Top 10 en médecine vasculaire 2020

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20 novembre 2020

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Conflits d'intérêt

Aucun

Objectifs de la présentation

- Citer les résultats d'études pertinentes en médecine vasculaire en 2019-2020.
- Intégrer dans sa pratique de nouvelles approches thérapeutiques fondées sur des données récemment publiées.
- Critiquer les études récentes en médecine vasculaire.

Diagnosis of Pulmonary Embolism with d-Dimer Adjusted to Clinical Probability

Kearon C, de Wit K, Parpia S et coll.

N Engl J Med 2019;381:2125-34.

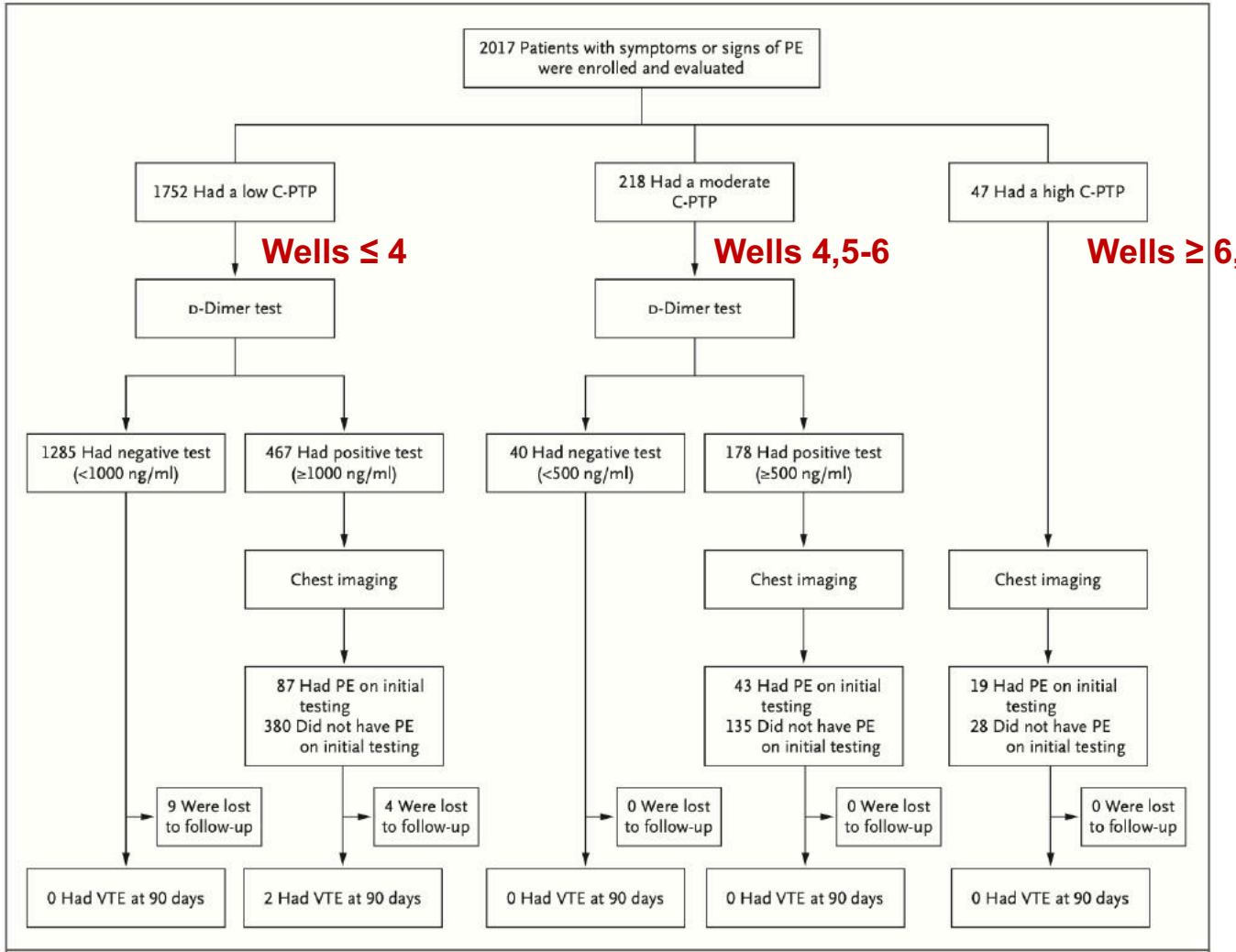


Figure 1. Patient Enrollment, Results of Initial Diagnostic Testing, and Cases of Venous Thromboembolism (VTE) during Follow-up.

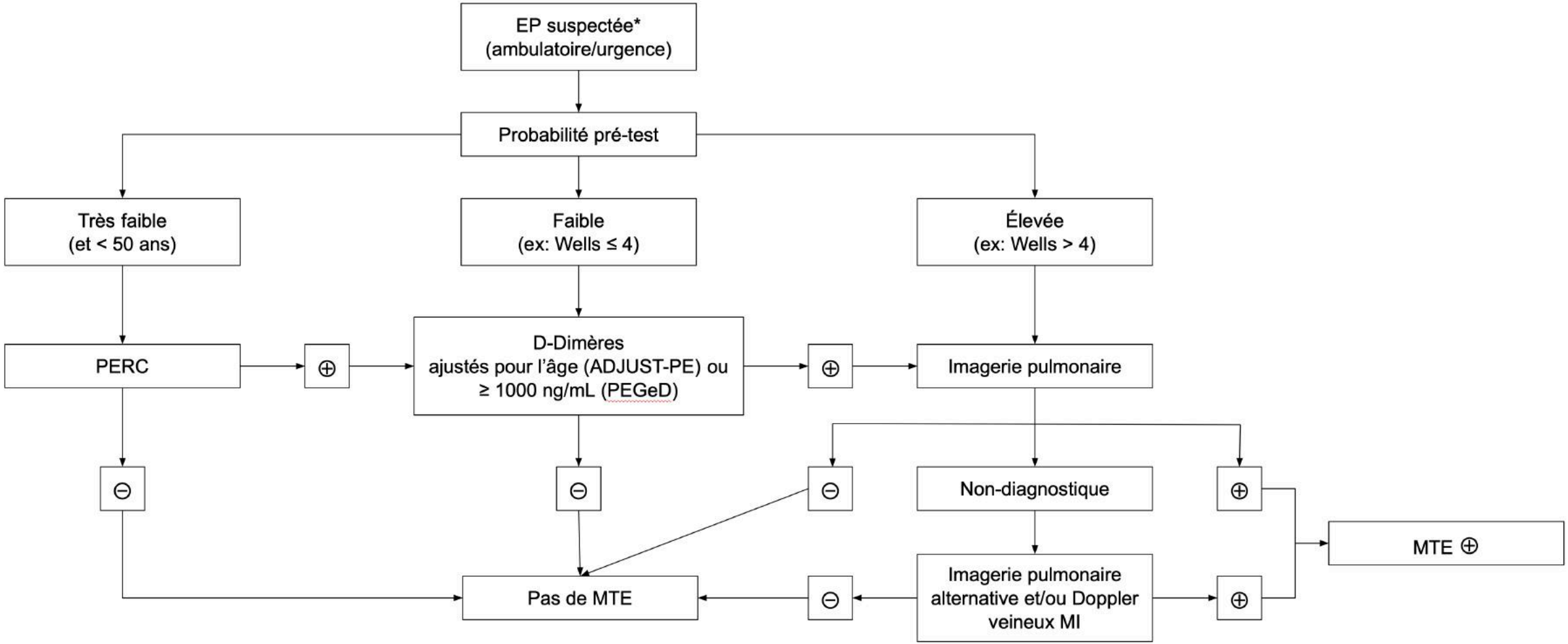
A patient's clinical pretest probability (C-PTP) of pulmonary embolism (PE) was assessed with the use of the Wells score (range, 0 to 12.5, with higher scores indicating a higher probability of PE). A low C-PTP was defined as a Wells score of 0 to 4.0, a moderate C-PTP as a Wells score of 4.5 to 6.0, and a high C-PTP as a Wells score of 6.5 or higher. A total of 2 patients who had PE on initial testing did not receive anticoagulant therapy: 1 had a moderate C-PTP, and 1 had a high C-PTP (both had thrombocytopenia). A total of 5 patients who did not have PE on initial testing received anticoagulant therapy: 2 had a low C-PTP (1 had chronic PE and 1 underwent nondiagnostic computed tomographic [CT] pulmonary angiography and declined ventilation–perfusion scanning), 2 had a moderate C-PTP (1 had leg deep-vein thrombosis [DVT] with negative findings on CT pulmonary angiography, and 1 had arm DVT with negative findings on CT pulmonary angiography), and 1 had a high C-PTP (untreated leg DVT 5 months previously [prescription was lost] and negative findings on CT pulmonary angiography). Of the 4 patients with a low C-PTP and a positive D-dimer test who were lost to follow-up, none had PE on initial testing. In the entire study population, 2 patients (both with a low C-PTP and a positive D-dimer test) had VTE during follow-up: a DVT occurred in a patient who did not have PE on initial testing (negative CT and no anticoagulant therapy), and a recurrent PE occurred in a patient who had PE on initial testing (positive CT and anticoagulant therapy).

Table 2. Venous Thromboembolism (VTE) after Initial Diagnostic Testing.*

Variable	Patients	VTE	Percentage of Patients (95% CI)
	number		
No pulmonary embolism on initial testing and no anticoagulant therapy	1863	1	0.05 (0.01–0.30)
Low or moderate C-PTP and negative D-dimer test	1325	0	0.00 (0.00–0.29)
Low C-PTP and D-dimer <1000 ng/ml	1285	0	0.00 (0.00–0.30)
Low C-PTP and D-dimer <500 ng/ml	970	0	0.00 (0.00–0.39)
Low C-PTP and D-dimer 500–999 ng/ml	315	0	0.00 (0.00–1.20)
Moderate C-PTP and D-dimer <500 ng/ml	40	0	0.00 (0.00–8.76)
Low or moderate C-PTP and positive D-dimer test	511	1	0.20 (0.03–1.10)
Low C-PTP and D-dimer ≥1000 ng/ml	378	1	0.26 (0.05–1.50)
Moderate C-PTP and D-dimer ≥500 ng/ml	133	0	0.00 (0.00–8.76)
High C-PTP	27	0	0.00 (0.00–12.5)
Pulmonary embolism on initial testing and anticoagulant therapy	147	1	0.68 (0.12–3.75)
Low C-PTP	87	1	1.15 (0.20–6.23)
Moderate C-PTP	42	0	0.00 (0.00–8.38)
High C-PTP	18	0	0.00 (0.00–18.6)
Pulmonary embolism on initial testing and no anticoagulant therapy†	2	0	
No pulmonary embolism on initial testing and anticoagulant therapy†	5	0	

* VTE includes proximal DVT and segmental or more proximal pulmonary embolism (no isolated distal DVT or subsegmental episodes of pulmonary embolism occurred during follow-up).
† For details on patients who did not receive anticoagulant therapy despite the presence of pulmonary embolism or who received anticoagulant therapy despite the absence of pulmonary embolism, see Table S5.

Impact clinique : La combinaison d'une probabilité clinique pré-test faible et d'un niveau de D-Dimères < 1000 mcg/L identifie un groupe de patients à très faible risque d'embolie pulmonaire, avec réduction du recours à l'imagerie pulmonaire.



* Excluant les femmes enceintes.
EP : Embolie pulmonaire. MTE : maladie thromboembolique. PERC : *Pulmonary Embolism Rule-out Criteria*.

Lanthier L et coll. Rev Med Interne 2020;41:429-30.

A Comparison of Two LDL Cholesterol Targets after Ischemic Stroke

Amarenco P, Kim JS, Labreuche J et coll.

N Engl J Med 2020;382:9-19.

End Points	Lower-Target Group (N=1430)	Higher-Target Group (N=1430)	Hazard Ratio (95% CI)	P Value
Primary end point				
Major cardiovascular event — no. (%)	121 (8.5)	156 (10.9)	0.78 (0.61–0.98)*	0.04
Death from cardiovascular causes	17 (1.2)	24 (1.7)	—	
Fatal cerebral infarction or stroke of undetermined origin	3 (0.2)	6 (0.4)	—	
Fatal myocardial infarction	1 (0.1)	1 (0.1)	—	
Other cardiovascular death	7 (0.5)	6 (0.4)	—	
Sudden death of undetermined origin	6 (0.4)	11 (0.8)	—	
Nonfatal cerebral infarction or stroke of undetermined origin	81 (5.7)	100 (7.0)	—	
Nonfatal acute coronary syndrome	15 (1.0)	23 (1.6)	—	
Urgent coronary revascularization	5 (0.3)	6 (0.4)	—	
Urgent carotid revascularization	3 (0.2)	3 (0.2)	—	
Secondary end points				
Myocardial infarction or urgent coronary revascularization — no. (%)	20 (1.4)	31 (2.2)	0.64 (0.37–1.13)	0.12†
Cerebral infarction or urgent revascularization of carotid or cerebral artery — no. (%)	88 (6.2)	109 (7.6)	0.81 (0.61–1.07)	
Cerebral infarction or TIA — no. (%)	120 (8.4)	139 (9.7)	0.87 (0.68–1.11)	
Any revascularization procedure — no./total no. (%)‡	94/1430 (6.6)	99/1430 (6.9)	0.93 (0.70–1.24)	
Carotid artery	17/94 (18)	23/99 (23)	—	
Coronary artery	44/94 (47)	51/99 (52)	—	
Peripheral artery	33/94 (35)	25/99 (25)	—	
Death — no. (%)				
Cardiovascular cause	22 (1.5)	32 (2.2)	0.69 (0.40–1.18)	
Any cause	88 (6.2)	93 (6.5)	0.97 (0.73–1.30)	

NNT = 41
(IC 95 % 22-355)

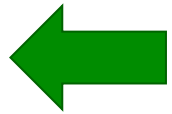
Impact clinique : Chez les pts post-ICT/AVC ischémique, viser un LDL < 1,8 mmol/L plutôt que 2,3-2,8 mmol/L amène un bénéfice cardiovasculaire.

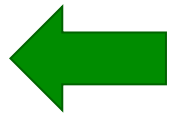
Apixaban for the Treatment of Venous Thromboembolism Associated with Cancer

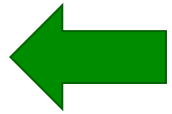
Agnelli G, Becattini C, Meyer G et coll.

N Engl J Med 2020;382:1599-1607.

Outcome	Apixaban (N=576)	Dalteparin (N=579)	Hazard Ratio (95% CI)	P Value
Primary efficacy outcome — no. (%)†				
Recurrent venous thromboembolism‡	32 (5.6)	46 (7.9)	0.63 (0.37–1.07)	<0.001 for noninferiority; 0.09 for superiority
Recurrent deep-vein thrombosis	13 (2.3)	15 (2.6)	0.87 (0.34–2.21)	
Recurrent pulmonary embolism	19 (3.3)	32 (5.5)	0.54 (0.29–1.03)	
Fatal pulmonary embolism§	4 (0.7)	3 (0.5)	1.93 (0.40–9.41)	
Primary safety outcome — no. (%)				
Major bleeding¶	22 (3.8)	23 (4.0)	0.82 (0.40–1.69)	0.60
Major gastrointestinal bleeding	11 (1.9)	10 (1.7)	1.05 (0.44–2.50)	
Major nongastrointestinal bleeding	11 (1.9)	13 (2.2)	0.68 (0.21–2.20)	
Secondary outcomes — no. (%)				
Recurrent venous thromboembolism or major bleeding	51 (8.9)	66 (11.4)	0.70 (0.45–1.07)	
Clinically relevant nonmajor bleeding	52 (9.0)	35 (6.0)	1.42 (0.88–2.30)	
Major or clinically relevant nonmajor bleeding‖	70 (12.2)	56 (9.7)	1.16 (0.77–1.75)	
Death from any cause**	135 (23.4)	153 (26.4)	0.82 (0.62–1.09)	







Impact clinique : Apixaban est non-inférieur à la daltéparine s/c pour le traitement de la MTE paranéoplasique sans augmentation du risque de saignement.

Hokusai-VTE Cancer vs CARAVAGGIO

	Hokusai (n = 1050)	**CARAVAGGIO (n = 1155)**
Médicament	Edoxaban vs dalterparine	Apixaban vs dalteparine
Suivi	12 mois	6 mois
Récidive MTE (RRi)	0,71 (0,48-1,06)	0,63 (0,37-1,07)
Saignements majeurs (RRi)	1,77 (1,03-3,04)	0,82 (0,40-1,69)
Mortalité totale (RRi)	1,12 (0,92-1,37)	0,82 (0,62-1,09)

Rivaroxaban or Enoxaparin in Nonmajor Orthopedic Surgery

Samama CM, Laporte S, Rosencher et coll.

N Engl J Med 2020;382:1916-25.

Outcome	Rivaroxaban (N = 1809)	Enoxaparin (N = 1795)	Risk Ratio (95% CI)*
	no. of patients with event/total no. of patients (%)		
Venous thromboembolism	4/1661 (0.2)	18/1640 (1.1)	0.25 (0.09–0.75)
Primary outcome, stratified according to intended duration of thromboprophylaxis			
2 Wk to 1 mo	2/1016 (0.2)	3/993 (0.3)	—
>1 Mo to 2 mo	2/599 (0.3)	15/605 (2.5)	—
>2 Mo	0/46	0/42	—
Components of the primary outcome			
Symptomatic venous thromboembolism	3/1756 (0.2)	11/1737 (0.6)	0.28 (0.08–1.00)
Distal deep-vein thrombosis†	3/1756 (0.2)	5/1737 (0.3)	—
Proximal deep-vein thrombosis†	0/1756	5/1737 (0.3)	—
Pulmonary embolism	0/1756	1/1737 (0.1)	—
Venous thromboembolism–related death	0/1756	0/1737	—
Asymptomatic proximal deep-vein thrombosis	1/1661 (0.1)	7/1637 (0.4)	—
Major venous thromboembolism‡	1/1661 (0.1)	13/1640 (0.8)	0.12 (0.02–0.84)

NNT = 117
(IC 95 % 71-333)

Outcome	Rivaroxaban (N = 1809)	Enoxaparin (N = 1795)	Risk Ratio (95% CI)	P Value
	no. of patients with event/total no. of patients (%)			
Major bleeding or nonmajor clinically relevant bleeding	19/1757 (1.1)	18/1739 (1.0)	1.04 (0.55–2.00)	0.89
Major bleeding	10/1757 (0.6)	12/1739 (0.7)	0.81 (0.35–1.88)	0.62
Nonmajor clinically relevant bleeding	9/1757 (0.5)	6/1739 (0.3)	1.48 (0.52–4.17)	0.46
Overt thrombocytopenia	1/1756 (0.1)	0/1737	3.06 (0.13–70.85)	0.48
Death from any cause	0/1756	1/1737 (0.1)	0.63 (0.17–2.36)	0.49
Net clinical benefit†	14/1668 (0.8)	30/1643 (1.8)	0.48 (0.26–0.90)	—

Impact clinique : le rivaroxaban donné durant la période d'immobilisation suivant une chirurgie orthopédique non majeure des MI est plus efficace que l'énoxaparine pour prévenir la MTE, mais impact clinique incertain.

Rivaroxaban in Peripheral Artery Disease after Revascularization

Bonaca MP, Bauersachs RM, Anand SS et coll.

N Engl J Med 2020;382:1994-2004.

Table 2. Primary and Secondary Efficacy Outcomes.*

Outcome	Rivaroxaban (N=3286)		Placebo (N=3278)		Hazard Ratio (95% CI)	P Value
	Patients with Event	K–M Estimate at 3 Yr	Patients with Event	K–M Estimate at 3 Yr		
	no.(%)	%	*no. (%)*	%		
Primary efficacy outcome: acute limb ischemia, major amputation for vascular causes, myocardial infarction, ischemic stroke, or death from cardiovascular causes	508 (15.5)	17.3	584 (17.8)	19.9	0.85 (0.76–0.96)	0.009
Acute limb ischemia	155 (4.7)	5.2	227 (6.9)	7.8	0.67 (0.55–0.82)	
Major amputation for vascular causes	103 (3.1)	3.4	115 (3.5)	3.9	0.89 (0.68–1.16)	
Myocardial infarction	131 (4.0)	4.6	148 (4.5)	5.2	0.88 (0.70–1.12)	
Ischemic stroke	71 (2.2)	2.7	82 (2.5)	3.0	0.87 (0.63–1.19)	
Death from cardiovascular causes	199 (6.1)	7.1	174 (5.3)	6.4	1.14 (0.93–1.40)	
Secondary efficacy outcomes						
Acute limb ischemia, major amputation for a vascular cause, myocardial infarction, ischemic stroke, or death from coronary heart disease	433 (13.2)	14.7	528 (16.1)	18.2	0.80 (0.71–0.91)	<0.001
Unplanned index-limb revascularization for recurrent limb ischemia	584 (17.8)	20.0	655 (20.0)	22.5	0.88 (0.79–0.99)	0.03
Hospitalization for coronary or peripheral event of a thrombotic nature	262 (8.0)	8.7	356 (10.9)	12.1	0.72 (0.62–0.85)	<0.001
Acute limb ischemia, major amputation for a vascular cause, myocardial infarction, ischemic stroke, or death from any cause	614 (18.7)	20.6	679 (20.7)	23.2	0.89 (0.79–0.99)	0.03
Acute limb ischemia, major amputation for a vascular cause, myocardial infarction, stroke from any cause, or death from any cause	514 (15.6)	17.5	588 (17.9)	20.1	0.86 (0.76–0.96)	0.01
Death from any cause	321 (9.8)	11.1	297 (9.1)	10.9	1.08 (0.92–1.27)	0.34
Venous thromboembolism	25 (0.8)	0.8	41 (1.3)	1.7	0.61 (0.37–1.00)	

NNT = 43
(IC 95 % 24-180)

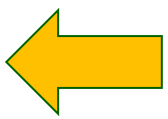


Table 3. Safety Outcomes.*

Outcome	Rivaroxaban (N=3256)		Placebo (N=3248)		Hazard Ratio (95% CI)	P Value
	Patients with Event	K–M Estimate at 3 Yr	Patients with Event	K-M Estimate at 3 Yr		
	no. (%)	%	*no. (%)*	%		
Principal safety outcome: TIMI major bleeding	62 (1.90)	2.65	44 (1.35)	1.87	1.43 (0.97–2.10)	0.07
Intracranial hemorrhage	13 (0.40)	0.60	17 (0.52)	0.90	0.78 (0.38–1.61)	
Fatal bleeding	6 (0.18)	0.21	6 (0.18)	0.21	1.02 (0.33–3.15)	
Intracranial or fatal bleeding	17 (0.52)	0.74	19 (0.58)	0.97	0.91 (0.47–1.76)	
Secondary safety outcomes						
ISTH major bleeding	140 (4.30)	5.94	100 (3.08)	4.06	1.42 (1.10–1.84)	0.007
BARC major bleeding†	93 (2.86)	3.86	73 (2.25)	2.92	1.29 (0.95–1.76)	0.10

NNH 82
(IC 95 % 47-328)

Impact clinique : rivaroxaban 2,5 mg bid + AAS entrainent une diminution d'un composite d'ECV majeurs comprenant l'ischémie aiguë des membres et les amputations majeures, sans différence de saignement majeur TIMI vs AAS seule.

VOYAGER PAD

(Vascular Outcomes Study of ASA Along with Rivaroxaban in Endovascular or Surgical Limb Revascularization for PAD)

Bonaca MP et coll. N Engl J Med 2020;382:1994-2004.

Q?

Chez les sujets avec maladie vasculaire artérielle périphérique (MVAP) symptomatique ayant eu une revascularisation aux membres inférieurs, est-ce que le rivaroxaban 2,5 mg deux fois par jour combiné à l'aspirine réduit le risque composite d'ischémie aiguë des membres inférieurs, d'amputation majeure de cause vasculaire, d'infarctus du myocarde, d'accident vasculaire cérébral ischémique ou de décès d'origine cardiovasculaire comparativement à l'aspirine seule tout en étant sécuritaire ?

MÉTHODE

Essai clinique randomisé à double insu

P : n = 6 564 adultes de 50 ans et plus avec MVAP symptomatique et revascularisation dans les 10 jours précédent. (ø si état cliniquement instable, risque élevé de saignement, prise de médicaments concomitants interdits - clopidogrel permis jusqu'à 6 mois après la revascularisation -, DFGe < 15 ml/min/1,73 m2, antécédent d'ICT ou AVC, néoplasie active, etc.)

I / **R** / **C** :

- Rivaroxaban 2,5 mg 2x/j + aspirine 100 mg/j
- Placébo + aspirine 100 mg/j

suivi 28 mois

O : Critère de jugement principal (issue primaire) d'efficacité : composite d'ischémie aiguë des membres inférieurs, d'amputation majeure de cause vasculaire, d'infarctus du myocarde, d'accident vasculaire cérébral ischémique ou de décès d'origine cardiovasculaire.
Critère de jugement principal (issue primaire) de sécurité : saignement majeur selon la classification TIMI.

Site : 542 sites dans 34 pays (dont le Canada, É-U, France, R-U, etc.)
Financement : commandité par Bayer et Janssen Pharmaceuticals.

P : population . I : intervention. C : comparateur. O : objectifs. R : randomisation.

RÉSULTATS

Caractéristiques de base : Âge médian 67 ans, 74 % hommes, 40 % DM, 35 % fumeur actif, MCAS 31 %. Claudication intermittente 96 %. Indice tibio-huméral médian 0,56. Tx avec procédure endovasculaire 65% et Tx par chirurgie 35%, dont 23 % pour ischémie critique.
Rx : 99 % AAS, 51 % clopidogrel, 80 % statines, 63 % IECA ou ARA.

Variables	Rivaroxaban (n = 3286)	Placébo (n = 3278)	RRi (IC 95%)	NNT/NNH (IC 95 %)
Critère du jugement principal d'efficacité	508 (15,5 %)	584 (17,8 %)	0,85 (0,76-0,96)	43 (24-180)
Mortalité totale	321 (9,8 %)	297 (9,1 %)	1,08 (0,92-1,27)	
	Rivaroxaban (n = 3256)	**Placébo (n = 3248)**		
Critère du jugement principal de sécurité (TIMI)	62 (1,9 %)	44 (1,4 %)	1,43 (0,97-2,10)	
Saignements majeurs ISTH	140 (4,3 %)	100 (3,1 %)	1,42 (1,10-1,84)	82 (47-328)

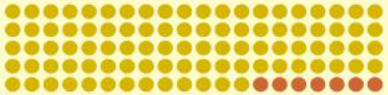
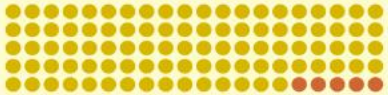
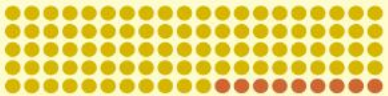
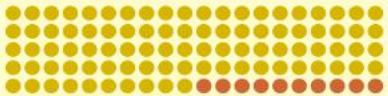
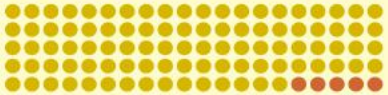
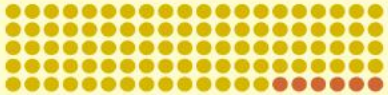
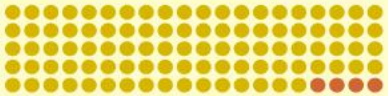
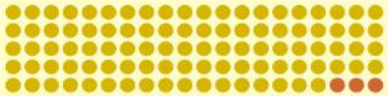
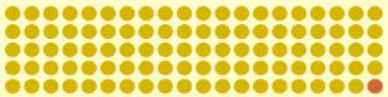
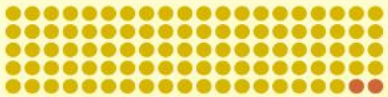
Note : Arrêt prématurée de la médication chez 33 % dans le groupe rivaroxaban et 31 % dans le groupe placébo.

Auteurs : Drs Luc Lanthier, MD, MSc, Michel Cauchon, MD, Gabriel Huard, MD.
Design : Marie-Noël Lanthier - 2020-06-13

CONCLUSION

Dans cet essai clinique de bonne méthodologie, chez les patients atteints d'une MVAP ayant subi une revascularisation des membres inférieures, le rivaroxaban 2,5 mg deux fois par jour plus l'aspirine a été associé à une diminution du résultat composite d'ischémie aiguë des membres, amputation majeure de cause vasculaire, infarctus du myocarde, AVC ischémique, ou mortalité de causes cardiovasculaires comparativement à l'aspirine seule à 28 mois de suivi. L'incidence des saignements majeurs TIMI ne différait pas de façon significative entre les groupes mais l'incidence des saignements majeurs ISTH était significativement plus élevée avec la rivaroxaban et l'aspirine qu'avec l'aspirine seule.

VOYAGER-PAD

Suivi 28 mois	Placébo + AAS	Rivaroxaban + AAS	RRi (IC 95 %)
BÉNÉFICES			
Combinaison mortalité cardiovasculaire, infarctus du myocarde, AVC ischémique, ischémie aiguë MI, amputations majeures vasc.	18 % 	16 % 	0,85 (0,76-0,96)
Ischémie aiguë MI	7 % 	5 % 	0,67 (0,55-0,82)
NEUTRE			
Mortalité totale	9 % 	10 % 	1,08 (0,76-1,27)
Mortalité cardiovasculaire	5 % 	6 % 	1,14 (0,59-1,14)
Amputations majeures vasculaires	4 % 	3 % 	0,89 (0,69-1,16)
RISQUES			
Saignements majeurs TIMI	1 % 	2 % 	1,43 (0,97-2,10)
Saignements majeurs ISTH	3 % 	4 % 	1,42 (1,10-1,84)

Ticagrelor and Aspirin or Aspirin Alone in Acute Ischemic Stroke or TIA

Johnston SC, Amarenco P, Denison H et coll.

N Engl J Med 2020;383:207-17.

Outcome	Ticagrelor–Aspirin Group (N=5523)		Aspirin Group (N=5493)		Hazard Ratio (95% CI)	P Value
	Patients with Event	Event Rate†	Patients with Event	Event Rate†		
	no. (%)	%	no. (%)	%		
Primary outcome						
Stroke or death	303 (5.5)	5.4	362 (6.6)	6.5	0.83 (0.71–0.96)	0.02
Stroke	284 (5.1)	5.1	347 (6.3)	6.3	0.81 (0.69–0.95)	
Death	36 (0.7)	0.6	27 (0.5)	0.5	1.33 (0.81–2.19)	
Secondary outcomes						
Ischemic stroke	276 (5.0)	5.0	345 (6.3)	6.2	0.79 (0.68–0.93)	0.004
Overall disability‡	1282 (23.8)	NA	1284 (24.1)	NA	0.98 (0.89–1.07)	0.61
Safety outcomes						
Severe bleeding	28 (0.5)	0.5	7 (0.1)	0.1	3.99 (1.74–9.14)	0.001
Intracranial hemorrhage or fatal bleeding	22 (0.4)	0.4	6 (0.1)	0.1	3.66 (1.48–9.02)	0.005
Fatal bleeding	11 (0.2)		2 (<0.1)			
Intracranial hemorrhage	20 (0.4)	0.4	6 (0.1)	0.1	3.33 (1.34–8.28)	0.01
Hemorrhagic stroke	10 (0.2)		2 (<0.1)			
Moderate or severe bleeding	36 (0.7)	0.6	11 (0.2)	0.2	3.27 (1.67–6.43)	<0.001
Premature permanent discontinuation of trial treatment owing to bleeding	152 (2.8)	2.9	32 (0.6)	0.6	4.80 (3.28–7.02)	<0.001

NNT = 91
(IC 95 % 50-466)

NNH = 264
(IC 95 % 170-589)

Impact clinique : chez les pts avec AVC ou ICT isch., le risque d'AVC ou de mortalité à 30 jours est plus faible avec ticagrélor + AAS qu'avec AAS, mais le risque de saignement est ↑.

THALES vs POINT

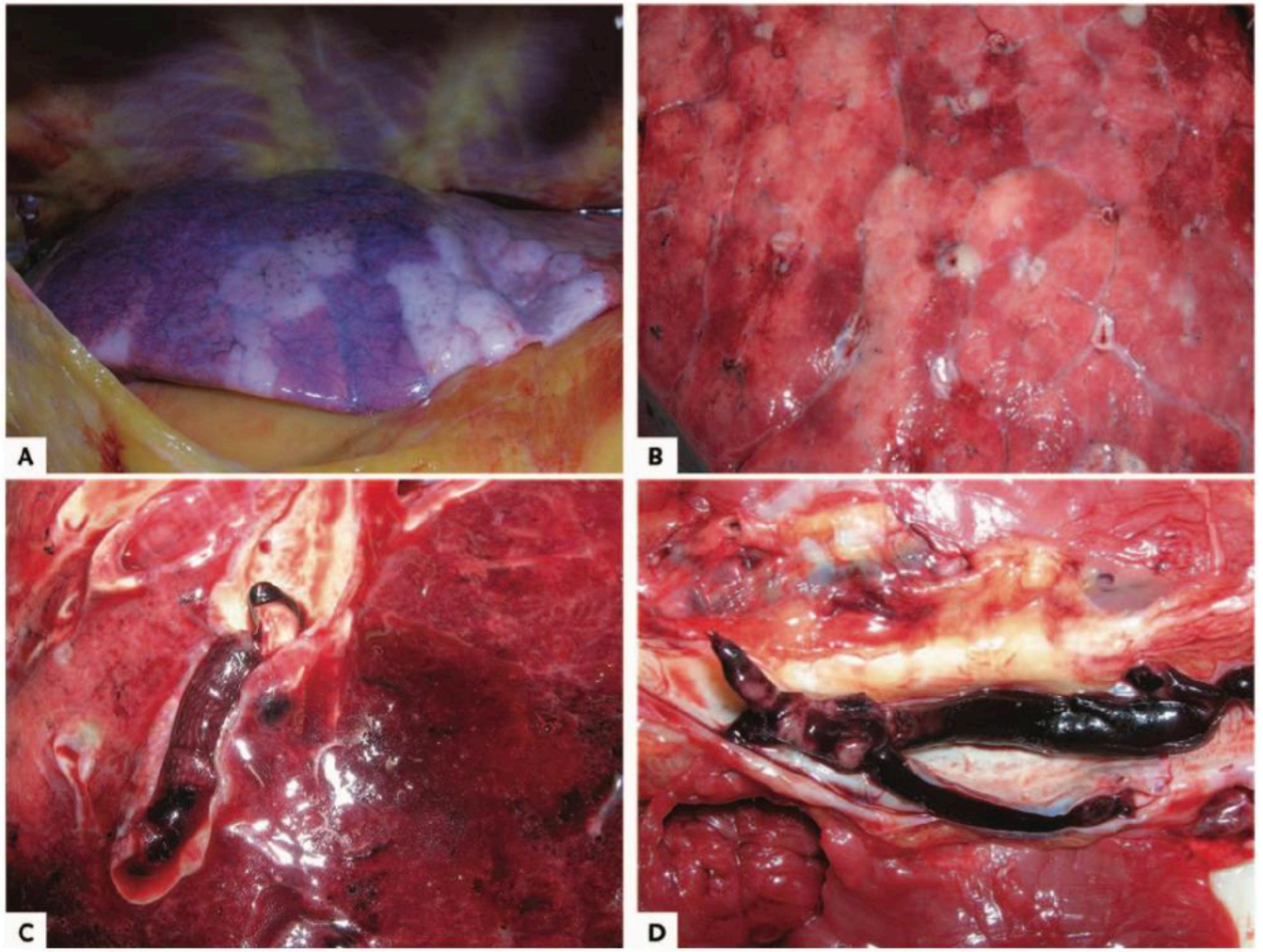
	THALES (n = 11 016)	POINT (n = 4 881)
Médicament	Ticagrelor + AAS vs AAS	Clopidogrel + AAS vs AAS
Suivi	30 jours	90 jours
Récidive ECV * (RRi)	0,83 (0,71-0,96)	0,75 (0,59-0,95)
Saignements majeurs ** (RRi)	3,99 (1,74-9,14)	2,33 (1,10-4,87)
Mortalité totale (RRi)	1,33 (0,81-2,19)	1,51 (0,73-3,13)

* THALES : AVC + mortalité totale, POINT : AVC isch + IM + mortalité CV.
** THALES : GUSTO, POINT : ISTH.

Autopsy Findings and Venous Thromboembolism in Patients With COVID-19: A Prospective Cohort Study

Wichmann D, Sperhake JP, Lutgehetmann M et coll.

Ann Intern Med 2020;173:268-77.



Impact clinique : dans 12 décès consécutifs de la COVID-19, l'autopsie a révélé la présence de 7 thromboses veineuses profondes ; l'EP a été la cause directe de 4 décès.

COVID-19 et autres articles

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- Zhang L, Feng X, Zhang D, et al. Deep Vein Thrombosis in Hospitalized Patients With COVID-19 in Wuhan, China: Prevalence, Risk Factors, and Outcome. Circulation. 2020;142(2):114-128.
- Ren B, Yan F, Deng Z, et al. Extremely High Incidence of Lower Extremity Deep Venous Thrombosis in 48 Patients With Severe COVID-19 in Wuhan. Circulation. 2020;142(2):181-183.
- Bilaloglu S, Aphinyanaphongs Y, Jones S, et al. Thrombosis in Hospitalized Patients With COVID-19 in a New York City Health System. JAMA. 2020;324(8):799-801.
- Lax SF, Skok K, Zechner P, et al. Pulmonary Arterial Thrombosis in COVID-19 With Fatal Outcome : Results From a Prospective, Single-Center, Clinicopathologic Case Series. Ann Intern Med. 2020;173(5):350-361.
- Al-Samkari H, Karp Leaf RS, Dzik WH, et al. COVID-19 and coagulation: bleeding and thrombotic manifestations of SARS-CoV-2 infection. Blood. 2020;136(4):489-500.
- Nadkarni GN, Lala A, Bagiella E, et al. Anticoagulation, Mortality, Bleeding and Pathology Among Patients Hospitalized with COVID-19. J Am Coll Cardiol. 2020;76(16):1815-26.

COVID-19 et autres articles

- Zhang Y, Xiao M, Zhang S, et al. Coagulopathy and Antiphospholipid Antibodies in Patients with Covid-19. N Engl J Med. 2020;382(17):e38.
- Bowles L, Platton S, Yartey N, et al. Lupus Anticoagulant and Abnormal Coagulation Tests in Patients with Covid-19. N Engl J Med. 2020;383(3):288-290.
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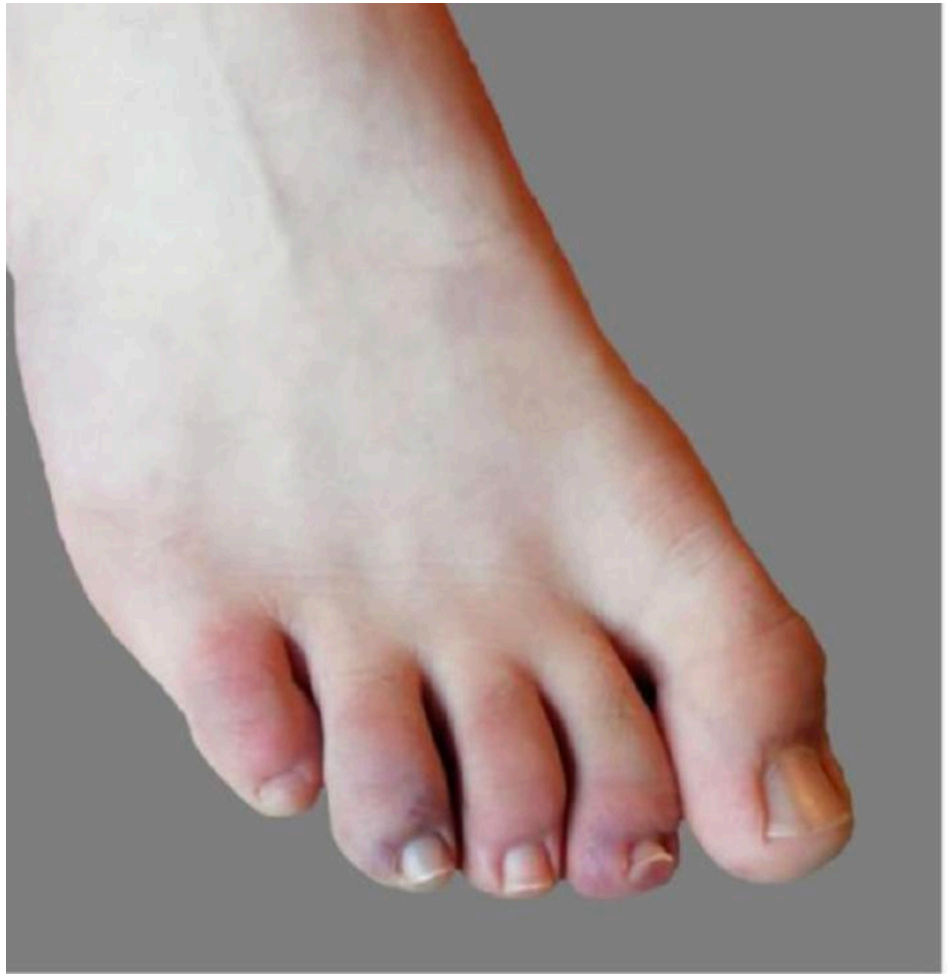
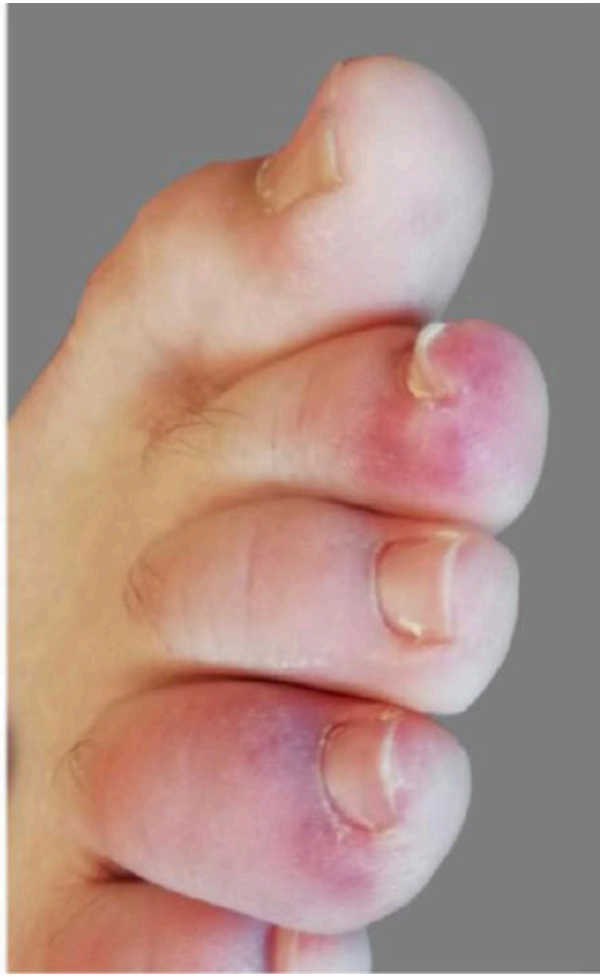
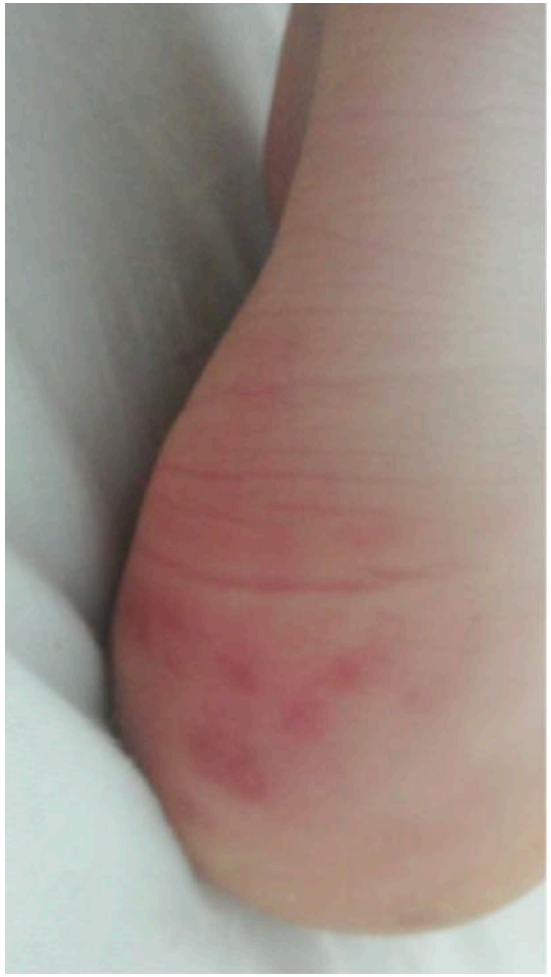
- Merkler AE, Parikh NS, Mir S, et al. Risk of Ischemic Stroke in Patients With Coronavirus Disease 2019 (COVID-19) vs Patients With Influenza. JAMA Neurol. 2020:e202730.
- Bellosta R, Luzzani L, Natalini G, et al. Acute limb ischemia in patients with COVID-19 pneumonia. J Vasc Surg. 2020 :S0741-5214(20)31080-6.

COVID Toe







Dapagliflozin in Patients with Chronic Kidney Disease

Heerspink HJL, Stefánsson BV, Correa-Rotter R et coll.

N Engl J Med 2020;383:1436-46.

Table 2. Primary and Secondary Outcomes and Adverse Events of Special Interest.*

Outcome	Dapagliflozin		Placebo		Hazard Ratio (95% CI)	P Value
	no./total no. (%)	*events/100 patient-yr*	*no./total no. (%)*	*events/100 patient-yr*		
Primary outcome						
Primary composite outcome	197/2152 (9.2)	4.6	312/2152 (14.5)	7.5	0.61 (0.51–0.72)	<0.001
Decline in estimated GFR of ≥50%	112/2152 (5.2)	2.6	201/2152 (9.3)	4.8	0.53 (0.42–0.67)	NA
End-stage kidney disease	109/2152 (5.1)	2.5	161/2152 (7.5)	3.8	0.64 (0.50–0.82)	NA
Estimated GFR of <15 ml/min/1.73 m^2	84/2152 (3.9)	1.9	120/2152 (5.6)	2.8	0.67 (0.51–0.88)	NA
Long-term dialysis†	68/2152 (3.2)	1.5	99/2152 (4.6)	2.2	0.66 (0.48–0.90)	NA
Kidney transplantation†	3/2152 (0.1)	0.1	8/2152 (0.4)	0.2	—	NA
Death from renal causes	2/2152 (<0.1)	0.0	6/2152 (0.3)	0.1	—	NA
Death from cardiovascular causes	65/2152 (3.0)	1.4	80/2152 (3.7)	1.7	0.81 (0.58–1.12)	NA
Secondary outcomes						
Composite of decline in estimated GFR of ≥50%, end-stage kidney disease, or death from renal causes	142/2152 (6.6)	3.3	243/2152 (11.3)	5.8	0.56 (0.45–0.68)	<0.001
Composite of death from cardiovascular causes or hospitalization for heart failure	100/2152 (4.6)	2.2	138/2152 (6.4)	3.0	0.71 (0.55–0.92)	0.009
Death from any cause	101/2152 (4.7)	2.2	146/2152 (6.8)	3.1	0.69 (0.53–0.88)	0.004

NNT = 19
(IC 95 % 14-29)

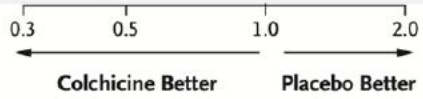
Impact clinique : Chez les sujets avec IRC modérée et albuminurie, le risque d'événement rénal majeur (MAKE) a été diminué avec la dapagliflozine comparativement au placébo.

Colchicine in Patients with Chronic Coronary Disease

Nidorf SM, Fiolet ATL, Mosterd A et coll.

N Engl J Med 2020;383:1838-47.

End Point	Colchicine (N=2762) no. of patients (%)	Colchicine (N=2762) no. of events/100 person-yr	Placebo (N=2760) no. of patients (%)	Placebo (N=2760) no. of events/100 person-yr	Hazard Ratio (95% CI)	P Value
Primary end point						
Cardiovascular death, myocardial infarction, ischemic stroke, or ischemia-driven coronary revascularization	187 (6.8)	2.5	264 (9.6)	3.6	0.69 (0.57–0.83)	<0.001
Secondary end points in ranked order						
Cardiovascular death, myocardial infarction, or ischemic stroke	115 (4.2)	1.5	157 (5.7)	2.1	0.72 (0.57–0.92)	0.007
Myocardial infarction or ischemia-driven coronary revascularization	155 (5.6)	2.1	224 (8.1)	3.0	0.67 (0.55–0.83)	<0.001
Cardiovascular death or myocardial infarction	100 (3.6)	1.3	138 (5.0)	1.8	0.71 (0.55–0.92)	0.01
Ischemia-driven coronary revascularization	135 (4.9)	1.8	177 (6.4)	2.4	0.75 (0.60–0.94)	0.01
Myocardial infarction	83 (3.0)	1.1	116 (4.2)	1.5	0.70 (0.53–0.93)	0.01
Ischemic stroke	16 (0.6)	0.2	24 (0.9)	0.3	0.66 (0.35–1.25)	0.20
Death from any cause	73 (2.6)	0.9	60 (2.2)	0.8	1.21 (0.86–1.71)	
Cardiovascular death	20 (0.7)	0.3	25 (0.9)	0.3	0.80 (0.44–1.44)	
Additional end points						
The primary end point in the first LoDoCo trial	201 (7.3)	2.7	290 (10.5)	4.0	0.67 (0.56–0.81)	
New onset or first recurrence in atrial fibrillation or atrial flutter	126 (4.6)	1.7	148 (5.4)	2.0	0.84 (0.66–1.07)	
Deep-vein thrombosis or pulmonary embolism or both	17 (0.6)	0.2	16 (0.6)	0.2	1.06 (0.53–2.10)	
Any myocardial infarctions	85 (3.1)	1.1	117 (4.2)	1.5	0.72 (0.54–0.95)	
New-onset diabetes	34 (1.2)	—	49 (1.8)	—	0.69 (0.44–1.06)	



NNT = 36
(IC 95 % 24-74)

Impact clinique : Chez les patients avec MCAS stable, la colchicine 0,5 mg die a diminué le risque d'ECV majeurs comparativement au placebo.

Venous Thrombosis during Spaceflight

Aunon-Chancellor SM, Pattarini JM, Moll S, Sargsyan A.

N Engl J Med 2020;382:89-90.

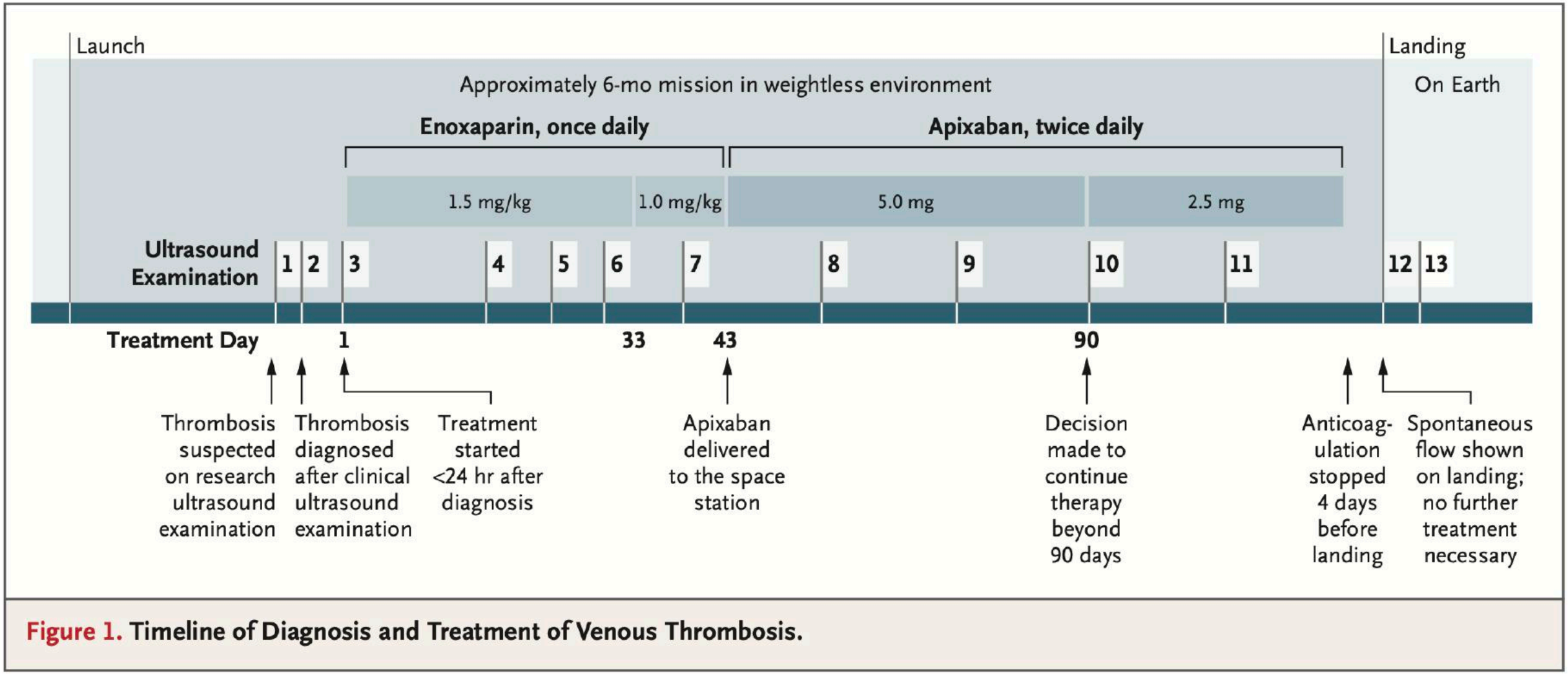


Figure 1. Timeline of Diagnosis and Treatment of Venous Thrombosis.

Impact clinique : si vous allez travailler pour la NASA …

Autres études d’impact (1/6)

Dong YH, Chang CH, Wang JL, et al. Association of Infections and Use of Fluoroquinolones With the Risk of Aortic Aneurysm or Aortic Dissection. JAMA Intern Med. 2020 Sep 8:e204192.

Gopalakrishnan C, Bykov K, Fischer MA, et al. Association of Fluoroquinolones With the Risk of Aortic Aneurysm or Aortic Dissection. JAMA Intern Med. 2020 Sep 8:e204199.

Fralick M, Kim SC, Schneeweiss S, et al. Risk of amputation with canagliflozin across categories of age and cardiovascular risk in three US nationwide databases: cohort study. BMJ. 2020;370:m2812.

Yu OHY, Dell'Aniello S, Shah BR, et al. Sodium-Glucose Cotransporter 2 Inhibitors and the Risk of Below-Knee Amputation: A Multicenter Observational Study. Diabetes Care. 2020;43(10):2444-2452.

Autres études d’impact (2/6)

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Chiarito M, Sanz-Sánchez J, Cannata F, et al. Monotherapy with a P2Y12 inhibitor or aspirin for secondary prevention in patients with established atherosclerosis: a systematic review and meta-analysis. Lancet. 2020;395(10235):1487-95.

Mullen M, Jin XY, Child A, et al. Irbesartan in Marfan syndrome (AIMS): a double-blind, placebo-controlled randomised trial. Lancet. 2019;394(10216):2263-70.

Ray KK, Wright RS, Kallend D, et al; ORION-10 and ORION-11 Investigators. Two Phase 3 Trials of Inclisiran in Patients with Elevated LDL Cholesterol. N Engl J Med. 2020;382(16):1507-1519.

Autres études d’impact (3/6)

Tsapas A, Avgerinos I, Karagiannis T, et al. Comparative Effectiveness of Glucose-Lowering Drugs for Type 2 Diabetes: A Systematic Review and Network Meta-analysis. Ann Intern Med. 2020;173(4):278-86.

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Saint-Maurice PF, Troiano RP, Bassett DR, Jr., et al. Association of Daily Step Count and Step Intensity With Mortality Among US Adults. JAMA. 2020;323(12):1151-60.

Zhao M, Veeranki SP, Magnussen CG, Xi B. Recommended physical activity and all cause and cause specific mortality in US adults: prospective cohort study. BMJ. 2020;370:m2031.

Autres études d’impact (4/6)

Duceppe E, Patel A, Chan MTV, et al. Preoperative N-Terminal Pro-B-Type Natriuretic Peptide and Cardiovascular Events After Noncardiac Surgery: A Cohort Study. Ann Intern Med. 2020;172(2):96-104.

Hess CN, Wang TY, Weleski Fu J, et al. Long-Term Outcomes and Associations With Major Adverse Limb Events After Peripheral Artery Revascularization. J Am Coll Cardiol. 2020;75(5):498-508.

Freisinger E, Koeppe J, Gerss J, et al. Mortality after use of paclitaxel-based devices in peripheral arteries: a real-world safety analysis. Eur Heart J. 2020;41(38):3732-3739

Yang P, Zhang Y, Zhang L, et al. Endovascular Thrombectomy with or without Intravenous Alteplase in Acute Stroke. N Engl J Med. 2020;382(21):1981-93.

Autres études d’impact (5/6)

Edla S, Atti V, Kumar V, et al. Comparison of nationwide trends in 30-day readmission rates after carotid artery stenting and carotid endarterectomy. J Vasc Surg. 2020;71(4):1222-32.

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Schermerhorn ML, Liang P, Eldrup-Jorgensen J, et al. Association of Transcarotid Artery Revascularization vs Transfemoral Carotid Artery Stenting With Stroke or Death Among Patients With Carotid Artery Stenosis. JAMA. 2019;322(23):2313-22.

Autres études d’impact (6/6)

Bricker JB, Watson NL, Mull KE, Sullivan BM, Heffner JL. Efficacy of Smartphone Applications for Smoking Cessation: A Randomized Clinical Trial. JAMA Intern Med. 2020;180(11):1472-80.

Messages clés

- Une année marquée par la COVID-19 …
- Avec plusieurs essais cliniques intéressants en vasculaire, surtout en médecine vasculaire : PEGeD, CARAVAGGIO, VOYAGER-PAD, etc.
- Reste à savoir comment seront appliqués ces résultats en pratique.