The New England Journal Of Medicine

L'ASPIRATION DU THROMBUS DANS LE CAS DU SYNDROME CORONARIEN ST+

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CONTEXTE

- L’effet clinique de l’aspiration du thrombus avant l’angioplastie percutanée chez les patients présentant un syndrome coronarien aigu ST+, est incertain.
- Notre but est d’évaluer l’impact de l’aspiration du thrombus sur la mortalité.

Methodes

- Dans cette étude multicentrique, nous avons assigné au hazard les patients âgés entre 40 et 74 ans présentant des symptômes évocateurs d'un syndrôme coronarien aigu mais sans modifications éléctrocardiographiques ou élévation initiale des troponines lors de l'évaluation standard dans le service des urgences du Lundi au Vendredi entre Avril 2010 et Janvier 2012.
- Le 1er constat était la durée du séjour à l'hopital.
- Les critères secondaires comprenaient le taux de sortie du département des urgences, des évènements cardiovasculaires indésirables au 28ème jour et les coûts cumulatifs.
- Le critère de sécurité était les syndrômes coronariens aigus non détectés.

RESULTAT

- Aucun patient n'a été perdu de vue.
- Décès toute cause confondue est survenu chez 2,8% des patients du groupe thrombus aspiration (103 de 3621), par rapport à 3,0% du groupe PCI (110 de 3623) (ratio 0,94 intervalle de confiance à 95% [IC], 0,72 à 1,22, p = 0,63). Les taux d'hospitalisation pour une récidive d'IDM dans les 30 jours étaient de 0,5% et de 0,9% dans les deux groupes, (ratio 0,61, IC 95%, 0,34 à 1,07, p = 0,09), et les taux de thrombose de stent étaient de 0,2% et 0,5%, respectivement (ratio 0,47, IC 95%, 0,20 à 1,02, p = 0,06). Il n'y avait aucune différence significative entre les groupes en ce qui concerne le taux de complications d'accident vasculaire cérébral ou neurologique au moment de la sortie (P = 0,87). Les résultats étaient les mêmes dans tous les principaux sous-groupes pré-spécifiés, y compris les sous-groupes définis en fonction de la taille du thrombus et le débit coronaire avant l'ICP.

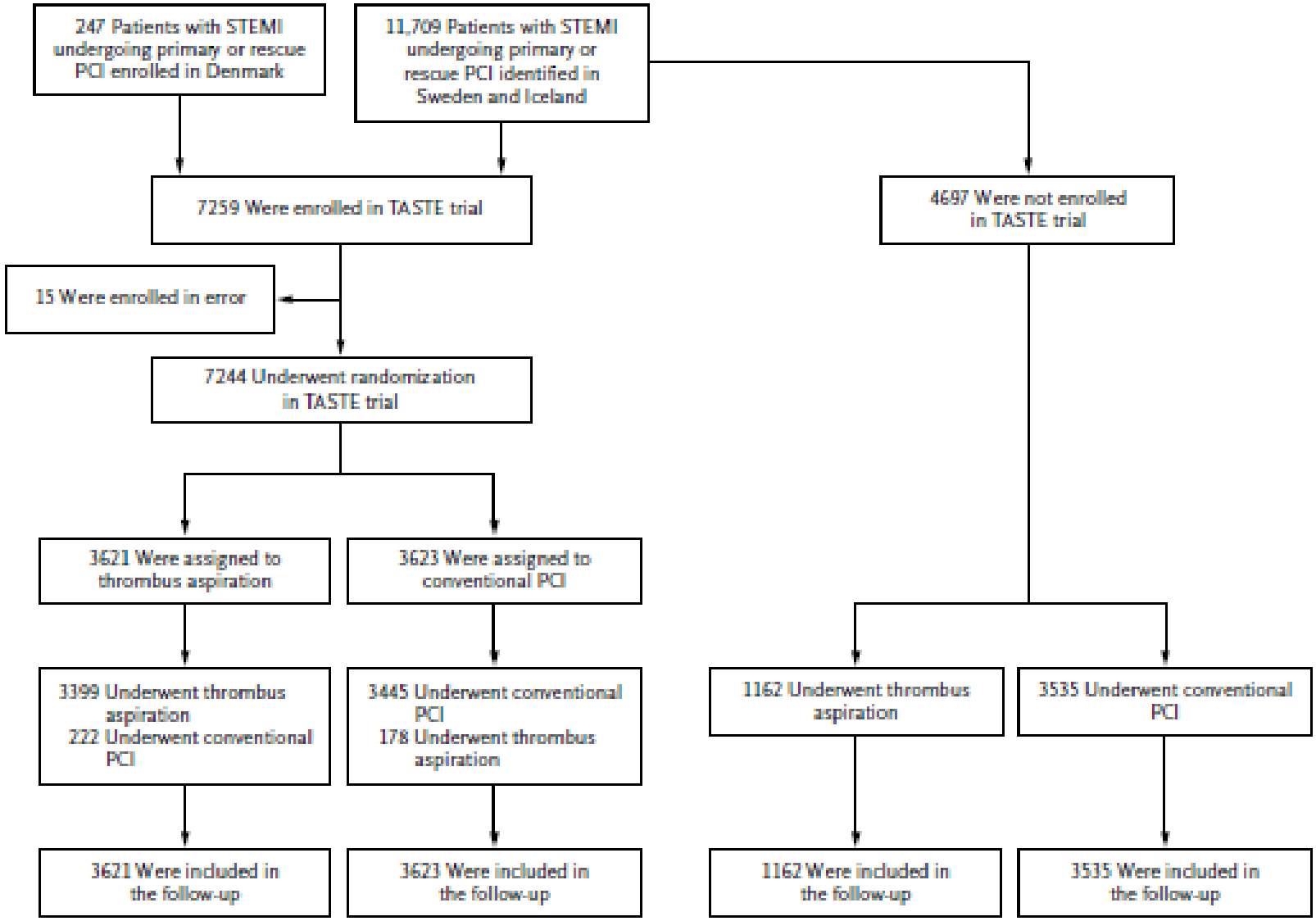

Figure 1. Enrollment, Randomization, and Follow-up.

Patients with ST-segment elevation myocardial infarction (STEMI) who were undergoing percutaneous coronary intervention (PCI) were considered for inclusion in the study. Shown are the numbers of patients who were enrolled in the study, randomly assigned to a study group, and followed up during the study period, as well as the number of patients who were not enrolled in the study (most of whom did not meet the inclusion criteria) but who were followed up during the study period. TASTE denotes Thrombus Aspiration in ST-Elevation Myocardial Infarction in Scandinavia.

Table 1. Baseline Characteristics of the Patients According to Randomization Status and Treatment Group.*

Characteristic	Patients Who Underwent Randomization		Patients Who Did Not Undergo Randomization	
	Thrombus Aspiration (N=3621)	PCI Only (N=3623)	Thrombus Aspiration (N=1162)	PCI Only (N=3535)
Age — yr†	66.5±11.5	65.9±11.7	66.8±13.5	69.4±12.5
Male sex — no. (%)	2721 (75.1)	2703 (74.6)	829 (71.3)	2360 (66.8)
Body-mass index‡	27.2±7.1	27.1±5.2	27.1±8.6	27.0±8.8
Diabetes mellitus — no. (%)	448 (12.4)	453 (12.5)	162 (13.9)	635 (18.0)†
Smoking status — no. (%)†				
Never smoked	1299 (35.9)	1153 (31.8)	362 (31.2)	1259 (35.6)
Former smoker	1037 (28.6)	1058 (29.2)	257 (22.1)	907 (25.7)
Current smoker	1083 (29.9)	1173 (32.4)	317 (27.3)	878 (24.8)
Unknown	202 (5.6)	239 (6.6)	226 (19.4)	491 (13.9)
Hyperlipidemia — no. (%)	753 (20.8)	762 (21.0)	273 (23.5)	951 (26.9)†
Hypertension — no. (%)	1545 (42.7)	1527 (42.1)	500 (43.0)	1782 (50.4)†
Previous myocardial infarction — no. (%)	402 (11.1)	439 (12.1)	191 (16.4)	644 (18.2)†
Previous PCI — no. (%)	337 (9.3)	362 (10.0)	138 (11.9)	438 (12.4)
Previous CABG — no. (%)	70 (1.9)	74 (2.0)	65 (5.6)	167 (4.7)
Therapy before PCI — no. (%)				
Warfarin	60 (1.7)	52 (1.4)	35 (3.0)	86 (2.4)
Heparin	1481 (40.9)	1460 (40.3)	310 (26.7)	1187 (33.6)†
Thrombolysis	69 (1.9)	68 (1.9)	16 (1.4)	100 (2.8)†
Time from symptom onset to PCI — min				
Median	185	182	180	210
Interquartile range	120–330	120–315	116–350	125–412
Time from diagnostic ECG to PCI — min				
Median	67	66	65	72
Interquartile range	48–94	47–93	47–95	50–108
Killip class ≥II — no. (%)	198 (5.5)	183 (5.1)	195 (16.8)	533 (15.1)

* Plus–minus values are means ±SD. There were no significant differences in baseline characteristics between the thrombus-aspiration group and the percutaneous coronary intervention (PCI)–only group in either cohort except as otherwise noted. CABG denotes coronary-artery bypass grafting, and ECG electrocardiogram.

† $P<0.05$ for the comparison between the thrombus-aspiration group and the PCI-only group.

‡ The body-mass index (the weight in kilograms divided by the square of the height in meters) was recorded for 97.5%, 97.5%, 93.6%, and 92.5% of patients in the four groups.

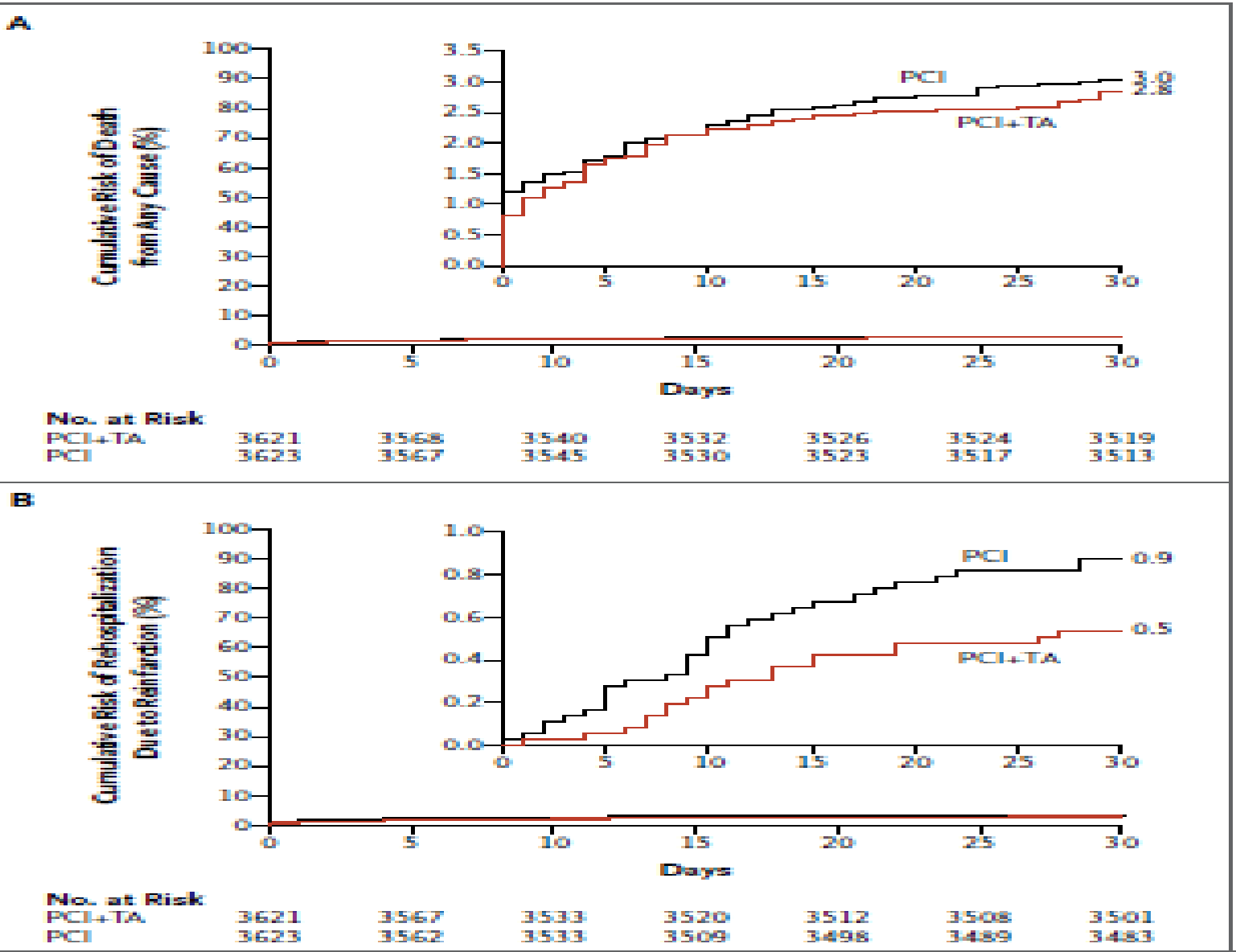

Figure 2. Kaplan—Meier Curves for Death from Any Cause and Hospitalization Due to Reinfarction.

Kaplan—Meier curves are shown for the cumulative probability of death from any cause (Panel A) and of hospitalization due to reinfarction (Panel B) up to 30 days after PCI only (PCI) or after PCI with thrombus aspiration (PCI+TA). The insets show the same data on an enlarged y axis.

Table 2. End Points According to Randomization Status and Treatment Group.

End Point	Patients Who Underwent Randomization				Patients Who Did Not Undergo Randomization	
	Thrombus Aspiration (N=3621)	PCI Only (N=3623)	Point Estimate (95% CI)	PValue	Thrombus Aspiration (N=1162)	PCI Only (N=3535)
30 days						
All-cause death — no./total no. (%)	103/3621 (2.8)	110/3623 (3.0)	Hazard ratio, 0.94 (0.72–1.22)	0.63	124/1138 (10.9)*	362/3442 (10.5)*
Rehospitalization due to reinfarction — no. (%)	19 (0.5)	31 (0.9)	Hazard ratio, 0.61 (0.34–1.07)	0.09	10 (0.9)	38 (1.1)
All-cause death or myocardial infarction — no./total no. (%)	121/3621 (3.3)	140/3623 (3.9)	Hazard ratio, 0.86 (0.67–1.10)	0.23	134/1138 (11.8)*	398/3442 (11.6)*
Stent thrombosis — no. (%)†	9 (0.2)	19 (0.5)	Hazard ratio, 0.47 (0.20–1.02)	0.06	5 (0.4)	18 (0.5)
Target-vessel revascularization — no./total no. (%)	63/3498 (1.8)‡	76/3499 (2.2)‡	Hazard ratio, 0.83 (0.59–1.15)	0.27	30/1162 (2.6)	80/3535 (2.3)
Target-lesion revascularization — no./total no. (%)	43/3498 (1.2)‡	57/3499 (1.6)‡	Hazard ratio, 0.75 (0.51–1.12)	0.16	25/1162 (2.2)	64/3535 (1.8)
Index hospitalization						
Stroke or neurologic complication — no. (%)	19 (0.5)	18 (0.5)	Odds ratio, 1.06 (0.55–2.02)	0.87	12 (1.0)	32 (0.9)
Perforation or tamponade — no. (%)	13 (0.4)	14 (0.4)	Odds ratio, 0.93 (0.44–1.98)	0.85	7 (0.6)	13 (0.4)
Heart failure — no. (%)	245 (6.8)	234 (6.5)	Odds ratio, 1.05 (0.87–1.27)	0.60	125 (10.8)	353 (10.0)
Left ventricular function — no. (%)§				0.33		
Normal	1572 (43.4)	1614 (44.5)			390 (33.6)	1374 (38.9)
Slightly reduced	853 (23.6)	822 (22.7)			291 (25.0)	699 (19.8)
Moderately reduced	526 (14.5)	495 (13.7)			190 (16.4)	523 (14.8)
Severely reduced	137 (3.8)	157 (4.3)			102 (8.8)	255 (7.2)
Unknown	533 (14.7)	535 (14.8)			189 (16.3)	684 (19.3)
Target-lesion revascularization — no./total no. (%)	37/3498 (1.1)‡	42/3499 (1.2)‡	Odds ratio, 0.88 (0.56–1.37)	0.57	22/1162 (1.9)	43/3535 (1.2)
Length of hospital stay — no. (%)				0.40¶		
1–3 days	501 (13.8)	493 (13.6)			146 (12.6)	535 (15.1)
4–7 days	2661 (73.5)	2670 (73.7)			713 (61.4)	2167 (61.3)
8–30 days	437 (12.1)	430 (11.9)			254 (21.9)	703 (19.9)
>30 days	12 (0.3)	23 (0.6)			14 (1.2)	43 (1.2)

* Patients from Sweden were included in this analysis; patients from Iceland and Denmark were not included.
† Stent thrombosis was defined as angiographically verified stent occlusion with an acute clinical presentation.
‡ Patients from Sweden and Iceland were included in this analysis; patients from Denmark were not included.
§ Left ventricular function was considered to be normal if the left ventricular ejection fraction (LVEF) was 50% or more, slightly reduced if the LVEF was 40 to 49%, moderately reduced if the LVEF was 30 to 39%, and severely reduced if the LVEF was less than 30%.
¶ This P value was calculated with the use of a Wilcoxon rank-sum test.

CONCLUSION

- L’aspiration de routine du thrombus avant PCI, par rapport à PCI seule n'a pas réduit la mortalité à 30 jours chez les patients atteints de syndrome coronarien ST+ .