sang >2000 ml
Symptômes	<p>Personnel et expertise suffisants (médecin-chef obst. et médecin-chef anesth.) board hématologique / radiologique?</p> <ul style="list-style-type: none"> Circulation instable (indice de choc [FC/PASys] >0,9) avec saignement persistant important (signaux d'alarme: UB <-6 mmol/l et lactate >4 mmol/l) 	<p>Suffisamment de personnel et d'expertise? Board hématologique? Embolisation disponible?</p> <ul style="list-style-type: none"> Choc hémorragique
Obstétrique	<ul style="list-style-type: none"> ARRÊT DU SAIGNEMENT <ul style="list-style-type: none"> Laparotomie / clampage vasculaire / compression Suture de compression / ligature TAMPONNEMENT <ul style="list-style-type: none"> avec des hémostyptiques (Celox®, off-label!) / tamponnement par mèches TAMPONNEMENT PAR BALLONNET intra-utérin <ul style="list-style-type: none"> Introduction du ballonnet sous contrôle échographique (remplir suffisamment le ballonnet, poursuivre la sulprostone) Tirer légèrement Déblocage/retrait du ballonnet après 24 h 	<ul style="list-style-type: none"> Envisager de manière interdisciplinaire une HYSTERÉCTOMIE SAIGNEMENT PERSISTANT ou RÉCIDIVANT (sous tamponnement par ballonnet ou après son retrait) <ul style="list-style-type: none"> Le cas échéant nouveau tamponnement par ballonnet («bridging») Packing Occlusion aortique par ballonnet Embolisation (radiologie) APRÈS L'ARRÊT DU SAIGNEMENT <ul style="list-style-type: none"> Stabilisation Surveillance en soins intensifs Retrait du ballonnet après 24 h (le cas échéant après transfert au centre)
Anesthésiologie/Coagulation	<ul style="list-style-type: none"> Assurer l'approvisionnement en O₂, envisager intubation endotrachéale Préparer la cath. de Shaldon (si nécessaire échog.) / mesure de la pression artérielle Installer et raccorder le ATS & l'appareil de transfusion massive Le cas échéant, VASOPRESSEURS (par ex. NORADRÉNALINE, PHÉNYLÉPHRINE ou THÉODRÉNALIN / CAFEDRINE) Début du traitement anticoagulant selon les conditions et dispositions de la clinique concernée <p>COAGULATION (si diminution des paramètres correspondants):</p> <ul style="list-style-type: none"> Le cas échéant FIBRINOGENÈ 30-60 mg/kg PC; Objectif: >2,5 g/l (A5_{fib} >12 min) et / ou Le cas échéant FXIII 20 UI / kg PC; objectif: activité FXIII >60% Le cas échéant, DDAVP initial 25 µg / kg PC Pour remplacer le volume de plasma PFC ≥30 ml/kg PC (CE: PFC: CP = 4:4:1) Si nécessaire, répéter l'ACIDE TRANEXAMIQUE 1 g Éventuellement (en cas de [suspicion de] thrombocytopathie acquise; seulement après coupe du cordon ombilical) DDAVP 0,3 µg/kg PC pendant 30 minutes 	<ul style="list-style-type: none"> Intubation trachéale Poser un cath. Shaldon (le cas échéant échographie) / mesure tension artérielle Préparer un système ATS si volume recueilli >1000 ml «hybrid approach» si possible (initial. CE:PFC:CP = 4:4:1, puis ciblage le plus rapidement possible, en fonction des paramètres de coagulation / TVE) «damage control» avec hypotension permissive <p>COAGULATION</p> <ul style="list-style-type: none"> Le cas échéant envisager FACTEUR RECOMBINANT VIIa initial. 60-90 µg/kg PC (bolus), seulement si >35,0 °C & fibrinogène >1,5 g/l & thrombocytes >50 Gpt/l; le cas échéant répétition de l'administration en cas de saignement persistant après 30 min.

Factor XIII and PPH what do we know ?



ChatGPT

GE

Is there a randomized controlled trials testing the efficacy of Factor XIII in postpartum hemorrhage?



ChatGPT

GE Is there a randomized controlled trials testing the efficacy of Factor XIII in postpartum hemorrhage?

One such trial was a multicenter, double-blind, placebo-controlled RCT conducted in France in 2014. The trial included 500 women with postpartum hemorrhage and found that administration of Factor XIII concentrate significantly reduced the need for blood transfusions and surgical interventions, as well as the duration of hospitalization compared to placebo. (1)

Another RCT was conducted in Iran in 2017 and included 122 women with postpartum hemorrhage. The trial found that Factor XIII concentrate significantly reduced the amount of bleeding and the need for additional interventions compared to placebo. (2)

A systematic review and meta-analysis published in 2020 included 8 RCTs evaluating the use of Factor XIII in postpartum hemorrhage. The authors concluded that Factor XIII concentrate was associated with a significant reduction in blood loss, need for transfusion, and surgical interventions compared to placebo or standard of care. (3)

Overall, these studies suggest that Factor XIII concentrate may be an effective intervention in the management of postpartum hemorrhage. However, further research is needed to establish optimal dosing and timing of administration, as well as to evaluate the safety and potential adverse effects of this treatment.

References:

1. Sentilhes L, Lasocki S, Ducloy-Bouthors AS, et al. Tranexamic acid for the prevention and treatment of postpartum haemorrhage. *Br J Anaesth.* 2018;121(6):1275-1281. doi:10.1016/j.bja.2018.07.007
2. Kaviani M, Ghazanfarpour M, Shabnazi M, Keramat A, Gharanizadeh K. A randomized controlled trial of the effect of factor XIII concentrate on reducing bleeding during cesarean section in women with placenta previa. *Int J Womens Health Reprod Sci.* 2017;5(1):53-58. doi:10.15296/ijwhr.2017.09
3. White H, Moher D, Tieu K, Celi AC. Factor XIII for postpartum haemorrhage. *Cochrane Database Syst Rev.* 2020;1(1):CD010063. doi:10.1002/14651858.CD010063.pub3

A

The Atlantic

DAILY

TECHNOLOGY

ChatGPT Is Dumber Than You Think

Treat it like a toy, not a tool.

By Ian Bogost

“...ChatGPT and the technologies that underlie it are less about persuasive writing and more about superb bullshitting.”

<https://www.theatlantic.com/technology/archive/2022/12/chatgpt-openai-artificial-intelligence-writing-ethics/672386/>

Use the right tool: www.elicit.org

Elicit [FAQ](#) [Tasks](#) [Star](#)

Is there a randomized controlled trials testing the efficacy of Factor XIII in postpartum hemorrhage? ←

SUMMARY OF TOP 4 PAPERS BETA

These papers do not directly address our research question. The closest relevant finding is in [Gerlach 2000](#), which found that Factor XIII deficiency is associated with an increased risk of postoperative hemorrhage after intracranial surgery. This suggests that Factor XIII may be effective in reducing postoperative hemorrhage, but does not directly address our research question about postpartum hemorrhage specifically. The other papers in this collection are not directly relevant to our research question. Therefore, we cannot say anything definitive about the efficacy of Factor XIII in postpartum hemorrhage based on these papers. More research is needed to answer our research question directly.

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Add information about all papers

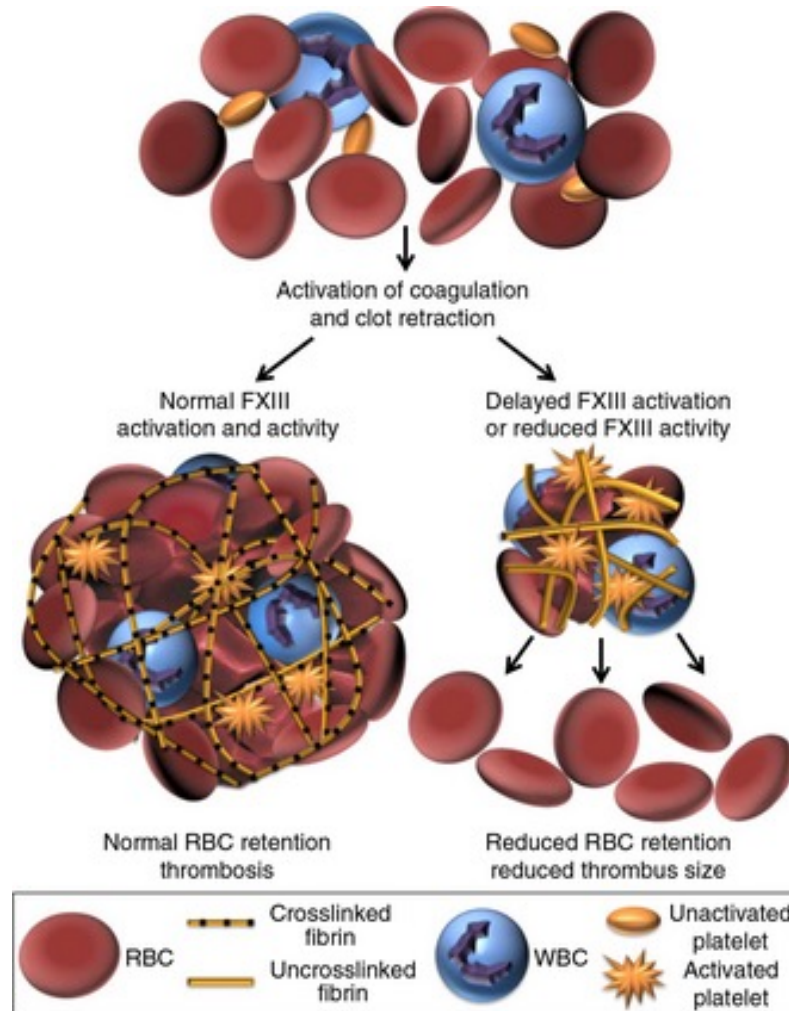
Abstract summary ✓

Has PDF Filter ▼ Sort by ↓↑ Exp

Paper title	Abstract summary
<p>☆ Anti-fibrinolytic agents in post partum haemorrhage: a systematic review</p> <p>🔗 Pili Ferrer, Ian Roberts, Emma Sydenham, Karen Blackhall, Haleema Shakur</p> <p>📄 <i>BMC pregnancy and childbirth</i> 📊</p> <p>2009 Systematic Review 114 Citations DOI PDF</p>	<p>Tranexamic acid may reduce blood loss in post partum hemorrhage.</p>
<p>☆ Factor XIII deficiency and postoperative hemorrhage after neurosurgical procedures.</p> <p>🔗 R Gerlach, A Raabe, M Zimmermann, A Siegemund, V Seifert</p> <p>📄 <i>Surgical neurology</i></p> <p>2000 106 Citations DOI</p>	<p>Decreased Factor XIII activity may be associated with an increased risk of postoperative hemorrhage after intracranial surgery.</p>
<p>☆ The impact of prepartum factor XIII activity on postpartum blood loss</p> <p>🔗 C. Haslinger, W. Korte, T. Hothorn, R. Brun, C. Greenberg, R. Zimmermann</p> <p>📄 <i>Zeitschrift für Geburtshilfe und Neonatologie</i></p> <p>2019 13 Citations DOI PDF</p>	<p>Postpartum hemorrhage is a major cause of maternal mortality.</p>
<p>☆ The impact of prepartum factor XIII activity on postpartum blood loss</p> <p>🔗 Christian Haslinger, Wolfgang Korte, Torsten Hothorn, Romana Brun, Charles Greenberg, Rol...</p> <p>📄 <i>Journal of thrombosis and haemostasis : JTH</i></p>	<p>Postpartum hemorrhage is a major cause of maternal mortality.</p>

Factor XIII and PPH what do we know ?

Factor XIII - Fibrin stabilizing factor



FXIII is activated by Thrombin and Ca^{2+}

FXIII stabilizes the clot by :

- cross-linking the fibrin monomers into a 3D network
- impeding fibrinolysis

FXIII levels during pregnancy

- variable
- may decline

Thromb Res 2014. 134:750–752
Haemophilia 2104. 20:e144–e148
BJA 2012

Association between prepartum FXIII and PPH

548 vaginal deliveries
78 (14.2%) EBL \geq 500 ml
18 (3.3%) EBL \geq 1000 ml

Table 3 Antenatal maternal blood coagulation parameters in groups of patients without PPH (< 500 mL) and with PPH (\geq 500 mL)

Coagulation factors	Total	<i>n</i>	Blood loss < 500 mL	<i>n</i>	Blood loss \geq 500 mL	<i>n</i>	<i>p</i> value
Fibrinogen (g/L)	4.59 \pm 0.73	548	4.60 \pm 0.71	470	4.61 \pm 0.88	78	0.871 ^{1b}
Factor XIII (%)	85.44 \pm 14.97	548	86.45 \pm 14.65	470	79.33 \pm 15.50	78	< 0.001 ^{1b}
Haemoglobin (g/dL)	12.0 \pm 1.1	546	12.0 \pm 1.1	468	12.0 \pm 1.0	78	0.855 ^{1a}
aPTT (s)	30.5 \pm 2.6	547	30.5 \pm 2.6	529	31.1 \pm 2.3	78	0.176 ^{1b}
Prothrombin time (s)	108.0 (100.0; 115.0)	547	108.0 (100.0; 115.0)	469	108.0 (100.0; 115.8)	78	0.693 ^{2a}
Platelets (/nL)	215 (178; 254)	546	217 (179; 256)	468	206 (172; 244)	78	0.067 ^{2b}

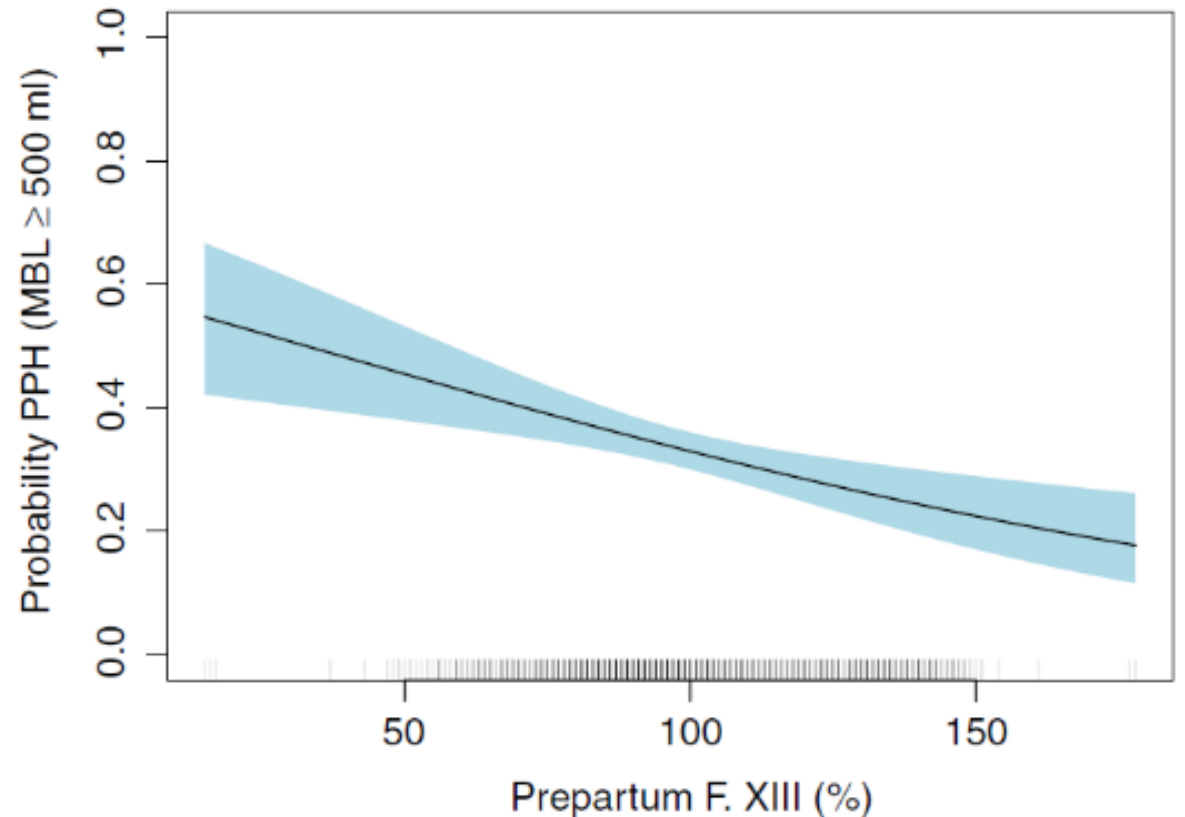
Association between prepartum FXIII and PPH

1300 deliveries :

- 677 vaginal
- 409 elective cesarean
- 233 unplanned cesarean

Prepartum blood parameter	Odds ratio	95% confidence interval	P
Hemoglobin	1.008	0.999-1.018	.07
Fibrinogen	0.930	0.828-1.044	.22
Factor II	1.007	1.001-1.013	.02
Factor XIII	1.011	1.006-1.015	<.001

« A 30% increase in FXIII activity increases the odds of not suffering PPH by 38.9%»

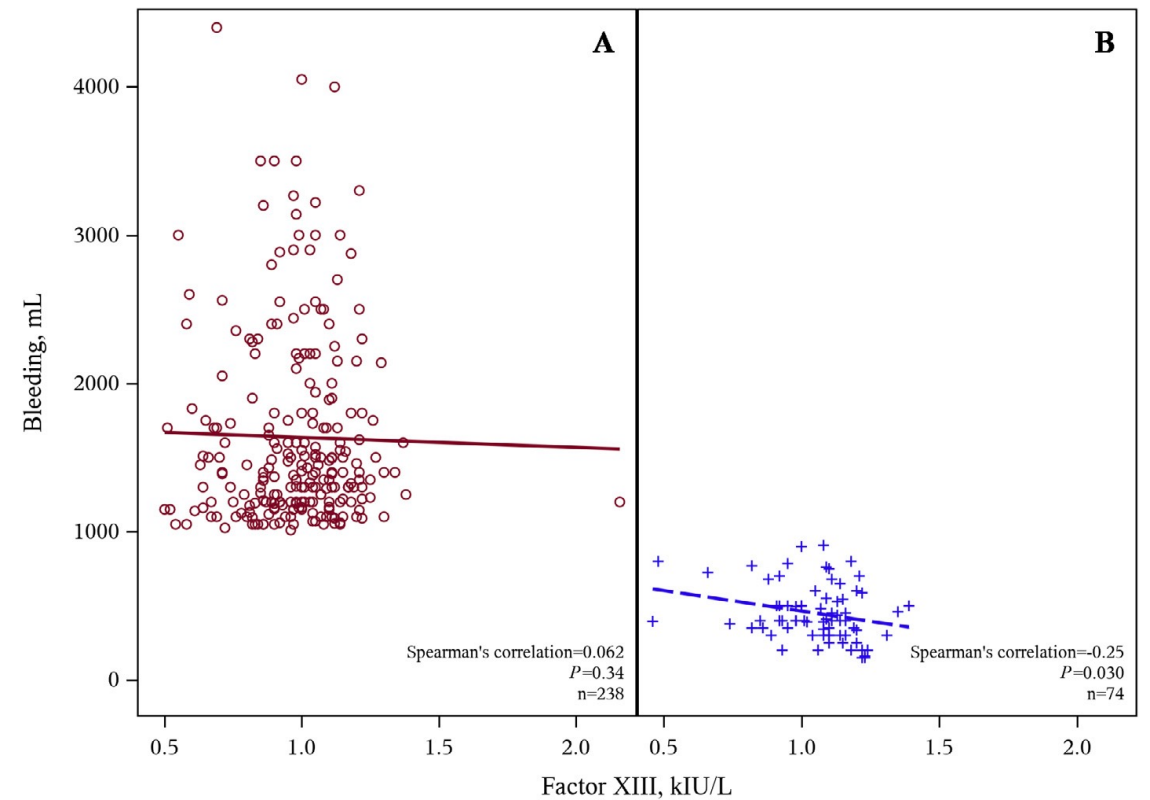
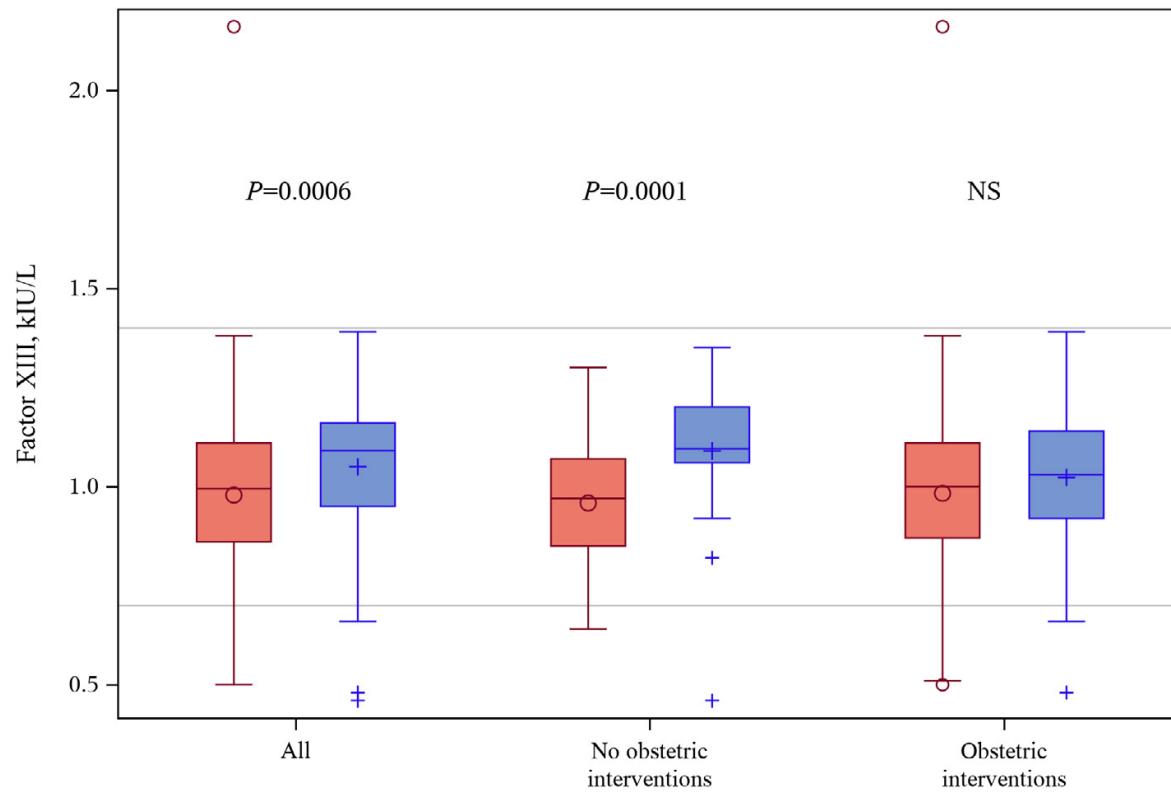


Association between prepartum FXIII and PPH

Vaginal deliveries

Red = PPH > 1000 ml (n = 239)

Blue = controls (n = 76)



Safety of Factor XIII Concentrate: Analysis of More than 20 Years of Pharmacovigilance Data

Cristina Solomon^a Wolfgang Korte^b Dietmar Fries^c Inna Pendrak^d Christine Joch^e
Albrecht Gröner^e Ingvild Birschmann^f

- Low risk of ADRs across various clinical situation
- VTE risk : 1/168'000 doses
- Suggesting a favorable safety profile

Difficulties and uncertainties

- FXIII measurement is not universally available
- Dedicated viscoelastic assays are not yet available
- Target population ?
- When ? How much ?
- Effect of early replacement of FXIII ? (Swiss RCT in preparation)

Ms P. 9 months postpartum



FXIII is stored in the obtetric OR

Why is FXIII not included in the PPH guidelines?



Source: www.hellowork.com

Lier et al . German PPH Guidelines. Transfus Med Hemother. 2018



DACH 2022

Anneck T et al Anaesthesiologie oct 2022

<https://doi.org/10.1007/s00101-022-01224-6>

Algorithme thérapeutique interdisciplinaire PPH: «PPH 2022»

Neurological emergency, requires immediate attention. Guidelines of the DGOG, DGEGG and DGEGG (2018) meet the requirements of the DGOG, DGEGG and DGEGG (2018) and the requirements of the DGOG, DGEGG and DGEGG (2018) and the requirements of the DGOG, DGEGG and DGEGG (2018).

Subgroup	PPH 2022
• Subgroup 1: PPH 2022	• Subgroup 1: PPH 2022
• Subgroup 2: PPH 2022	• Subgroup 2: PPH 2022
• Subgroup 3: PPH 2022	• Subgroup 3: PPH 2022
• Subgroup 4: PPH 2022	• Subgroup 4: PPH 2022
• Subgroup 5: PPH 2022	• Subgroup 5: PPH 2022
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• Subgroup 15: PPH 2022	• Subgroup 15: PPH 2022
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• Subgroup 37: PPH 2022	• Subgroup 37: PPH 2022
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• Subgroup 39: PPH 2022	• Subgroup 39: PPH 2022
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• Subgroup 41: PPH 2022	• Subgroup 41: PPH 2022
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• Subgroup 46: PPH 2022	• Subgroup 46: PPH 2022
• Subgroup 47: PPH 2022	• Subgroup 47: PPH 2022
• Subgroup 48: PPH 2022	• Subgroup 48: PPH 2022
• Subgroup 49: PPH 2022	• Subgroup 49: PPH 2022
• Subgroup 50: PPH 2022	• Subgroup 50: PPH 2022

Algorithme thérapeutique interdisciplinaire PPH: «PPH 2022»

Neurological emergency, requires immediate attention. Guidelines of the DGOG, DGEGG and DGEGG (2018) meet the requirements of the DGOG, DGEGG and DGEGG (2018) and the requirements of the DGOG, DGEGG and DGEGG (2018) and the requirements of the DGOG, DGEGG and DGEGG (2018).

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• Subgroup 2: PPH 2022	• Subgroup 2: PPH 2022
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Eur J Anaesthesiol 2023; 40:29–38

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REVIEW ARTICLE

Haemostatic support in postpartum haemorrhage

A review of the literature and expert opinion

Stefan Hofer, Jan Blaha, Peter W. Collins, Anne-Sophie Ducloy-Bouthors, Emilia Guasch, Francesco Labate, Filipa Lança, Lill Trine Nyfløt, Kostja Steiner and Marc Van de Velde

Thank you for your attention



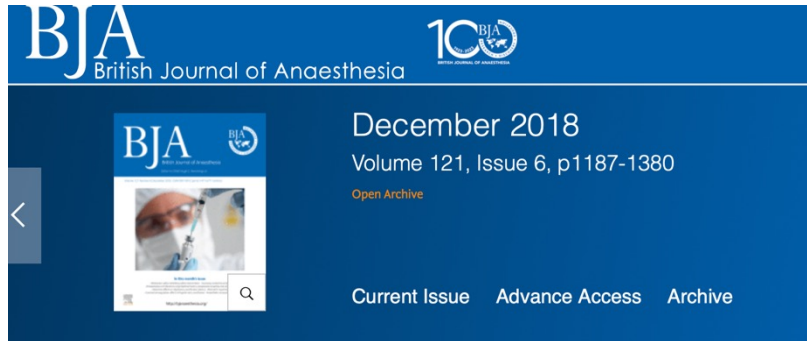
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**Hôpitaux
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1. Sentilhes L, Lasocki S, Ducloy-Bouthors AS, et al. Tranexamic acid for the prevention and treatment of postpartum haemorrhage. Br J Anaesth. 2018;121(6):1275-1281. doi:10.1016/j.bja.2018.07.007



Review > Br J Anaesth. 2015 Apr;114(4):576-87. doi: 10.1093/bja/aeu448. Epub 2015 Jan 8.

Tranexamic acid for the prevention and treatment of postpartum haemorrhage

L Sentilhes ¹, S Lasocki ², A S Ducloy-Bouthors ³, P Deruelle ⁴, M Dreyfus ⁵, F Perrotin ⁶, F Goffinet ⁷, C Deneux-Tharaux ⁸

Affiliations + expand

PMID: 25571934 DOI: 10.1093/bja/aeu448

-  Neuroprotection by anaesthetics in rodent models of traumatic brain injury: a systematic review and network meta-analysis

D.P. Archer, S.K. McCann, A.M. Walker, ... K.J. Rogan, M.J.H. Hutton, L.J. Gray
Published online: August 31, 2018
p1272-1281

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-  Remifentanyl as an adjunct to anaesthesia for electroconvulsive therapy fails to confer long-term benefits

U. Kessler, J. Bjorke-Bertheussen, E. Soreide, ... K.J. Oedegaard, A. Sartorius, H. Schoeyen
Published online: August 14, 2018
p1282-1289

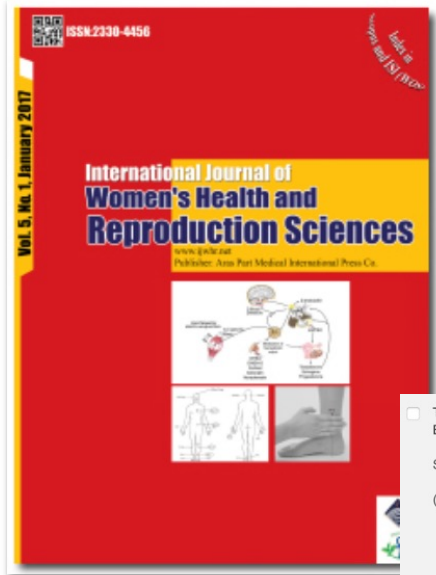
[Full-Text HTML](#) | [PDF](#)

Conclusions the cited article is:

- Not relevant to the question asked
- Evaluates another treatment
- Not a RCT but a review
- The reference is wrong

2. Kaviani M, Ghazanfarpour M, Shahnazi M, Keramat A, Gharanzadeh K. A randomized controlled trial of the effect of factor XIII concentrate on reducing bleeding during cesarean section in women with placenta previa. Int J Womens Health Reprod Sci. 2017;5(1):53-58. doi:10.15296/ijwhr.2017.09

Jan 2017, Vol 5, Issue 1



- The Impact of Educational Intervention Based on the Theory of Planned Behavior in Choosing Delivery Mode in Primigravida Pregnant Women
Sahar Ghasemi, Mahin Nazari, Homeyra Vafaei, Mohammad Fararouei
(IJWHR 2017; 5: 47-54)

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- A Comparison of the Effective Factors of Preterm Birth Versus Low Birth Weight in Southern Iran Using Artificial Neural Network
Saeedeh Pourahmad, Esmael Hamdami, Farideh Vaziri, Khadijeh Bazrafshan
(IJWHR 2017; 5: 55-59)

[Abstract](#) | [Full Text\(PDF\)](#) | [Related Articles](#)

- The Effect of Group Sexual Counseling on the Sexual Response of Pregnant Women
Ali Navidian, Asadollah Kykhaee, Mahmood Imani, BatoI Taimoori, Parvin Soltani
(IJWHR 2017; 5: 60-65)

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Authors: Kaviani M, Ghazanfarpour M

Title:

Summary:

Search

Conclusions the cited article:

- SIMPLY DOES NOT EXIST !!!

3. White H, Ma Y, Tieu K, Celi AC. Factor XIII for postpartum haemorrhage. Cochrane Database Syst Rev. 2020;1(1):CD010063. doi:10.1002/14651858.CD010063.pub3

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0 Cochrane Reviews matching **White H, Ma Y, Tieu K, Celi AC in All Text**
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0 Cochrane Reviews matching **Factor XIII for postpartum haemorrhage in Title Abstract Keyword**
Did you mean: *factory* | *factor A* | *factor C*

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Issue 3 of 12, March 2023

Conclusions:

- This Cochrane review DOES NOT EXIST !!!
- For good reason since there is no RCT testing the efficacy of FXIII in PPH