DES de Néphrologie : Enseignement l'Option SOINS INTENSIFS en NÉPHROLOGIE

Le transplanté rénal aux soins intensifs : prise en charge pré- et post-greffe précoce

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Avec l'aide du Pr Nicolas Maillard, Saint Etienne

Objectifs du cours

- Faire un tour d'horizon des prescriptions de base de la période péri-opératoire de transplantation rénale

QCM d'auto-évaluation 1

Parmi les affirmations suivantes relatives à l'indication de séance d'hémodialyse pré-opératoire immédiatement avant la transplantation, laquelle ou lesquelles sont justes ?

A. Une séance de dialyse pré-opératoire réduit le risque d'hyperkaliémie post-opératoire
B. Une anticoagulation au citrate a montré son bénéfice pour réduire le risque de saignement per-opératoire
C. Les recommandation européennes suggèrent de ne pas faire d'UF au cours de la séance de dialyse pré-opératoire en dehors de surcharge cliniquement évidente
D. Une séance de dialyse pré-opératoire accroit le risque de retard de reprise de fonction du greffon
E. Les recommandation européennes suggèrent de réaliser une séance de dialyse pré-opératoire immédiatment avant la transplantation

QCM d'auto-évaluation 2

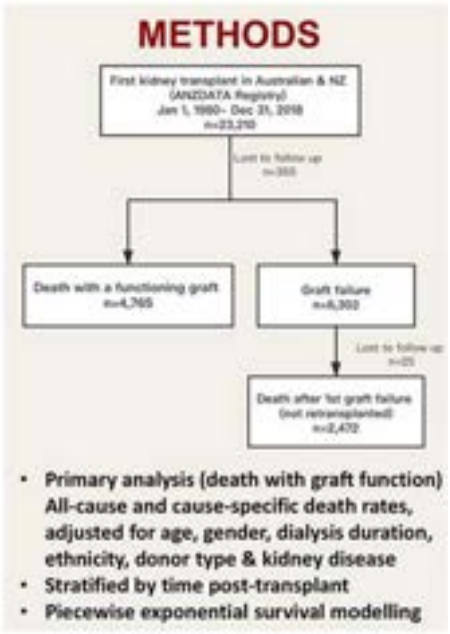
Parmi les affirmations suivantes relatives aux modalités de remplissage per- et post-transplantation, laquelle ou lesquelles sont justes ?

A. Les solutés balancés, comparés aux soluté salé isotonique, réduisent le risque de retard de reprise de fonction du greffon
B. Les solutés balancés, comparés aux soluté salé isotonique, sont associés à un pH sanguin significativement plus élevé
C. Les solutés balancés, comparés aux soluté salé isotonique, sont associés à une kaliémie significativement plus basse
D. L'objectif du remplissage est de maintenir une pression veineuse centrale > 8 cmH_2O
E. Un remplissage excessif pourrait augmenter la pression intra-abdominale

Enjeux de la prise en charge précoce

- La période précoce post-opératoire est celle de tous les dangers !
- Complications liés à la chirurgie de transplantation de sujets très comorbides :
  - Risques de défaillance cardio-circulatoire (syndromes cardio-rénaux, SCA, troubles du rythme, …)
  - Risques infectieux (sonde vésicale, sonde JJ, infections du site opératoire, infections urinaires, …)
  - Risques hémorragiques
  - Thromboses vasculaires du greffon
  - Ischémie de membre
- Enjeux de la « Réanimation » per- et post-opératoire
  - Rôle prépondérant des enjeux cardiovasculaires
  - Gestion du risque infectieux

Enjeux de la prise en charge précoce



Death after Kidney Transplantation: An Analysis by Era and Time Post-Transplant

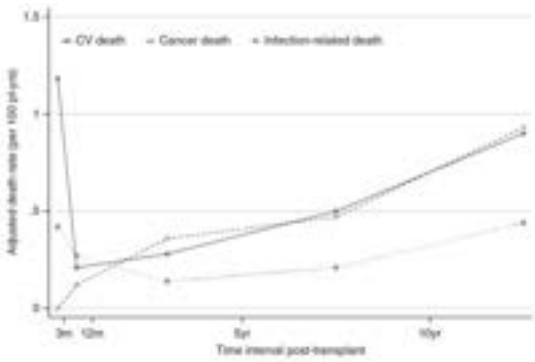


Figure 5. Cancer death match cardiovascular death beyond the first post-transplant year. Rates adjusted for age at transplant, sex, ethnicity, duration of dialysis, donor type, cause of kidney disease, and stratified by time period post-transplant. CV, cardiovascular; pt-yrs, patient-years.

JASN 31: 2887–2899, 2020

Sommaire

- Dialyse pré-transplantation
- Type de remplissage
- Niveau de remplissage
- Thromboprophylaxie
- Antibiprophylaxie
- Lasilix
- Antalgiques
- Prophylaxie de l'ulcère

Dialyse pré-transplantation

- **Objectifs théoriques :**
  - Mettre le patient dans de bonnes conditions en vue de l'anesthésie générale en particulier pour la kaliémie
  - Elle est donc utile en cas d'hyperkaliémie (objectif de kaliémie pré-opératoire variable selon les équipes anesthésiques)
  - Pourrait être théoriquement utile en cas de surcharge symptomatique (exceptionnelle)
- **En pratique :**
  - Inutile de façon systématique
  - Sans héparine pour limiter le risque de saignement
  - Cibler une kaliémie raisonnable (<4,8 mmol/L dans notre centre, mais très centre-dépendant) ; donc une hémodialyse courte est souvent suffisante
  - Laisser le patient au dessus de son poids sec pour limiter les hypotensions per- et post-opératoires ?
- **Particularité du dialysé péritonéal :** partir au bloc ventre vide

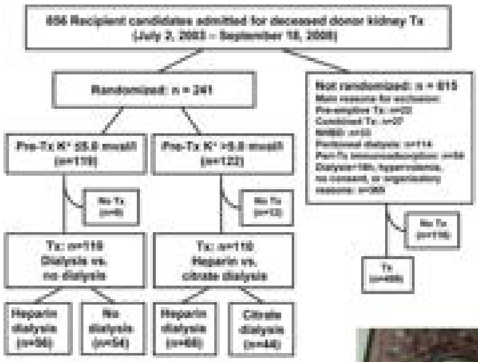
Dialyse pré-transplantation

Effect of Hemodialysis Before Transplant Surgery on Renal Allograft Function—A Pair of Randomized Controlled Trials

Željko Kikić,[1] Matthias Lorenz,[2] Gere Sunder-Plassmann,[1] Martin Schillinger,[3] Heinz Regele,[4] Georg Györi,[5] Ferdinand Mühlbacher,[5] Wolfgang C. Winkelmayer,[6] and Georg A. Böhmig[1]

- **Etude randomisée (x 2 !) :**
  - Dialyse pré-op *vs.* pas de dialyse chez les patients ayant un K ≤5 mmol/L
  - Dialyse avec héparine (bolus initial de 1000 UI puis 1000 UI/h) *vs.* Dialyse avec citrate chez les patients ayant un K >5 mmol/L
  - Plus de 50 patients par bras
  - Primary endpoint : DFGe à J5

→ **Aucune différence**



In summary, hemodialysis in the hours preceding transplant surgery did not enhance the risk of posttransplant acute renal failure in patients anticipating deceased donor kidney transplantation. Moreover, considering our observation that regional citrate anticoagulation may not ameliorate reperfusion/ischemia injury, this strategy should be restricted to patients requiring pretransplant dialysis who are at an elevated risk of bleeding.

Transplantation 88(12):p 1377-1385, December 27, 2009

Dialyse pré-transplantation

Perioperative management of adult cadaveric and live donor renal transplantation in the UK: a survey of national practice

Clare M. Morkane[1], Jez Fabes[1], Neal R. Banga[2], Peter D. Berry[3] and Christopher J. Kirwan[4]

Quel poids viser ???

- **Etude multicentrique (23 centres anglais)**
- **Questionnaire électronique**

Dialysis. The majority of centres (63.6%) dialyse preoperatively to the recipient's 'dry weight'. Three centres (13.6%) stated that they target a post-dialysis body weight 1–2 kg above the recipient's dry weight, whereas the others do not specify a preoperative dialysis target weight.

Clinical Kidney Journal, 2019, vol. 12, no. 6, 880–887

Dialyse pré-transplantation

European Renal Best Practice Guideline on kidney donor and recipient evaluation and perioperative care

Chapter 4. Perioperative care of the kidney transplant recipient

4.1. What are the indications for an additional haemodialysis session in the recipient immediately before the transplantation procedure?

4.1.1. We recommend not routinely performing a haemodialysis session immediately before the actual transplantation procedure unless there are specific clinical indications. (1C)

4.1.2. When additional haemodialysis is performed immediately before the transplantation procedure, we recommend not using ultrafiltration unless there is evidence of fluid overload. (1C)

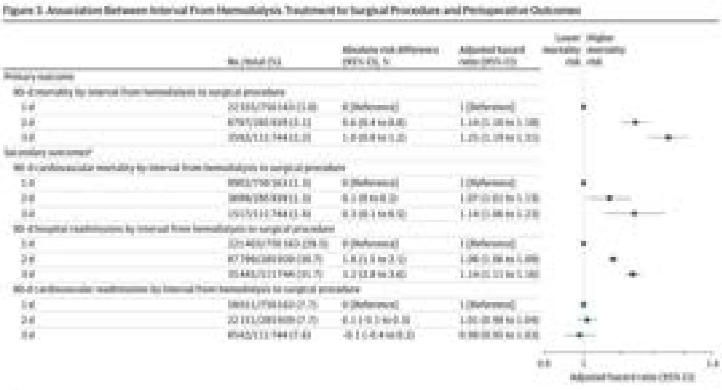
Nephrol Dial Transplant (2015) 30: 1790–1797

Dialyse pré-transplantation

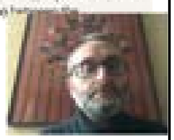
JAMA | Original Investigation

Association Between Preoperative Hemodialysis Timing and Postoperative Mortality in Patients With End-stage Kidney Disease

- Retrospective cohort study of 1 147 846 procedures among 346 828 Medicare beneficiaries with end-stage kidney disease treated with hemodialysis who underwent surgical procedures.



postoperative mortality occurred after 34 944 procedures (3.0%). Longer intervals between the last hemodialysis session and surgery were significantly associated with higher risk of 90-day mortality in a dose-dependent manner (2 days vs 1 day: absolute risk, 4.7% vs 4.2%, absolute risk difference, 0.6% [95% CI, 0.4% to 0.8%], adjusted hazard ratio [HR], 1.14 [95% CI, 1.10 to 1.18]; 3 days vs 1 day: absolute risk, 5.2% vs 4.2%, absolute risk difference, 1.0% [95% CI, 0.8% to 1.2%], adjusted HR, 1.25 [95% CI, 1.19 to 1.31]; and 3 days vs 2 days: absolute risk, 5.2% vs 4.7%, absolute risk difference, 0.4% [95% CI, 0.2% to 0.6%], adjusted HR, 1.09 [95% CI, 1.04 to 1.13]). Undergoing hemodialysis on the same day as surgery was associated with a significantly lower hazard of mortality vs no same-day hemodialysis (absolute risk, 4.0% for same-day hemodialysis vs 4.5% for no same-day hemodialysis, absolute risk difference, −0.5% [95% CI, −0.7% to −0.3%]; adjusted HR, 0.88 [95% CI, 0.84-0.92]). In the analyses that evaluated the interaction between the



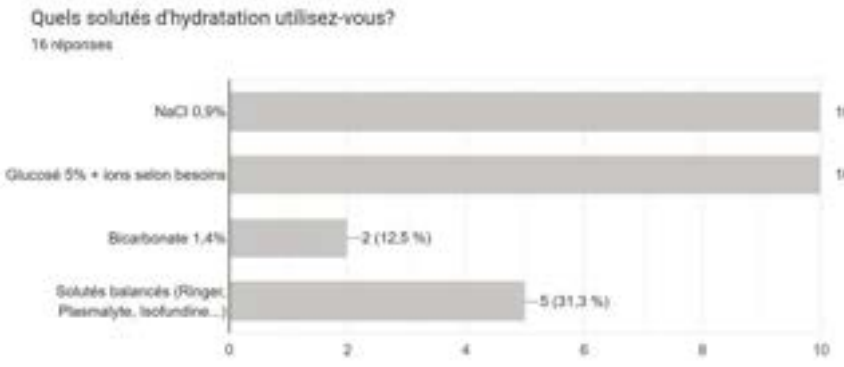
→ Le intervalles plus longs entre l'hémodialyse et la chirurgie sont significativement associés à un risque plus élevé de mortalité postopératoire, principalement chez ceux qui n'avaient pas reçu d'hémodialyse le jour de la chirurgie.
→ Cependant, l'ampleur des différences de risque absolu était faible.
→ Risque compétitif de l’allongement de l’ischémie froide dans le cadre de la chirurgie de transplantation ?

JAMA. 2022 Nov 8;328(18):1837-1848

Quel type de remplissage en post-greffe ?

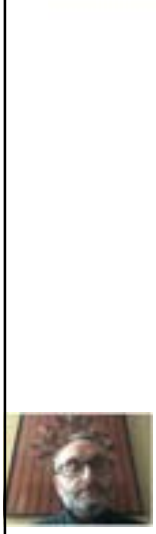
Enquête FIRN 2022

Quel type de remplissage en post-greffe ?



Enquête FIRN 2022

Quel type de remplissage en post-greffe ?



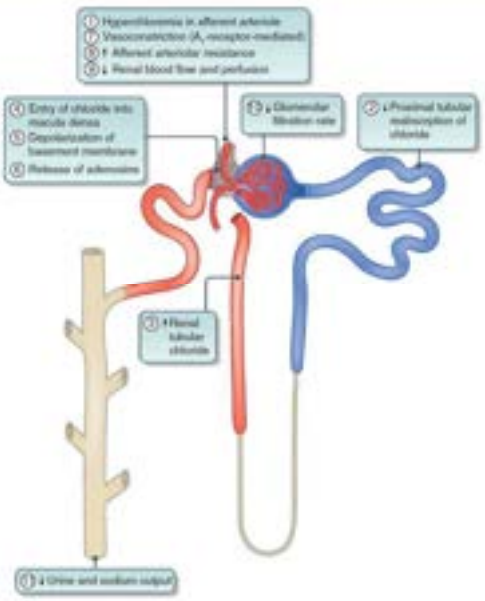
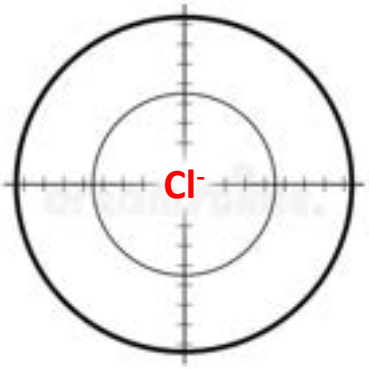


Figure 1 | Schematic diagram of the sequential effects of hyperchloremia on the kidney. Numbers indicate the sequence of events. A_1 receptor, adenosine $_1$ receptor.

Should chloride-rich crystalloids remain the mainstay of fluid resuscitation to prevent 'pre-renal' acute kidney injury?: con

Dileep N. Lobo[1] and Sherif Awad[2]



Acidoses hyperchlorémiques ?

AKI ?

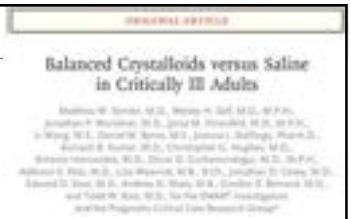
Décès ?

Kidney International (2014) 86, 1096–1105

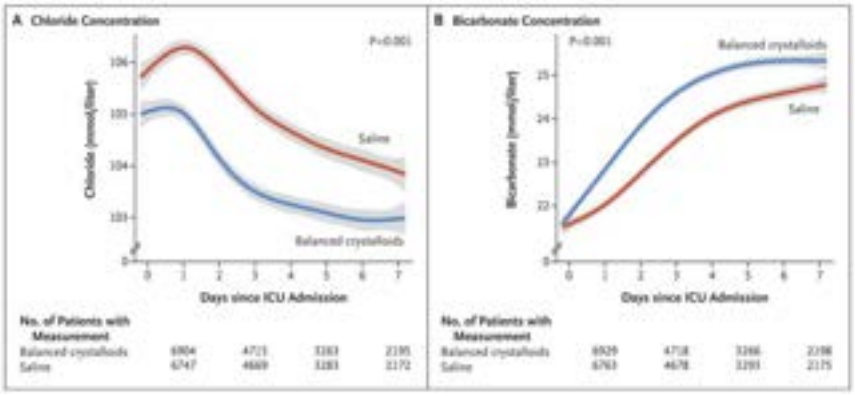
Quel type de remplissage en post-greffe ?

Etude SMART

- 15,802 adultes randomisés pour Soluté salé 0.9% vs. Soluté balancé crystalloide (Ringer lactate ou Plasma-Lyte A)
- Le critère principal était un événement rénal indésirable majeur dans les 30 jours :
  - critère composite de décès quelle qu'en soit la cause, traitement de suppléance ou dysfonction rénale persistante (définie comme une élévation de créatinine à ≥ 200 % de la valeur de base) - tous censurés à la sortie de l'hôpital ou 30 jours

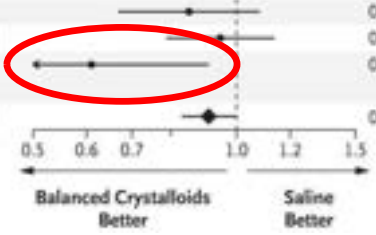


Balanced Crystalloids versus Saline in Critically Ill Adults



N Engl J Med 2018;378:829-39

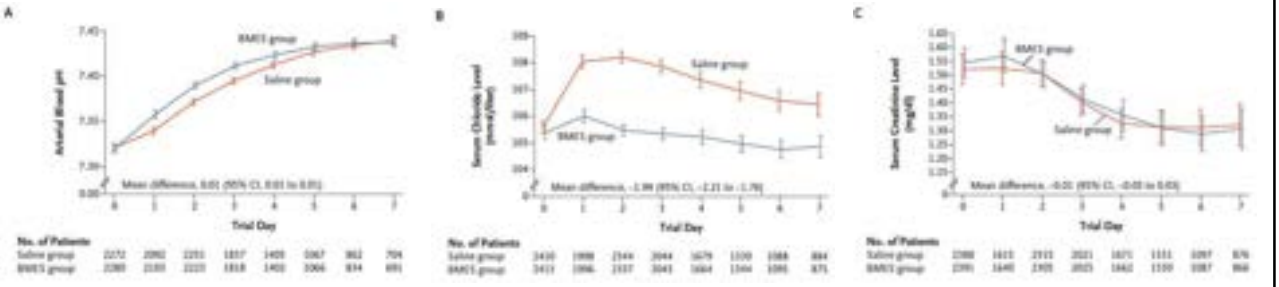
Subgroup	Balanced Crystalloids	Saline	Odds Ratio (95% CI)	P Value	P Value for Interaction
	no. of events/total no. (%)				
Unit					0.27
Medical	615/2735 (22.5)	659/2646 (24.9)	0.87 (0.77–0.99)	0.04	
Cardiac	202/1470 (13.7)	190/1501 (12.7)	1.10 (0.89–1.36)	0.38	
Neurologic	116/1440 (8.1)	141/1377 (10.2)	0.77 (0.59–0.99)	0.04	
Trauma	131/1640 (8.0)	142/1688 (8.4)	0.95 (0.74–1.21)	0.66	
Surgical	75/657 (11.4)	79/648 (12.2)	0.93 (0.66–1.30)	0.66	
Sepsis					0.06
No	744/6775 (11.0)	756/6691 (11.3)	0.96 (0.86–1.07)	0.47	
Yes	395/1167 (33.8)	455/1169 (38.9)	0.80 (0.67–0.94)	0.01	
Traumatic brain injury					0.24
No	1034/7244 (14.3)	1118/7195 (15.5)	0.89 (0.81–0.98)	0.01	
Yes	105/698 (15.0)	93/665 (14.0)	1.09 (0.81–1.47)	0.58	
Categories of kidney function					0.19
Normal	476/5596 (8.5)	514/5561 (9.2)	0.91 (0.80–1.04)	0.16	
Acute kidney injury	315/574 (54.9)	316/537 (58.8)	0.85 (0.67–1.08)	0.18	
Chronic kidney disease	301/1388 (21.7)	307/1360 (22.6)	0.95 (0.79–1.13)	0.55	
Previous renal-replacement therapy	47/384 (12.2)	74/402 (18.4)	0.61 (0.41–0.91)	0.01	
Overall	1139/7942 (14.3)	1211/7860 (15.4)	0.91 (0.83–0.99)	0.04	



Quel type de remplissage en post-greffe ?

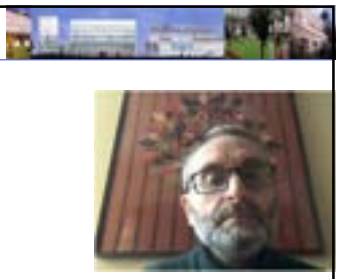
Etude PLUS

- Essai contrôlé randomisé en double aveugle : Plasma-Lyte 148 vs. Soluté salé isotonique
- Critère de jugement principal : décès quelle qu'en soit la cause dans les 90 jours suivant la randomisation.
- Critères de jugement secondaires : EER et augmentation maximale de créatininémie pendant le séjour en USI.



N Engl J Med 2022;386:815-26

Quel type de remplissage en post-greffe ?



Cochrane Library

Cochrane Database of Systematic Reviews

Normal saline versus lower-chloride solutions for kidney transplantation (Review)

Wan S, Roberts MA, Mount P

- 6 études inclues (477 participants)
- Tous adultes
- 70 % de DV

cochrane database syst rev 2016 Aug; 2016(8): CD010741

Quel type de remplissage en post-greffe ?

Risque de reprise retardée de fonction

Analysis 1.1. Comparison 1 Balanced electrolyte solutions versus normal saline, Outcome 1 Delayed graft function.

Study or subgroup	BES n/N	Normal saline n/N	Risk Ratio M-H, Random, 95% CI	Weight	Risk Ratio M-H, Random, 95% CI
Kim 2013	3/30	1/30		5.2%	3[0.33,27.23]
Hadimioglu 2008	3/60	3/30		10.67%	0.5[0.11,2.33]
Potura 2015	19/72	19/76		84.13%	1.06[0.61,1.83]
Total (95% CI)	**162**	**136**		**100%**	**1.03[0.62,1.7]**
Total events: 25 (BES), 23 (Normal saline)					
Heterogeneity: Tau^2=0; Chi^2=1.76, df=2(P=0.41); I^2=0%					
Test for overall effect: Z=0.11(P=0.91)					

BES 0.02 0.1 1 10 50 Normal saline

cochrane database syst rev 2016 Aug; 2016(8): CD010741

Quel type de remplissage en post-greffe ?

pH sanguin

Analysis 1.3. Comparison 1 Balanced electrolyte solutions versus normal saline, Outcome 3 Blood pH at end of surgery.

Study or subgroup	BES N	BES Mean(SD)	Normal saline N	Normal saline Mean(SD)	Mean Difference Random, 95% CI	Weight	Mean Difference Random, 95% CI
O'Malley 2005	25	7.4 (0.1)	26	7.3 (0.1)		22.11%	0.09[0.05,0.13]
Khajavi 2008	26	7.3 (0.1)	26	7.3 (0.1)		24.63%	0.05[0.01,0.09]
Hadimioglu 2008	60	7.4 (0.1)	30	7.4 (0.1)		53.26%	0.07[0.05,0.09]
Total ***	**111**		**82**			**100%**	**0.07[0.05,0.09]**

Heterogeneity: Tau²=0; Chi²=2.21, df=2(P=0.33); I²=9.32%

Test for overall effect: Z=7.28(P<0.0001)

Normal saline -0.2 -0.1 0 0.1 0.2 BES

cochrane database syst rev 2016 Aug; 2016(8): CD010741

Quel type de remplissage en post-greffe ?

Kaliémie post-opératoire

Analysis 1.6. Comparison 1 Balanced electrolyte solutions versus normal saline, Outcome 6 Serum potassium at end of surgery.

Study or subgroup	BES N	BES Mean(SD)	Normal saline N	Normal saline Mean(SD)	Mean Difference Random, 95% CI	Weight	Mean Difference Random, 95% CI
Khajavi 2008	26	4 (0.8)	26	4.7 (0.7)		20.26%	-0.7[-1.11,-0.29]
O'Malley 2005	25	4.6 (0.6)	26	4.5 (0.8)		21.25%	0.1[-0.29,0.49]
Modi 2012	37	4 (0.7)	37	4.3 (0.6)		25.78%	-0.32[-0.62,-0.02]
Hadimioglu 2008	60	3.8 (0.3)	30	3.9 (0.4)		32.71%	-0.1[-0.27,0.07]
Total ***	**148**		**119**			**100%**	**-0.24[-0.51,0.04]**

Heterogeneity: Tau²=0.05; Chi²=9.98, df=3(P=0.02); I²=69.93%

Test for overall effect: Z=1.7(P=0.09)

BES -2 -1 0 1 2 Normal saline

cochrane database syst rev 2016 Aug; 2016(8): CD010741

Quel type de remplissage en post-greffe ?

Baseline Characteristics and Representativeness of Participants in the BEST-Fluids Trial: A Randomized Trial of Balanced Crystalloid Solution Versus Saline in Deceased Donor Kidney Transplantation

Michael G. Collins, PhD,[1,2,3] Maggie A. Fahim, PhD,[1,2] Elaine M. Pascoe, MBiostats,[1] Carina M. Hanley, MMedSc,[1,2,3] David W. Johnson, PhD,[1,2,3] Julie Vaughan, BHMS,[1] Laura E. Hickey, BSc,[1] Philip A. Clayton, PhD,[1,4,5] John S. Gill, MD,[6] Kathryn B. Doran, MBiostats,[1,2] Rachael O. McConnochie, MN,[1] Lito A Vergara, PhD,[1] Charani Kirwandenya, BSc,[1] Donna Reidlinger, MPH,[1] Peter F. Mount, PhD,[1,2,3] Laurence Weinberg, PhD,[1,2,3] Colin J. McArthur, MBChB,[1,2] P. Toby Coates, PhD,[1,2] Zoltan H. Endre, PhD,[1,2,3] David Goldman, PhD,[1] Kirsten Howard, PhD,[1,2,3] Martin Howell, PhD,[1,2,3] Jagadish S. Jansson, DM,[1,2,3] John Kanellis, PhD,[1,2,3] Jerome M. Laurience, PhD,[1,2] Wai H. Lim, PhD,[1,2,3] Steven J. McTaggart, PhD,[1,2] Philip J. O'Connell, PhD,[1,2,3] Helen L. Pilmore, MD,[1,2,3] Germaine Wong, PhD,[1,2,3,4] and Steven J. Chadban, PhD[1,2,3], on behalf of the BEST Fluids Investigators and the Australasian Kidney Trials Network

- Plasma-Lyte 148 vs. Salé isotonique pour réduire le risque de retard de reprise de fonction
- 808 patients enrolés

… à suivre

Transplantation Direct 2022;8: e139

Quel type de remplissage en post-greffe ?

European Renal Best Practice Guideline on kidney donor and recipient evaluation and perioperative care

Daniel Abramowicz[1], Pierre Cochat[2,3], Frans H.J. Claas[4], Uwe Heemann[5], Julio Pascual[6], C. Dudley[7], Paul Harden[8], Marivonne Nieuwenhuis[9], Umberto Maggiore[10], Maurizio Salvadori[11], Geza Sparrowski[12], Jean-Paul Squifflet[13], Jörg Steiger[14], Armando Torres[15,16,17], Ondrej Viklicky[18], Martin Zeier[19], Raymond Vanholder[20], Wim Van Biesen[20] and Evi Stegbo[21]

4.3. In kidney transplant recipients during the perioperative period, does the use of intravenous solutions other than 0.9% sodium chloride improve patient and/or graft outcome?

4.3.1. There is no evidence to prefer one type of solution (crystalloids versus colloids, normal saline versus Ringer) for intravenous volume management of the recipient during kidney transplant surgery.

4.3.2. In view of the available data in the literature, and in line with the ERBP position on prevention of AKI, we suggest to be cautious with the use of starches in the kidney transplant recipient during the perioperative period, although specific data in this setting are lacking. **(Ungraded Statement)**

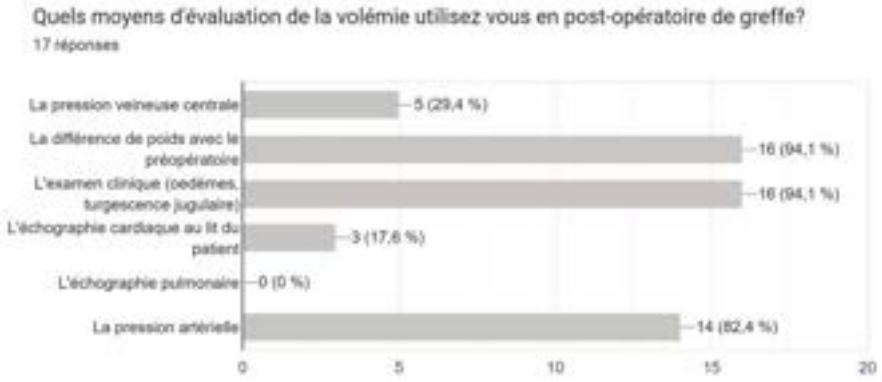
4.3.3. We recommend monitoring for metabolic acidosis when normal saline is used as the only intravenous fluid in the perioperative and post-operative period. **(1B)**

4.4. Does the use of dopaminergic agents (dopamine and its alternatives) improve early post-operative graft function?

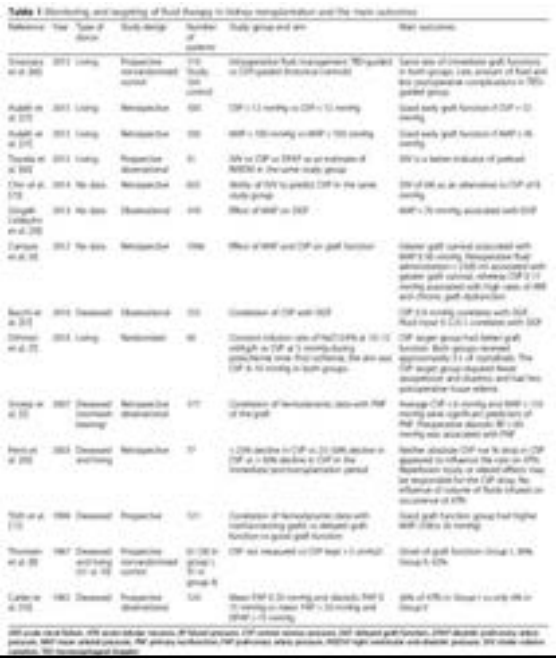
4.4.1. We do not recommend the use of 'renal doses' of dopaminergic agents in the early post-operative period, since it does not improve graft function or survival. **(1B)**

Nephrol Dial Transplant (2015) 30: 1790–1797

Quel niveau de remplissage en post-greffe ?



Quel niveau de remplissage en post-greffe ?



REVIEW Open Access

Perioperative fluid management in kidney transplantation: a black box

Critical Care (2018) 22: 14

Quel niveau de remplissage en post-greffe ?

Fluid Management During Kidney Transplantation: A Consensus Statement of the Committee on Transplant Anesthesia of the American Society of Anesthesiologists

TABLE 1.
Summary of conclusions

Recommendation	Background	Center for Evidence-Based Medicine: Level of evidence	Center for Evidence-Based Medicine: Grade of recommendation	GRADE system: Level of evidence	GRADE system: Grade of recommendation
General large volume fluid administration or "high CVP" is not recommended	Not sufficient and only weak evidence to support generally large volume fluid administration or aim for high CVP (level III–IV evidence)	3–4	C	B	2
There is probably no benefit for routine use of albumin over crystalloids	KT: No benefit in 2 RCTs (level I B) Non-KT: No benefit in large, multicenter RCTs (level I A)	1B–1A	B	A	4
Balanced crystalloid solution are at least equal if not better than 0.9% saline	KT: Balanced crystalloid solutions are associated with a better metabolic profile and equal if not lower potassium levels compared to 0.9% saline	1A	A	A	1
Use of starches is not recommended	KT: Worse renal outcomes with starches (II B) Non-KT: Strong evidence of worse outcomes in multiple RCTs (I A)	2B–1A	A	A	4
Central venous pressure is not a useful endpoint for fluid administration	Non-KT: Systematic review of 24 studies assessing CVP as a monitor for volume status found "a very poor relationship between CVP and blood volume" (A)	1A	A	A	4

CVP, central venous pressure; GRADE, Grading of Recommendations Assessment, Development and Evaluation; KT, kidney transplant.

Transplantation 2021;105: 1677–1684

Quel niveau de remplissage en post-greffe ?

European Renal Best Practice Guideline on kidney donor and recipient evaluation and perioperative care

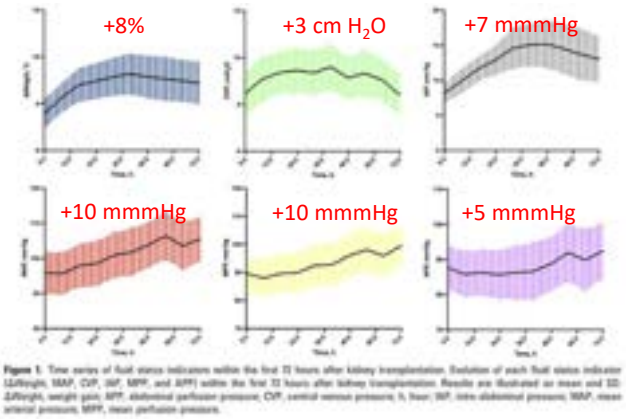
4.2. Does the use of central venous pressure measurement as a guidance tool for fluid management in kidney transplant recipients improve the outcome after transplantation?

4.2.1. We suggest that central venous pressure be measured and corrected in the early post-operative period to prevent hypovolemia and delayed graft function. (2D)

Nephrol Dial Transplant (2015) 30: 1790–1797

Quel niveau de remplissage en post-greffe ?

- Association between intra-abdominal pressure (IAP, assessed by intravesical pressure), weight gain, central venous pressure (CVP, measured by a jugular catheter), mean arterial pressure (MAP), mean perfusion pressure (MPP=MAP-CVP), and abdominal perfusion pressure (APP=MAP-IAP) within the first 72 hours after kidney transplantation and day 30 estimated glomerular filtration rate (eGFR).
- N=55 KTRs, 11% Living donor, 18% DGF, Day-30 eGFR at 47±22 ml/min per 1.73 m2
- Fluid administration was used to maintain CVP above 5cmH_2O without exceeding a 8 to 10% increase in Δweight.




A Pilot Study on the Association Between Early Fluid Status Indicators After Kidney Transplantation and Graft Function Recovery

← C'est ajusté !

Kidney Int Rep (2022) 7, 1416–1419

Quel niveau de remplissage en post-greffe ?

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- Fluid administration was used to maintain CVP above 5cmH_2O without exceeding a 8 to 10% increase in Δweight.

A strategy consisting in administering fluids to increase MAP but stopping fluid administration when IAP reaches a 12 mm Hg threshold (resulting in an increased APP) could represent a feasible and promising intervention to optimize allograft perfusion while avoiding renal congestive injury.

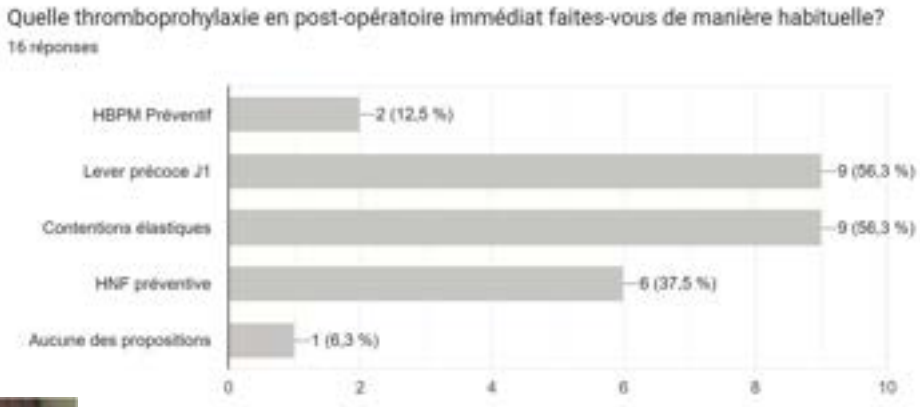
+8%
+10 mmmHg
+10 mmmHg
+5 mmmHg

A Pilot Study on the Association Between Early Fluid Status Indicators After Kidney Transplantation and Graft Function Recovery

←

Kidney Int Rep (2022) 7, 1416–1419

Thromboprophylaxie ?



→ Stratégie variable selon les centres français

Enquête FIRN 2022

Thromboprophylaxie ?

- 13 études correspondant à 1600 patients

Efficacy and safety of chemical thromboprophylaxis in renal transplantation – A systematic review

Ruchika Kohli, Lise Estcourt, Abbas Zaidi, Raj Thuraisingham, Suzanne Forbes, Peter MacCallum, Joachim Tan, Laura Green

Thrombosis Research 192 (2020) 88-95

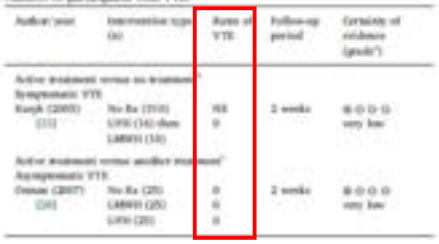
Thromboprophylaxie ?

→ Mauvaise qualité des données

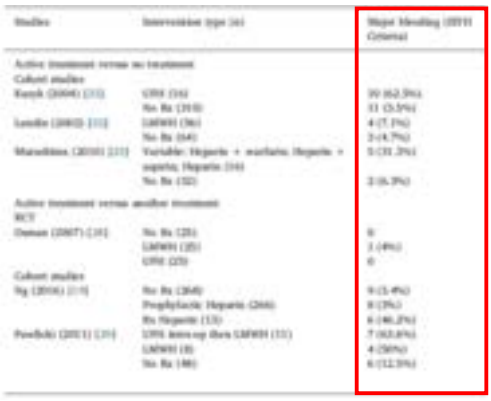
Efficacy and safety of chemical thromboprophylaxis in renal transplantation – A systematic review

Ruchika Kohli, Lise Estcourt, Abbas Zaidi, Raj Thuraisingham, Suzanne Forbes, Peter MacCallum, Joachim Tan, Laura Green

Table 3
Number of participants with VTE.



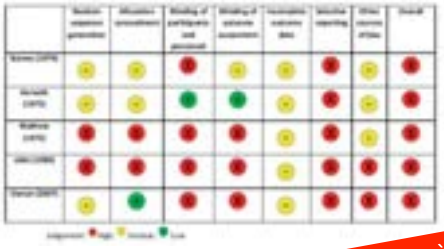
→ Peu de thromboses



→ Beaucoup de saignement

Thrombosis Research 192 (2020) 88-95

Thromboprophylaxie ?

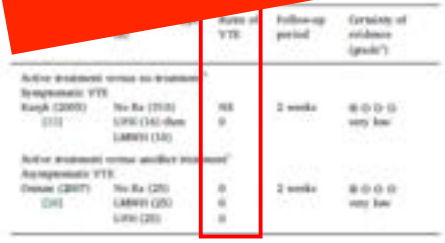


→ Mauvaise qualité des données

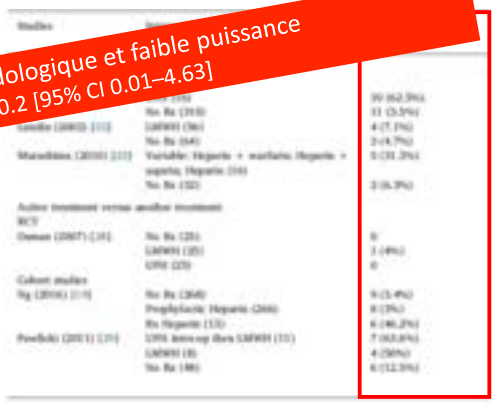
Efficacy and safety of chemical thromboprophylaxis in renal transplantation – A systematic review

Ruchika Kohli, Lise Estcourt, Abbas Zaidi, Raj Thuraisingham, Suzanne Forbes, Peter MacCallum, Joachim Tan, Laura Green

Etudes très hétérogènes, à faible valeur méthodologique et faible puissance
Pas de différence du risque de thrombose 0.2 [95% CI 0.01–4.63]



→ Peu de thromboses



→ Beaucoup de saignement

Thrombosis Research 192 (2020) 88-95

Thromboprophylaxie ?

European Renal Best Practice Guideline on kidney donor and recipient evaluation and perioperative care

Daniel Abramowicz[1], Pierre Cochat[2,3], Frans H.J. Claas[4], Uwe Heemann[5], Jules Pascual[6], C. Dudley[7], Paul Harden[8], Marivonne Heaphy[9], Umberto Maggiore[10], Maurizio Salvadori[11], Goce Spasovski[12], Jean-Paul Squifflet[13], Jörg Steiger[14], Armando Torres[15,16,17], Ondrej Viklicky[18], Martin Zeier[19], Raymond Vanholder[20], Wim Van Biesen[20] and Evi Nagler[20]

4.5. Should we use prophylactic antithrombotic agents during the perioperative period?

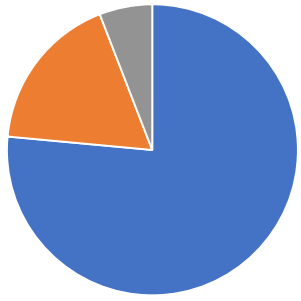
4.5.1. We do not recommend routinely using low-molecular-weight heparin, unfractionated heparin or aspirin before transplantation to prevent graft thrombosis. **(1B)**

Nephrol Dial Transplant (2015) 30: 1790–1797

Antibioprophylaxie pré-greffe ?

FIRN

- C2G = 11 centres/15
- Aucune = 3 centres
- Fosfomycine = 1 centre



Enquête FIRN 2022

Antibioprophylaxie pré-greffe ?

SFAR

Antibioprophylaxis in surgery and interventional medicine (adult patients). Update 2017

→ Cefazoline

Antibioprophylaxie pré-greffe ?

One-shot versus multidose perioperative antibiotic prophylaxis after kidney transplantation: A randomized, controlled clinical trial

- Etude multicentrique prospective randomisée
- Simple dose (n=103) *vs.* multidose (n=102) chez des transplantés rénaux adultes, non diabétiques, sans obésité morbide
- Primary endpoint : infection du site chirurgical

→ Trois cas d'infections du site opératoire (2% vs. 1%; P=NS), toutes dans la première semaine

Surgery. 2015 Jan;157(1):104-10

Le furosémide !

Enquête FIRN 2022

L'antalgie

Enquête FIRN 2022

Prévention de l'ulcère

Enquête FIRN 2022

QCM d'auto-évaluation 1

Parmi les affirmations suivantes relatives à l'indication de séance d'hémodialyse pré-opératoire immédiatement avant la transplantation, laquelle ou lesquelles sont justes ?

A. Une séance de dialyse pré-opératoire réduit le risque d'hyperkaliémie post-opératoire
B. Une anticoagulation au citrate a montré son bénéfice pour réduire le risque de saignement per-opératoire
C. Les recommandation européennes suggèrent de ne pas faire d'UF au cours de la séance de dialyse pré-opératoire en dehors de surcharge cliniquement évidente
D. Une séance de dialyse pré-opératoire accroit le risque de retard de reprise de fonction du greffon
E. Les recommandation européennes suggèrent de réaliser une séance de dialyse pré-opératoire immédiatment avant la transplantation

QCM d'auto-évaluation 2

Parmi les affirmations suivantes relatives aux modalités de remplissage per- et post-transplantation, laquelle ou lesquelles sont justes ?

A. Les solutés balancés, comparés aux soluté salé isotonique, réduisent le risque de retard de reprise de fonction du greffon
B. Les solutés balancés, comparés aux soluté salé isotonique, sont associés à un pH sanguin significativement plus élevé
C. Les solutés balancés, comparés aux soluté salé isotonique, sont associés à une kaliémie significativement plus basse
D. L'objectif du remplissage est de maintenir une pression veineuse centrale > 8 cmH_2O
E. Un remplissage excessif pourrait augmenter la pression intra-abdominale