The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Amiodarone, Lidocaine, or Placebo in Out-of-Hospital Cardiac Arrest

P.J. Kudenchuk, S.P. Brown, M. Daya, T. Rea, G. Nichol, L.J. Morrison, B. Leroux, C. Vaillancourt, L. Wittwer, C.W. Callaway, J. Christenson, D. Egan, J.P. Ornato, M.L. Weisfeldt, I.G. Stiell, A.H. Idris, T.P. Aufderheide, J.V. Dunford, M.R. Colella, G.M. Vilke, A.M. Brienza, P. Desvigne-Nickens, P.C. Gray, R. Gray, N. Seals, R. Straight, and P. Dorian, for the Resuscitation Outcomes Consortium Investigators*

- Hasta: Hastane dışı non-travmatik defibrilasyona dirençi VF/VT arresti.
- Uygulama: Amiodarone (300 mg)
- Karşılaştırma: Lidokain (120 mg) & Plasebo
- Sonuç: Hastaneden taburculuk, nörolojik sonuç

Table 3. Outcomes According to Trial Group in the Per-Protocol Population.*

Outcome	Amiodarone (N=974)	Lidocaine (N=993)	Placebo (N=1059)	Amiodarone vs. Placebo		Lidocaine vs. Placebo		Amiodarone vs. Lidocaine	
				Difference (95% CI)	P Value	Difference (95% CI)	P Value	Difference (95% CI)	P Value
				percentage points		*percentage points*		*percentage points*	
Primary outcome: survival to discharge — no./total no. (%)†	237/970 (24.4)	233/985 (23.7)	222/1056 (21.0)	3.2 (−0.4 to 7.0)	0.08	2.6 (−1.0 to 6.3)	0.16	0.7 (−3.2 to 4.7)	0.70
Secondary outcome: modified Rankin score ≤3 — no./total no. (%)‡	182/967 (18.8)	172/984 (17.5)	175/1055 (16.6)	2.2 (−1.1 to 5.6)	0.19	0.9 (−2.4 to 4.2)	0.59	1.3 (−2.1 to 4.8)	0.44

Ketamin ve Ağrı

Academic Emergency Medicine
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STRUCTURED EVIDENCE-BASED MEDICINE REVIEWS

The Use of Subdissociative-dose Ketamine for Acute Pain in the Emergency Department

Billy Sin, PharmD, Theologia Ternas, PharmD, and Sergey M. Motov, MD

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Objectives: Ketamine is a well-known anesthetic with its use trailing back to the 1960s. It has antagonistic effects at the *N*-methyl-D-aspartate receptor. There is emerging literature to suggest the use of subdissociative-dose ketamine (SDDK) for pain reduction. This evidence-based review evaluates the evidence regarding the use of SDDK for acute pain control in the emergency department (ED).

Methods: The MEDLINE and EMBASE databases were searched. Randomized controlled trials (RCTs) that described or evaluated the use of SDDK for acute pain in the ED were included. Literature was excluded if it was not published in English. Duplicate articles, unpublished reports, abstracts, and review articles were also excluded. Quality assessment and evaluation of literature were evaluated based on the GRADE criteria. The primary outcome of interest in this review was the difference in pain score from baseline to cutoff time as specified in the studies. Secondary outcome measures were the incidence of adverse events and reduction in the amount of adjuvant opioids consumed by patients who received SDDK.

Results: Four RCTs met the inclusion criteria, which enrolled a total of 428 patients. Three adult trials and one pediatric trial were identified. The level of evidence for the individual trials ranged from low to moderate. A significant reduction in pain scores was only found in two of the four trials. One trial found a significant reduction in mean pain scores when ketamine was compared to morphine ($p < 0.05$). Another trial reported a significant decrease in mean distress scores, favoring SDDK over fentanyl (1.0 vs. 2.7, $p < 0.05$). One trial found a significant reduction in the amount of morphine consumed, favoring ketamine over placebo (0.14 mg/kg, 95% confidence interval [CI] = 0.13 to 0.16 mg/kg vs. 0.2 mg/kg, 95% CI = 0.18 to 0.22 mg/kg; $p < 0.001$). An emergence phenomenon was reported in one trial.

Conclusions: Four RCTs with methodologic limitations failed to provide convincing evidence to either support or refute the use of SDDK for acute pain control in the ED.

Reference	Randomization	Blinding	Baseline Comparison	Duration of Follow-up	Cointervention	Adequate Sample Size Attained	Assigned Level of Evidence
Messenger et al., 2008[16]	Yes	Double-blind	Yes	Until deemed recovered from procedure. No mention of follow up method for discharge patients.	Both groups received propofol 0.4 mg/kg IV, then 0.1 mg/kg IV every 30 seconds until sedation.	No	Low
Galinski et al., 2007[17]	Yes	Double-blind	Yes	30 minutes after administration of study interventions. No mention of follow-up method for discharge patients.	Both groups received morphine 3 mg IV every 5 minutes until pain relief.	Yes	Moderate
Kennedy et al., 1998[18]	Yes	No	Yes	Up to ED discharge. Discharged patient had a 1-week follow-up questionnaire. No mention of loss to follow-up.	Midazolam 0.1 mg/kg (max 2.5 mg) IV every 3 minutes until sedation.	Yes	Low
Gurnani et al., 2007[19]	No	Double-blind	Yes	24 hours. No mention of follow up method for discharge patients.	Morphine 3 mg IV was provided if inadequate analgesia reported.	No data provided	Low

Summary of the Difference in Pain Scores From Baseline to the Cutoff Time as Specified in Randomized Trials

Study	Parameter	Result	Conclusion
Messenger et al., 2008[16]	Pain score during procedure (mean ± SD)	Ketamine 2.1 ± 2.2 vs. fentanyl 2.3 ± 2.0 (95% CI = −1.3 to 0.8)	No significant difference found
Galinski et al., 2007[17]	Mean VAS at 30 minutes after study intervention	Ketamine 34.1 (25.6 to 42.6) vs. placebo 39.5 (95% CI = 32.4 to 46.6), $p > 0.05$	No significant difference found
Kennedy et al., 1998[18]	OSBD-R scores during procedure (mean ± sd)	Ketamine 1.08 ± 1.12 vs. fentanyl 2.70 ± 2.16, $p < 0.05$ (95% CI not reported)	Patients who received ketamine had significant reduction in mean OSBD-R scores
Gurnani et al., 2007[19]	Mean VAS throughout 24 hours	Results shown in graphic comparison, individual values not reported (95% CI not reported)	Patients who received ketamine had a significant reduction in mean VAS

OSBD-R = Observational Scale of Behavioral Distress–Revised; VAS = visual analogue scale.

Table 4
Summary of the Incidence (%) of Adverse Events in Patients Who Received Ketamine

Study	Dizziness	Fatigue	Nausea	Vomiting	Neuropsychological
Messenger et al., 2008[16]	0	0	0	0	0
Galinski et al., 2007[17]	0	0	8 (6)*	0	12 (36)†
Kennedy et al., 1998[18]	0	0	0	11 (9)	7 (5)‡
Gurnani et al., 2007[19]	0	0	0	0	2 (10)

*Nausea and vomiting were reported as one category.
†Description of the reported neuropsychological events not provided by study authors.
‡Emergence phenomenon was observed in all reported events.

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Original Contribution

Low-dose ketamine vs morphine for acute pain in the ED: a randomized controlled trial☆,☆☆

Joshua P. Miller, MD [a,b,*], Steven G. Schauer, DO [a,c], Victoria J. Ganem, RN, BSN [d], Vikhyat S. Bebarta, MD [d]

- Hasta: 18-59 yaş arası abdominal, flank, bel ve eksremite ağrısı ile başvuran hastalar.
- Uygulama: 0.3 mg/kg ketamin 5 dk infüzyon
- Karşılaştırma: Morfin, 0.1mg/kg
- Sonuç: NRS
- 20 hasta vs 20 hasta

Table 2
NRS pain score: raw change from baseline by treatment group

Time	Morphine (95% CI)	Low-dose ketamine (95% CI)
T5	−3 (−3.9, −2.1)	**−4.9 (−5.8, −4)**
T10	−3.4 (−4.4, −2.5)	−4.3 (−5.5, −3.1)
T20	−3.3 (−4.4, −2.2)	−3.2 (−4.4, −2.1)
T40	−4.5 (−5.6, −3.5)	−3.7 (−5.2, −2.3)
T60	−4.8 (−5.8, −3.8)	−3.5 (−5.4, −1.6)
T80	−4.4 (−5.9, −2.9)	−3.9 (−6.1, −1.6)
T100	**−5 (−6.6, −3.5)**	−4.1 (−6.8, −1.5)
T120	−5 (−7.1, −2.9)	−3.6 (−6.1, −1)

T5 was 5 minutes after drug administration. T120 was 120 minutes after drug administration and end of our observation period. Bolded texts emphasize time of maximum change in NRS pain score from baseline for each group: morphine (T100) and low-dose ketamine (T5).

Table 3
Repeat dosing of analgesia reported by treatment group

	Morphine	Low-dose ketamine	*P*	Total
Second dose, n (%)			.37[a]	
Yes	8 (38)	13 (54)		21 (47)
No	13 (62)	11 (46)		24 (53)
Total	21	24		45
Third dose, n (%)			.47[b]	
Yes	3 (14)	6 (25)		9 (20)
No	18 (86)	18 (75)		36 (80)
Total	21	24		45

[a] χ^2 Test.
[b] Fisher exact test.

Table 4
Adverse effects reported by total events

Adverse effects	Morphine (n = 8)	Low-dose ketamine (n = 12)	Total
Nausea	2	3	5
Dysphoria	0	4	4
Hallucinations	0	3	3
Dizziness	1	2	3
Headache	3	0	3
Drowsiness	2	0	2
Vomiting	1	1	2
Lightheaded	1	0	1
Decreased oxygen saturation	1	0	1
Numbness	0	1	1
Pruritus	1	0	1
Total	12	14	26

n = number of patients experiencing an adverse effect. Some patients reported multiple adverse effects.

Intravenous Subdissociative-Dose Ketamine Versus Morphine for Analgesia in the Emergency Department: A Randomized Controlled Trial

Sergey Motov, MD*; Bradley Rockoff, MD; Victor Cohen, PharmD; Illya Pushkar, MPH; Antonios Likourezos, MA, MPH; Courtney McKay, PharmD; Emil Soleyman-Zomalan, MD; Peter Homel, PhD; Victoria Terentiev, BA; Christian Fromm, MD

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- Hasta: abdominal, flank, bel/sırt, muskuloskeletal ağrı
- Uygulama: 0.3 mg/kg ketamin
- Karşılaştırma: 0.1mg/kg morfin
- Sonuç: 30, 60, 120 dk NRS
- 45 vs 45 hasta

Time Interval*	Group		Difference (95% CI)
	Ketamine	Morphine	
Pain NRS, mean (SD)			
Baseline	8.6 (1.5)	8.5 (1.5)	0.1 (−0.46 to 0.77)
15	3.2 (3.5)	4.2 (2.9)	−1.0 (−2.40 to 0.31)
30	4.1 (3.2)	3.9 (3.1)	0.2 (−1.19 to 1.46)†
60	4.8 (3.2)	3.4 (3.0)	1.4 (0.13 to 2.75)
90	4.8 (3.1)	3.9 (3.1)	0.9 (−0.37 to 2.28)
120	3.9 (2.9)	3.7 (2.9)	0.2 (−1.09 to 1.46)
Complete resolution of pain, No. (%)			
15	20 (44)	6 (13)	31 (13.1 to 49.2)
30	12 (27)	11 (24)	3 (−16.3 to 20.7)
60	9 (21)	12 (27)	−6 (−25.6 to 11.6)
90	7 (16)	9 (21)	−5 (−21.5 to 12.2)
120	9 (22)	9 (21)	1 (−17.7 to 18.8)
Reduction of 3+ NRS, No. (%)			
15	34 (75)	31 (69)	6 (−12.3 to 25.6)
30	33 (73)	31 (69)	4 (−14.7 to 23.6)
60	25 (58)	33 (77)	−19 (−38.5 to 1.3)
90	23 (54)	33 (77)	−23 (−43.3 to −3.2)
120	29 (71)	33 (79)	−8 (−27.0 to 11.3)
Fentanyl rescue incidence, No. (%)			
15	0	0	0
30	4 (9)	1 (2)	7 (−2.9 to 16.3)
60	4 (9)	6 (14)	−5 (−18.1 to 9.0)
90	5 (11)	5 (12)	−1 (−13.1 to 14.1)
120	12 (29)	5 (12)	17 (0.8 to 34.2)

Table 3. Adverse effects.

Time Interval	Group*		Difference (95% CI)
	Ketamine	Morphine	
Report of any adverse effect			
Postinjection	33 (73)	23 (51)	22 (2.2 to 42.2)
15 min	31 (69)	14 (31)	38 (18.2 to 57.4)
30 min	16 (36)	15 (33)	3 (−17.9 to 22.3)
Most common adverse effects			
Dizziness			
Postinjection	24 (53)	14 (31)	22 (1.8 to 42.6)
15 min	19 (42)	9 (20)	22 (3.2 to 41.3)
30 min	8 (18)	6 (13)	5 (−10.9 to 19.8)
Disorientation			
Postinjection	13(29)	1 (2)	27 (12.4 to 40.9)
15 min	5 (11)	0	11 (1.7 to 20.5)
30 min	1 (2)	0	2 (−2.2 to 6.6)
Mood changes			
Postinjection	6 (13)	1 (2)	11 (0 to 22.2)
15 min	5 (11)	0	11 (1.7 to 20.5)
30 min	1 (2)	0	2 (−2.2 to 6.6)
Nausea			
Postinjection	4 (9)	4 (9)	0 (−12.1 to 12.1)
15 min	8 (18)	5 (11)	7 (−8.2 to 21.5)
30 min	6 (13)	9 (20)	−7 (−22.4 to 9.1)

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Low-Dose versus Standard-Dose Intravenous Alteplase in Acute Ischemic Stroke

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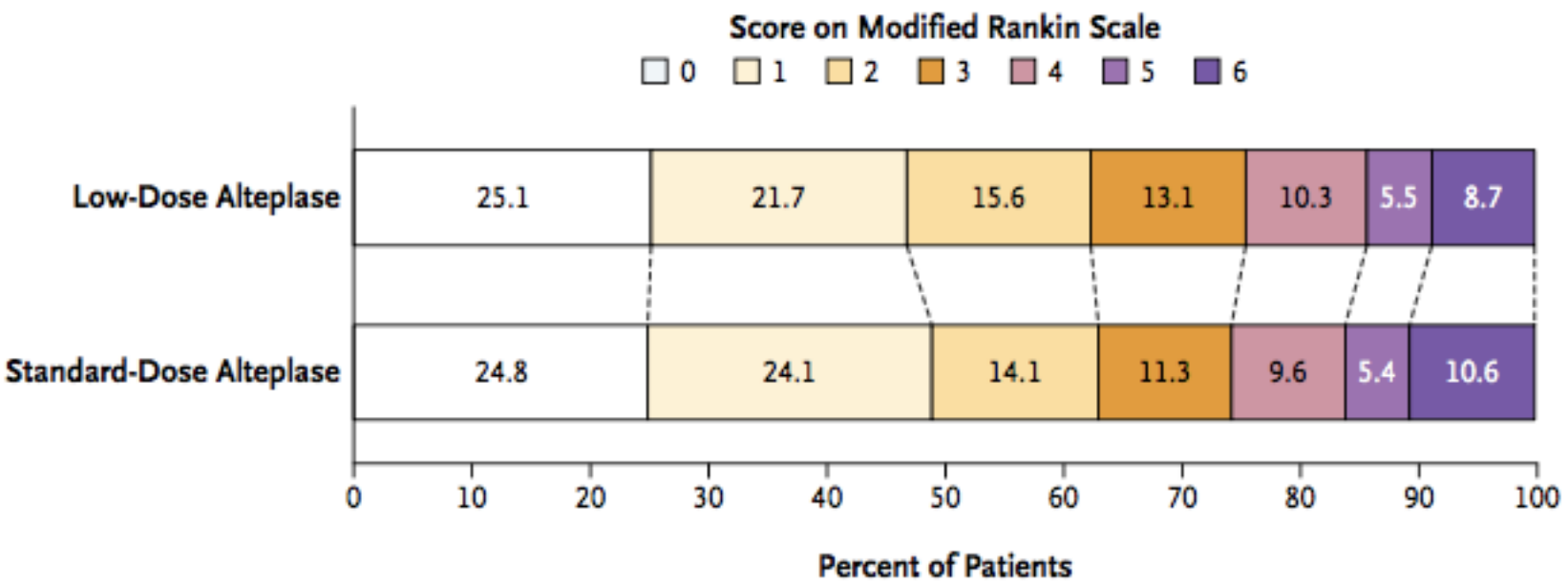
- Hasta: İlk 4.5 saatteki iskemik inme
- Uygulama: 0.9 mg/kg t-PA
- Karşılaştırma: 0.6 mg/kg t-PA
- Sonuç: 90. günde MRS 0-1
- Open label study

Table 2. Primary and Secondary Outcomes at 3 Months.*

Outcome	Low-Dose Alteplase (N=1654)	Standard-Dose Alteplase (N=1643)	Odds Ratio with Low-Dose Alteplase (95% CI)	P Value†	P Value for Noninferiority‡
Primary outcome: death or disability — no./total no. (%)§	855/1607 (53.2)	817/1599 (51.1)	1.09 (0.95 to 1.25)		0.51
Secondary outcomes					
Symptomatic intracerebral hemorrhage — no. (%)					
By SITS-MOST criteria¶	17 (1.0)	35 (2.1)	0.48 (0.27 to 0.86)	0.01	
By NINDS criteria‖	98 (5.9)	131 (8.0)	0.73 (0.55 to 0.95)	0.02	
Score on the modified Rankin scale — no./total no. (%)			1.00 (0.89 to 1.13)**		0.04
0: No symptoms at all	403/1607 (25.1)	397/1599 (24.8)			
1: No substantive disability despite symptoms	349/1607 (21.7)	385/1599 (24.1)			
2: Slight disability	250/1607 (15.6)	225/1599 (14.1)			
3: Moderate disability requiring some help	211/1607 (13.1)	181/1599 (11.3)			
4: Moderate–severe disability requiring assistance with daily living	165/1607 (10.3)	154/1599 (9.6)			
5: Severe disability, bed-bound and incontinent	89/1607 (5.5)	87/1599 (5.4)			
6: Death	140/1607 (8.7)	170/1599 (10.6)			
Death or major disability — no./total no. (%)††	605/1607 (37.6)	592/1599 (37.0)	1.03 (0.89 to 1.19)	0.73	



Subgroup	Low-Dose Alteplase	Standard-Dose Alteplase	Odds Ratio (95% CI)	P Value for Interaction
	no. (%)			
Age				0.20
<65 yr	302 (43.9)	301 (44.3)	0.98 (0.79–1.22)	
≥65 yr	553 (60.2)	516 (56.1)	1.18 (0.98–1.42)	
Sex				0.53
Male	503 (50.9)	480 (48.0)	1.12 (0.94–1.34)	
Female	352 (57.0)	337 (56.4)	1.02 (0.82–1.29)	
Race				0.82
Asian	527 (51.5)	500 (49.0)	1.10 (0.93–1.31)	
Non-Asian	328 (56.4)	317 (54.7)	1.07 (0.85–1.35)	
Time from stroke onset to randomization				0.63
<3 hr	536 (54.5)	497 (51.8)	1.12 (0.93–1.34)	
≥3 hr	319 (51.1)	320 (50.1)	1.04 (0.84–1.30)	

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

One-Year Risk of Stroke after Transient Ischemic Attack or Minor Stroke

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- 2009-2011 yılları arasında 21 ülke 61 merkezde (stroke centre) 4789 TIA ve minör stroke hastası
- 90 gün sonunda stroke oranı %3.7
- 7. günde %2.1
- $ABCD^2$ 0-3 – 2%, 4-5 - 4% and 6-7 ise 4%'ün üzerinde 30 gün sonunda stroke oranına sahiplar.
- Bu sonuçar birinci yıl sonunda daha da belirgin; özellikle $ABCD^2$ skoru 6-7 olan hastalar için.

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Ticagrelor versus Aspirin in Acute Stroke or Transient Ischemic Attack

S. Claiborne Johnston, M.D., Ph.D., Pierre Amarenco, M.D., Gregory W. Albers, M.D., Hans Denison, M.D., Ph.D., J. Donald Easton, M.D., Scott R. Evans, Ph.D., Peter Held, M.D., Ph.D., Jenny Jonasson, Ph.D., Kazuo Minematsu, M.D., Ph.D., Carlos A. Molina, M.D., Yongjun Wang, M.D., and K.S. Lawrence Wong, M.D., for the SOCRATES Steering Committee and Investigators*

- Hasta: minör stroke ve TİA
- Uygulama: 180 mg ticagrelor (90 mg, 2*1, 90 gün)
- Karşılaştırma: 300 mg aspirin (100 mg, 1*1, 90 gün)
- Outcome: 90 günde; stroke, MI, ölüm

Table 2. Efficacy and Safety Outcomes.

Outcome	Ticagrelor (N=6589)		Aspirin (N=6610)		Hazard Ratio (95% CI)	P Value
	no. of patients (%)	*event rate**	*no. of patients (%)*	*event rate**		
Primary end point						
Stroke, myocardial infarction, or death	442 (6.7)	6.8	497 (7.5)	7.5	0.89 (0.78–1.01)	0.07
Secondary end points†						
Ischemic stroke	385 (5.8)	5.9	441 (6.7)	6.6	0.87 (0.76–1.00)	0.046‡
Ischemic stroke, myocardial infarction, or cardiovascular death	423 (6.4)	6.5	475 (7.2)	7.2	0.89 (0.78–1.01)	0.07
All stroke	390 (5.9)	6.0	450 (6.8)	6.8	0.86 (0.75–0.99)	0.03‡
Disabling stroke§	277 (4.2)	4.2	307 (4.6)	4.7	0.90 (0.77–1.06)	0.21
Fatal stroke	18 (0.3)	0.3	17 (0.3)	0.3	1.06 (0.55–2.06)	0.86
Myocardial infarction	25 (0.4)	0.4	21 (0.3)	0.3	1.20 (0.67–2.14)	0.55
Death	68 (1.0)	1.0	58 (0.9)	0.9	1.18 (0.83–1.67)	0.36
Cardiovascular death	41 (0.6)	0.6	35 (0.5)	0.5	1.18 (0.75–1.85)	0.48
Net clinical outcome: stroke, myocardial infarction, death, or life-threatening bleeding	457 (6.9)	7.0	508 (7.7)	7.6	0.90 (0.79–1.02)	0.09
Safety end points¶						
Major bleeding	31 (0.5)	0.5	38 (0.6)	0.6	0.83 (0.52–1.34)	0.45

An Age-Adjusted D-dimer Threshold for Emergency Department Patients With Suspected Pulmonary Embolus: Accuracy and Clinical Implications

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Study objective: We determine the accuracy of an age-adjusted D-dimer threshold to detect pulmonary embolism in emergency department (ED) patients older than 50 years and describe current ED practices when evaluating possible pulmonary embolism.

Methods: This was a retrospective study of ED encounters for suspected pulmonary embolism from 2008 to 2013. We used structured data to calculate the sensitivity, specificity, negative predictive value, and positive predictive value of different D-dimer thresholds. We describe the incidence of pulmonary embolism, the proportion of patients receiving imaging concordant with D-dimer levels, and the number of "missed" pulmonary embolisms. These findings were used to estimate patient outcomes based on different D-dimer thresholds.

Results: Among 31,094 encounters for suspected pulmonary embolism, there were 507 pulmonary embolism diagnoses. The age-adjusted D-dimer threshold was more specific (64% versus 54%) but less sensitive (93% versus 98%) than the standard threshold of 500 ng/dL; 11,999 imaging studies identified 507 pulmonary embolisms (4.2%); of these, 1,323 (10.6%) were performed with a D-dimer result below the standard threshold. Among patient encounters

Threshold		PE	No PE	Total
500 ng/dL	Pos	497	13,937	14,434
	Neg	10[†]	16,650	16,660
		507	30,587	31,094
1,000 ng/dL	Pos	427	7,521	7,948
	Neg	80[†]	23,066	23,146
		507	30,587	31,094
Age-adjusted	Pos	471	11,039	11,510
	Neg	36[†]	19,548	19,584
		507	30,587	31,094

	% (95% CI)				
Threshold	Sensitivity	Specificity	PPV	NPV	False Negative
500 ng/dL	98.0 (96.4–84.2)	54.4 (53.9–55.0)	3.4 (3.2–3.8)	99.9 (99.9–100)	2.0 (1.0–3.6)
1,000 ng/dL	84.2 (80.8–87.3)	75.4 (74.9–75.9)	5.4 (4.9–5.9)	99.7 (99.6–99.7)	15.8 (12.7–19.3)
Age adjusted	92.9 (90.3–95.0)	63.9 (63.4–64.5)	4.1 (3.7–4.5)	99.8 (99.8–99.9)	7.1 (5.0–9.7)

Delivering safe and effective analgesia for management of renal colic in the emergency department: a double-blind, multigroup, randomised controlled trial

Sameer A Pathan, Biswadev Mitra, Lahn D Straney, Muhammad Shuaib Afzal, Shahzad Anjum, Dharmesh Shukla, Kostantinos Morley, Shatha A Al Hilli, Khalid Al Rumaihi, Stephen H Thomas, Peter A Cameron

Summary

Background The excruciating pain of patients with renal colic on presentation to the emergency department requires effective analgesia to be administered in the shortest possible time. Trials comparing intramuscular non-steroidal anti-inflammatory drugs with intravenous opioids or paracetamol have been inconclusive because of the challenges associated with concealment of randomisation, small sample size, differences in outcome measures, and inadequate masking of participants and assessors. We did this trial to develop definitive evidence regarding the choice of initial analgesia and route of administration in participants presenting with renal colic to the emergency department.

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See Online/Comment
http://dx.doi.org/10.1016/S0140-6736(16)00745-5

	Diclofenac (n=547)	Paracetamol (n=548)	Morphine (n=549)	p value
Median pain scores				
NRS-0	8 (7–10)	8 (7–10)	8 (7–10)	0·1689
NRS-30	3 (2–5)	3 (2–5)	4 (2–5)	0·0049
NRS-60	0 (0–2)	1 (0–3)	1 (0–4)	0·0001
NRS-90	0 (0–1)	0 (0–2)	0 (0–2)	0·0001
Time to NRS score ≤2 (min)	60 (30–60)	60 (30–90)	60 (30–90)	0·0008
Primary outcome				
Reduction in initial pain by ≥50%, at 30 min	371 (68%)	364 (66%)	335 (61%)	0·041
OR (95% CI); p value	1·35 (1·05–1·73); 0·0187	1·26 (0·99–1·62); 0·0629	1	..
Secondary outcomes				
NRS-30	3·3 (2·3)	3·3 (2·4)	3·8 (2·6)	0·0049
Reduction by NRS score ≥3, at 30 min	448 (82%)	448 (82%)	429 (78%)	0·190
Rescue analgesia required	63 (12%)	111 (20%)	126 (23%)	<0·0001
Persistent pain at 60 min (NRS >2)	131 (24%)	162 (30%)	207 (38%)	<0·0001
Acute adverse events	7 (1%)	7 (1%)	19 (3%)	0·012

Data are median (IQR), n (%), or mean (SD). The number with the NRS score indicates the time the NRS score was measured at—eg, NRS-30 is the NRS score measured at 30 min. NRS=Numerical pain Rating Scale.

Table 2: **Primary and secondary outcomes in the intention-to-treat population**

Article

AMERICAN ORTHOPAEDIC FOOT & ANKLE SOCIETY.

Foot & Ankle International®
1–5

DOI: 10.1177/1071100716650530
fai.sagepub.com

Topical Ketoprofen Versus Placebo in Treatment of Acute Ankle Sprain in the Emergency Department

Mustafa Serinken, MD[1], Cenker Eken, MD[2], and Hayri Elicabuk, MD[3]

Table 1. Change in Pain Intensity at 15 and 30 Minutes for Each Study Arm.

Variable	Placebo Group	Ketoprofen Group
Visual analog scale		
Median with IQR		
Baseline	63.5 (55-70)	64.5 (55-77)
15 min	51 (40-60)	36 (21-50)
30 min	40 (30-52)	21 (13-34)
Change from baseline (VAS)		
Median differences with 95% CI		
15 min	9 (7.6-17)	27 (19.8-33.4)
30 min	20 (17.6-24.4)	42 (36-50.8)

Table 2. Differences of Pain Improvement Between 2 Groups at 15 and 30 Minutes.

Variable	Placebo Versus Ketoprofen	*P* Value
Differences from baseline to 15 min		
Mean (95% CI)	16 (10.2-21.8)	<.0001
Median (95% CI)	16 (9-22)	<.0001
Differences from baseline to 30 min		
Mean (95% CI)	19.8 (14-25.7)	<.0001
Median (95% CI)	21 (15-27)	<.0001

Abbreviation: CI, confidence interval.

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journal homepage: www.elsevier.com/locate/ajem

Original Contribution

Ketoprofen gel improves low back pain in addition to intravenous dexketoprofen: a randomized placebo-controlled trial☆,☆☆,★

Mustafa Serinken, MD [a], Cenker Eken, MD [b,*], Kamil Tunay, MD [c], Yalcin Golcuk, MD [d]

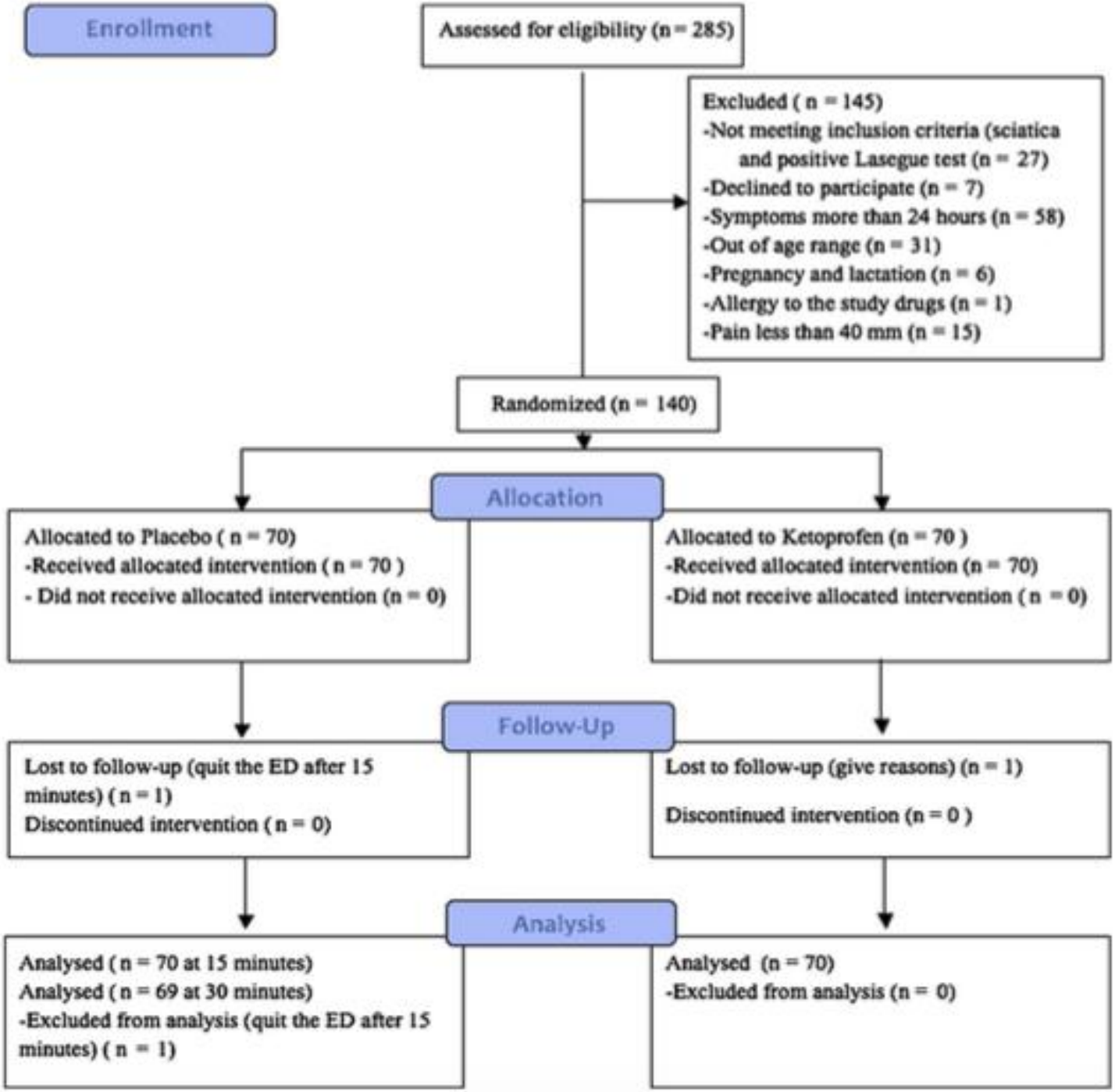
Enrollment
Assessed for eligibility (n = 285)
Excluded (n = 145)
-Not meeting inclusion criteria (sciatica and positive Lasegue test (n = 27)
-Declined to participate (n = 7)
-Symptoms more than 24 hours (n = 58)
-Out of age range (n = 31)
-Pregnancy and lactation (n = 6)
-Allergy to the study drugs (n = 1)
-Pain less than 40 mm (n = 15)
Randomized (n = 140)
Allocation
Allocated to Placebo (n = 70)
-Received allocated intervention (n = 70)
- Did not receive allocated intervention (n = 0)
Allocated to Ketoprofen (n = 70)
-Received allocated intervention (n = 70)
-Did not receive allocated intervention (n = 0)
Follow-Up
Lost to follow-up (quit the ED after 15 minutes) (n = 1)
Discontinued intervention (n = 0)
Lost to follow-up (give reasons) (n = 1)
Discontinued intervention (n = 0)
Analysis
Analysed (n = 70 at 15 minutes)
Analysed (n = 69 at 30 minutes)
-Excluded from analysis (quit the ED after 15 minutes) (n = 1)
Analysed (n = 70)
-Excluded from analysis (n = 0)

Table 1
Visual analog scale scores at various time points and change in pain intensity at 15 and 30 minutes for each study arm

Variable	Ketoprofen group	Placebo group
VAS, mean ± SD		
Baseline	74 ± 13	77 ± 14
15 min	47 ± 16	49 ± 20
30 min	21 ± 14	40 ± 20
Change from baseline (VAS), mean (95% CI)		
15 min	27 (24-30)	28 (25-31)
30 min	52 (48-57)	37 (33-41)

Table 2
Comparison of pain improvements between 2 groups at 15 and 30 minutes

Variable	Placebo vs ketoprofen	*P*
Differences from baseline to 15 min, mean (95% CI)	0.5 (−4 to 5)	.8
Differences from baseline to 30 min, mean (95% CI)	16 (10-21)	.000

Academic Emergency Medicine
Official Journal of the Society for Academic Emergency Medicine

ORIGINAL CONTRIBUTION

Comparison of Intravenous Morphine Versus Paracetamol in Sciatica: A Randomized Placebo Controlled Trial

Mustafa Serinken, MD, Cenker Eken, MD, Faruk Gungor, MD, Mucahit Emet, MD, and Behcet Al, MD

Variable	Morphine	Acetaminophen	Placebo
Age (y), mean ± SD	44.6 ± 10.2	43.7 ± 9.8	40.3 ± 9.5
Gender (male, %)	48	43	57
VAS, median (IQR)			
Baseline	80 (70–92.5)	78.5 (65–88.5)	80 (70–90)
15 min	45.5 (37–58)	60 (48–70)	70 (53.5–84.5)
30 min	24 (12–54)	41 (35–51)	66.5 (50–78)
Change from baseline (VAS), median differences (95% CI)			
15 min	30 (28–35)	16 (14–20)	7.5 (5–9)
30 min	54 (50–60)	29 (28–34)	12.5 (10–15)

IQR = interquartile range; VAS = visual analog scale.

Variable	Morphine vs. Acetaminophen	Morphine vs Placebo	Acetaminophen vs Placebo
Differences from baseline to 15 min			
Mean (95% CI)	15.7 (11.8–19.7)	24.5 (20.7–28.2)	8.8 (5.6–12)
Median (95% CI)	15 (11–19)	24 (20–28)	10 (6–12)
Differences from baseline to 30 min			
Mean (95% CI)	23.6 (18.9–28.3)	39.3 (35–43.5)	15.7 (11.5–19.8)
Median (95% CI)	25 (20–29)	41 (37–45)	16 (12–20)

AJRCCM
Full Text

Am J Respir Crit Care Med. 2015 Oct 1. [Epub ahead of print]

Randomized Trial of Apneic Oxygenation during Endotracheal Intubation of the Critically Ill.

Semler MW[1], Janz DR[2], Lentz RJ[3], Matthews DT[4], Norman BC[5,6], Assad TR[7], Keriwala RD[8], Ferrell BA[9,10], Noto MJ[11], McKown AC[12], Kocurek EG[13], Warren MA[14], Huerta LE[15], Rice TW[16]; FELLOW Investigators and the Pragmatic Critical Care Research Group.

Author information

Abstract

RATIONALE: Hypoxemia is common during endotracheal intubation of critically ill patients and may predispose to cardiac arrest and death. Administration of supplemental oxygen during laryngoscopy (apneic oxygenation) may prevent hypoxemia.

OBJECTIVES: To determine if apneic oxygenation increases the lowest arterial oxygen saturation experienced by patients undergoing endotracheal intubation in the intensive care unit.

METHODS: A randomized, open-label, pragmatic trial in which 150 adults undergoing endotracheal intubation in a medical intensive care unit were randomized to receive 15 L/min of 100% oxygen via high-flow nasal cannula during laryngoscopy (apneic oxygenation) or no supplemental oxygen during laryngoscopy (usual care). The primary outcome was lowest arterial oxygen saturation between induction and two minutes after completion of endotracheal intubation.

MEASUREMENTS AND MAIN RESULTS: Median lowest arterial oxygen saturation was 92% with apneic oxygenation versus 90% with usual care (95% confidence interval for the difference -1.6% to 7.4%; P = .16). There was no difference between apneic oxygenation and usual care in incidence of oxygen saturation < 90% (44.7% versus 47.2%; P = .87), oxygen saturation < 80% (15.8% versus 25.0%; P = .22), or decrease in oxygen saturation > 3% (53.9% versus 55.6%; P = .87). Duration of mechanical ventilation, intensive care unit length

JAMA The Journal of the American Medical Association

October 27, 2015, Vol 314, No. 16 >

Original Investigation | October 27, 2015

CARING FOR THE CRITICALLY ILL PATIENT

Effect of a Buffered Crystalloid Solution vs Saline on Acute Kidney Injury Among Patients in the Intensive Care Unit

The SPLIT Randomized Clinical Trial FREE

Paul Young, FCICM[1,2]; Michael Bailey, PhD[3]; Richard Beasley, DSc[1]; Seton Henderson, FCICM[1,4]; Diane Mackle, MN[1]; Colin McArthur, FCICM[1,3,5]; Shay McGuinness, FANZCA[1,3,6]; Jan Mehrtens, RN[4]; John Myburgh, PhD[7,8]; Alex Psirides, FCICM[2]; Sumeet Reddy, MBChB[1]; Rinaldo Bellomo, FCICM[3,9] ; for the SPLIT Investigators and the ANZICS CTG

[+] Author Affiliations

JAMA. 2015;314(16):1701-1710. doi:10.1001/jama.2015.12334.

- Hasta: Youğun bakıma yatan ve sıvı ihtiyacı olan hastalar
- Uygulama: Kristaloid
- Karşılaştırma: PL-148
- Sonuç: Akut böbrek yetmezliği

Table 2. Outcomes for Patients in the Intensive Care Unit Receiving Buffered Crystalloid vs Saline Fluid Therapy

Variable	No./Total No. (%)		Absolute Difference (95% CI)	Relative Risk (95% CI)	*P* Value
	Buffered Crystalloid	Saline			
Primary Outcome					
Acute kidney injury or failure[a]	102/1067 (9.6)	94/1025 (9.2)	0.4 (−2.1 to 2.9)	1.04 (0.80 to 1.36)	.77
Secondary Outcomes (Renal Outcomes)					
RIFLE[b]					
Risk	123/1067 (11.5)	107/1025 (10.4)	1.1 (−1.6 to 3.8)	1.10 (0.86 to 1.41)	.44
Injury	46/1067 (4.3)	57/1025 (5.6)	−1.2 (−3.1 to 0.6)	0.78 (0.53 to 1.13)	.19
Failure	54/1067 (5.1)	36/1025 (3.5)	1.5 (−0.2 to 3.3)	1.44 (0.95 to 2.18)	.09
Loss	2/1067 (0.2)	1/1025 (0.1)	0	1.92 (0.17 to 21.16)	>.99
End-stage renal failure	0/1067 (0)	0/1025 (0)			
KDIGO stage[c]					
1	194/1067 (18.2)	194/1025 (18.9)	−0.7 (−4.1 to 2.6)	0.96 (0.80 to 1.15)	.69
2	43/1067 (4.0)	46/1025 (4.5)	−0.5 (−2.2 to 1.3)	0.90 (0.60 to 1.4)	.67
3	62/1067 (5.8)	58/1025 (5.7)	0.2 (−1.8 to 2.1)	1.03 (0.73 to 1.45)	.93
RRT use and indications for RRT initiation					
RRT use	38/1152 (3.3)	38/1110 (3.4)	−0.1 (−1.6 to 1.4)	0.96 (0.62 to 1.50)	.91
Oliguria	10/1152 (0.9)	11/1110 (1.0)	−0.1 (−0.9 to 0.7)	0.88 (0.37 to 2.05)	.83
Hyperkalemia with serum potassium >6.5 mEq/L	4/1152 (0.3)	2/1110 (0.2)	0.2 (−0.3 to 0.6)	1.93 (0.35 to 10.50)	.69
Acidemia with pH <7.20	13/1152 (1.1)	9/1110 (0.8)	0.3 (−0.5 to 1.1)	1.39 (0.60 to 3.24)	.52
Serum urea nitrogen >70 mg/dL	5/1152 (0.4)	10/1110 (0.9)	−0.5 (−1.1 to 0.2)	0.48 (0.17 to 1.41)	.20
Serum creatinine >3.39 mg/dL	16/1152 (1.4)	13/1110 (1.2)	0.2 (−0.7 to 1.1)	1.19 (0.57 to 2.45)	.71

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Prehospital Emergency Care

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Comparison of Fentanyl and Morphine in the Prehospital Treatment of Ischemic Type Chest Pain

Erin R. Weldon MD, FRCPC(EM), Robert E. Ariano PharmD, BCPS, FCCM & Robert A. Grierson MD, FRCPC(EM)

- Hasta: hastane öncesinde iskemik tipte göğüs ağrısı olan ve sublingual nitrata yanıt vermeyen hastalar
- Uygulama: 5 mg morfin
- Karşılaştırma: 50 mcg fentanil
- Sonuç: 15. dakika VAS ve NRS

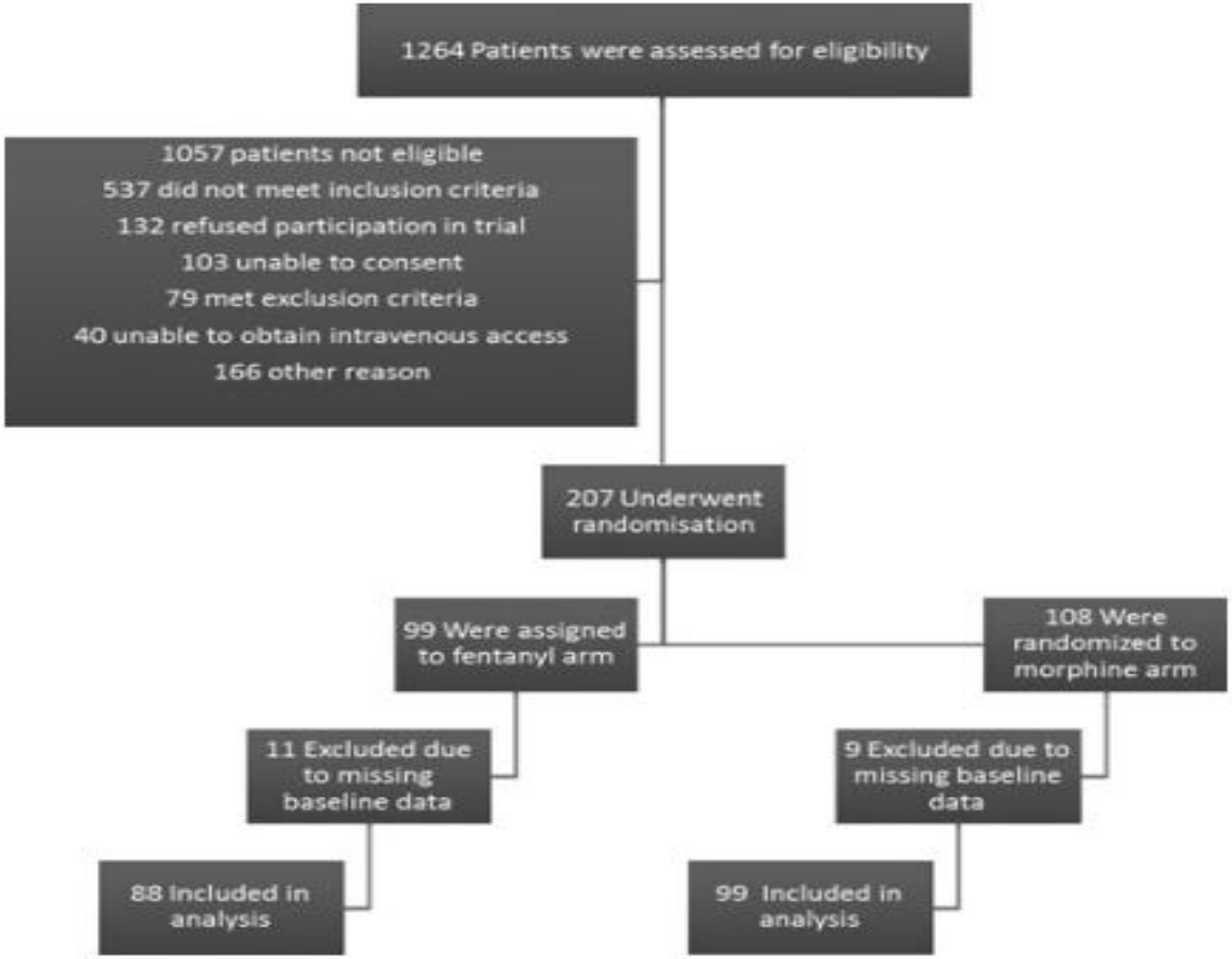

FIGURE 1. Overview of patient eligibility and enrollment.

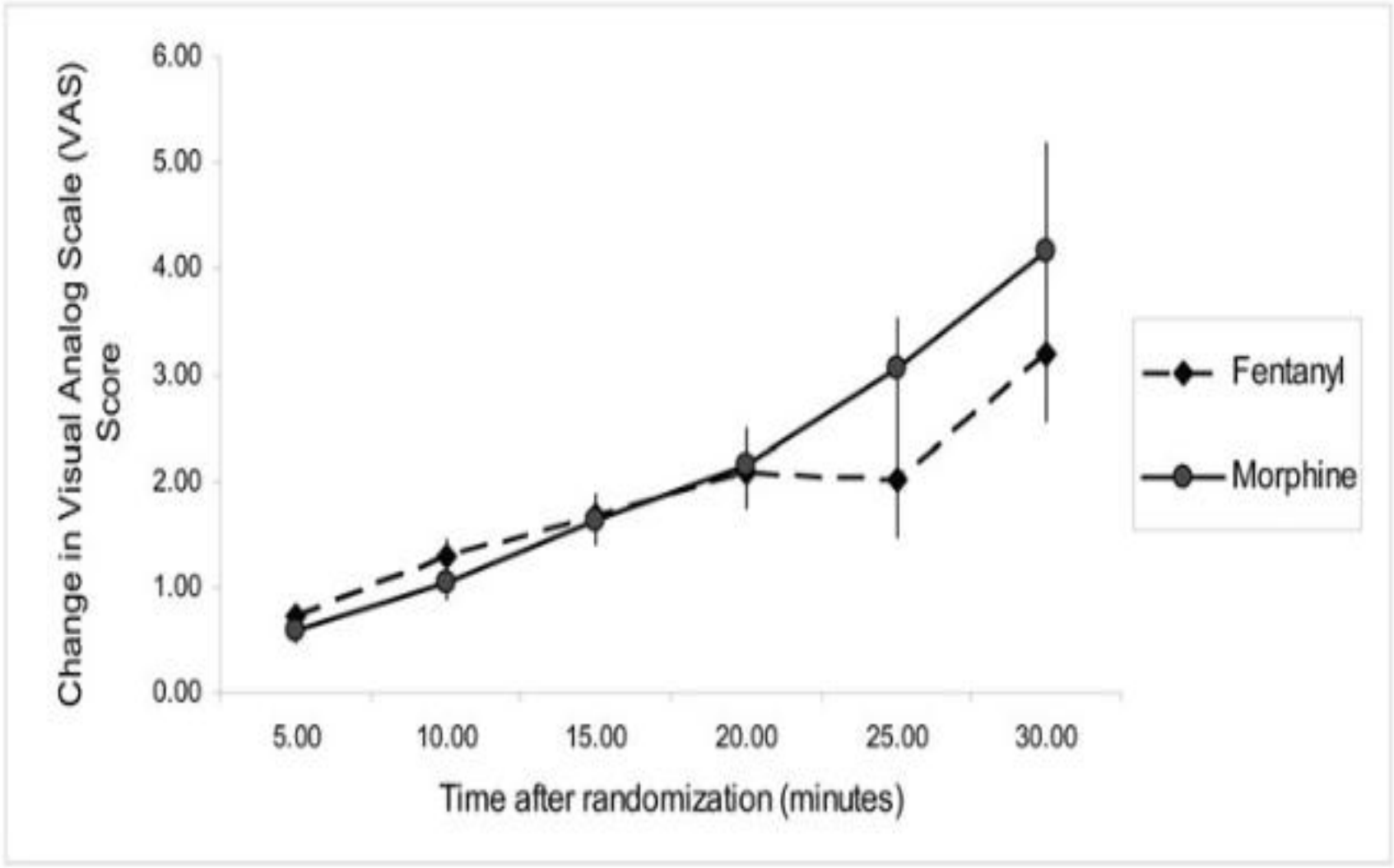
Change in Visual Analog Scale (VAS) Score
6.00
5.00
4.00
3.00
2.00
1.00
0.00
5.00
10.00
15.00
20.00
25.00
30.00
Time after randomization (minutes)
Fentanyl
Morphine

TABLE 3. Necessity for an additional dose of narcotic by treatment arm.

Time interval	Morphine (212*)	Fentanyl (195*)	*p*-value
1–4 mins	29%	26%	1.00
5–9 mins	76%	92%	0.08
10–14 mins	80%	71%	1.00
15–19 mins	51%	71%	0.79
20–24 mins	45%	76%	0.55
25–30 mins	57%	25%	1.00

Statistical significance was analyzed by a 2-sided Fisher's Exact.
*the denominator here is for the total number of patients within all the assessment periods (i.e. number of events assessed at 1–4 min, 5–9 min, etc.).

TABLE 2. Comparison of adverse events at any time point after the dose out to 30 minutes.

	Morphine (99)	Fentanyl (88)	*p*-value
Nausea	18.2% (18)	12.5% (11)	0.32
Apnea	0%	0%	1.00
Emesis	2.0% (2)	1.1% (1)	1.00
Requirement for dimenhydrinate	9.1% (9)	8.0% (7)	0.80
Hypotension (SBP < 90 mmHg)	5.1% (5)	0%	0.06

Statistical significance was analyzed by a 2-sided Fisher's Exact.

Postural modification to the standard Valsalva manoeuvre for emergency treatment of supraventricular tachycardias (REVERT): a randomised controlled trial

Andrew Appelboam, Adam Reuben, Clifford Mann, James Gagg, Paul Ewings, Andrew Barton, Trudie Lobban, Mark Dayer, Jane Vickery, Jonathan Benger, on behalf of the REVERT trial collaborators

Summary

Background The Valsalva manoeuvre is an internationally recommended treatment for supraventricular tachycardia, but cardioversion is rare in practice (5–20%), necessitating the use of other treatments including adenosine, which patients often find unpleasant. We assessed whether a postural modification to the Valsalva manoeuvre could improve its effectiveness.

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August 25, 2015
http://dx.doi.org/10.1016/S0140-6736(15)61485-4

See Online/Comment

	Standard VM (n=214)	Modified VM (n=214)	Effect size (95%CI)	p value
Presence of sinus rhythm at 1 min after VM	37 (17%)	93 (43%)	3·7 (2·3–5·8)	<0·0001
Adenosine given	148 (69%)	108 (50%)	0·45 (0·30–0·68)	0·0002
Any emergency anti-arrhythmic treatment	171 (80%)	121 (57%)	0·33 (0·21–0·51)	<0·0001
Discharged home from emergency department	146 (68%)	134 (63%)	0·79 (0·51–1·21)	0·28
Any adverse event	8 (4%)	13 (6%)	1·61 (0·63–4·08)	0·32
Time in emergency department (h; median, IQR)	2·83 (1·95–3·62)	2·82 (1·95–3·77)	0·90 (0·75–1·10)	0·31

Effect sizes are adjusted odds ratios, except for time in emergency department, which is an adjusted hazard ratio.
VM=Valsalva manoeuvre.

Table 2: **Primary and secondary outcomes**

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Ultrasonography versus Computed Tomography for Suspected Nephrolithiasis

R. Smith-Bindman, C. Aubin, J. Bailitz, R.N. Bengiamin, C.A. Camargo, Jr., J. Corbo, A.J. Dean, R.B. Goldstein, R.T. Griffey, G.D. Jay, T.L. Kang, D.R. Kriesel, O. J. Ma, M. Mallin, W. Manson, J. Melnikow, D.L. Miglioretti, S.K. Miller, L.D. Mills, J.R. Miner, M. Moghadassi, V.E. Noble, G.M. Press, M.L. Stoller, V.E. Valencia, J. Wang, R.C. Wang, and S.R. Cummings

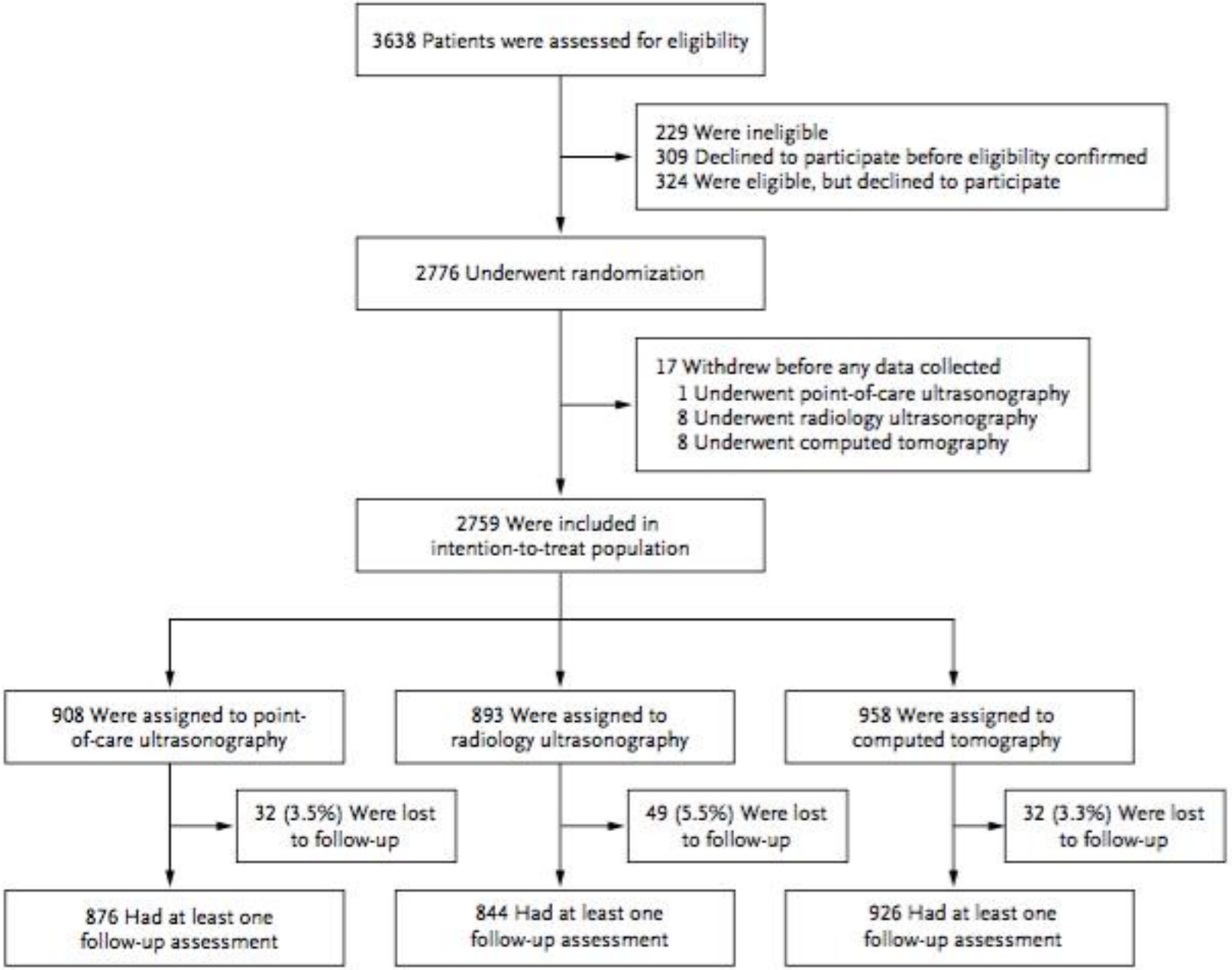
3638 Patients were assessed for eligibility
229 Were ineligible
309 Declined to participate before eligibility confirmed
324 Were eligible, but declined to participate
2776 Underwent randomization
17 Withdrew before any data collected
1 Underwent point-of-care ultrasonography
8 Underwent radiology ultrasonography
8 Underwent computed tomography
2759 Were included in intention-to-treat population
908 Were assigned to point-of-care ultrasonography
893 Were assigned to radiology ultrasonography
958 Were assigned to computed tomography
32 (3.5%) Were lost to follow-up
49 (5.5%) Were lost to follow-up
32 (3.3%) Were lost to follow-up
876 Had at least one follow-up assessment
844 Had at least one follow-up assessment
926 Had at least one follow-up assessment

Table 3. Primary and Secondary Study Outcomes According to Study Group.*

Outcome	Point-of-Care Ultrasonography (N=908)	Radiology Ultrasonography (N=893)	Computed Tomography (N=958)	P Value
Primary Outcomes				
High-risk diagnosis with complication — no. of patients (%)	6 (0.7)	3 (0.3)	2 (0.2)	0.30
Radiation exposure — mSv	10.1±14.1	9.3±13.4	17.2±13.4	<0.001
During emergency department enrollment visit	6.5±9.4	4.7±8.4	14.1±9.6	<0.001
From enrollment to 30 days	1.2±4.4	1.8±5.4	1.0±3.9	0.19
30–180 days	1.5±5.5	2.1±6.8	1.2±4.8	0.08
Secondary Outcomes				
Serious adverse events — no. of patients (%)	113 (12.4)	96 (10.8)	107 (11.2)	0.50
Related serious adverse events — no. of patients (%)†	3 (0.3)	4 (0.4)	5 (0.5)	0.88
Emergency department length of stay — hr‡				
Median	6.3	7.0	6.4	<0.001
Interquartile range	4.5–9.0	5.4–9.9	4.7–9.0	
Return emergency department visit — no. of patients/total no. (%)§				
Within 1 wk	86/835 (10.3)	77/816 (9.4)	99/872 (11.4)	0.43
Within 1 mo	136/835 (16.3)	121/816 (14.8)	143/872 (16.4)	0.62
Within 6 mo	231/835 (27.7)	231/816 (28.3)	255/872 (29.2)	0.77

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Trial of Continuous or Interrupted Chest Compressions during CPR

Graham Nichol, M.D., M.P.H., Brian Leroux, Ph.D., Henry Wang, M.D., Clifton W. Callaway, M.D., Ph.D., George Sopko, M.D., Myron Weisfeldt, M.D., Ian Stiell, M.D., Laurie J. Morrison, M.D., Tom P. Aufderheide, M.D., Sheldon Cheskes, M.D., Jim Christenson, M.D., Peter Kudenchuk, M.D., Christian Vaillancourt, M.D., Thomas D. Rea, M.D., Ahamed H. Idris, M.D., Riccardo Colella, D.O., M.P.H., Marshal Isaacs, M.D., Ron Straight, Shannon Stephens, Joe Richardson, Joe Condle, Robert H. Schmicker, M.S., Debra Egan, M.P.H., B.S.N., Susanne May, Ph.D., and Joseph P. Ornato, M.D., for the ROC Investigators*

- Hasta: hastane dışı non-travmatik kardiyak arrest
- Uygulama: Kesintisiz CPR
- Karşılaştırma: Kesintili CPR
- Outcome: Hastaneden taburculuk

Table 1. Pretreatment Characteristics of the Patients Included in the Effectiveness Population.*

Characteristic	Intervention Group (N=12,653)	Control Group (N=11,058)
Age — yr	66.4±17.2	66.2±17.0
Male sex — no. (%)	8029 (63.5)	7126 (64.4)
Obvious cause of cardiac arrest — no./total no. (%)†	397/12,650 (3.1)	355/11,058 (3.2)
Arrest occurring in public location — no./total no. (%)	1797/12,632 (14.2)	1642/11,049 (14.8)
Witness status — no./total no. (%)		
Bystander witnessed	5179/12,318 (42.0)	4725/10,852 (43.5)
Not witnessed	7139/12,318 (58.0)	6127/10,852 (56.5)
Bystander-initiated CPR — no./total no. (%)		
Yes	5859/12,491 (46.9)	5129/10,901 (47.1)
No	6632/12,491 (53.1)	5772/10,901 (52.9)
Time from dispatch to first arrival of EMS		
Mean — min	5.9±2.5	5.9±2.6
≤4 min — no./total no. (%)	2521/12,424 (20.3)	2272/10,851 (20.9)
Advanced life support at the scene		
Receipt of advanced life support — no. (%)	12,286 (97.1)	10,741 (97.1)
Time from dispatch to first arrival of advanced life support — min	9.0±5.1	9.0±5.1

Table 3. Outcomes in Patients Included in the Primary Analysis.*

Outcome	Intervention Group (N=12,653)	Control Group (N=11,058)	Adjusted Difference (95% CI)	P Value
Effectiveness population				
Primary outcome: survival to discharge — no./total no. (%)	1,129/12,613 (9.0)	1072/11,035 (9.7)	−0.7 (−1.5 to 0.1)	0.07
Transport to hospital — no. (%)	6686 (52.8)	6066 (54.9)	−2.0 (−3.6 to −0.5)	0.01
Return of spontaneous circulation at ED arrival — no./total no. (%)	3,058/12,646 (24.2)	2799/11,051 (25.3)	−1.1 (−2.4 to 0.1)	0.07
Admission to hospital — no./total no. (%)	3,108/12,653 (24.6)	2860/11,058 (25.9)	−1.3 (−2.4 to −0.2)	0.03
Survival to 24 hr — no./total no. (%)	2,816/12,614 (22.3)	2569/11,031 (23.3)	−1.0 (−2.1 to 0.2)	0.10
Hospital-free survival — days†	1.3±5.0	1.5±5.3	−0.2 (−0.3 to −0.1)	0.004
Discharge home — no./total no. (%)	844/12,613 (6.7)	794/11,034 (7.2)	−0.5 (−1.2 to 0.2)	0.15
Modified Rankin scale score‡				
≤3 — no./total no. (%)	883/12,560 (7.0)	844/10,995 (7.7)	−0.6 (−1.4 to 0.1)	0.09

Article

HET

Human and Experimental Toxicology
1–5

DOI: 10.1177/0960327116637112
het.sagepub.com
SAGE

Ketamine may be related to reduced ejection fraction in children during the procedural sedation

C Eken[1], M Serinken[2] and M Dogan[3]

Abstract

Objective: Ketamine is a dissociative anesthetic agent with sympathomimetic effects used commonly for procedural sedation in emergency department. The present study aimed to reveal the effect of ketamine on myocardium by measuring ejection fraction (EF).

Methods: Patients less than 9 years old undergoing procedural sedation with ketamine secondary to minor trauma composed the study population by convenience sampling. Study patients received ketamine at a dose of 1.5 mg/kg. A cardiologist performed the measurements of cardiac contractility pre-ketamine and 10 min after the ketamine administration.

Table 1. Changes in EF, FS, and vital signs for each study patient.[a]

Patient	EF (%)	Fractional shortening (%)	Systolic blood pressure (mmHg)	Diastolic blood pressure (mmHg)	Pulse rate per minute
1	3	1	6	3	−4
2	0	−1	11	9	12
3[b]	−1	0	−3	6	5
4[b]	−4	−3	−4	−15	11
5[b]	−7	−5	−16	−4	11
6	1	0	6	−3	−13
7	1	0	5	7	9
8	1	1	−7	5	−8
9[b]	−4	−6	−8	−2	13
10[b]	−14	−5	−30	−9	22
11	4	2	16	6	−20
12[b]	−3	−2	6	2	−4
13	2	1	9	7	−2
14[b]	−7	−5	−20	−8	12
15[b]	−3	−1	9	4	−6
16[b]	−4	−2	4	−3	10
17[b]	−5	−4	−9	−1	9
18	5	2	21	7	−9
19[b]	−5	−3	−7	−2	7
20[b]	−7	−5	−11	−5	5
21[b]	−7	−8	1	−11	9
22[b]	−8	−5	−18	−9	12

Hemodynamic Response After Rapid Sequence Induction With Ketamine in Out-of-Hospital Patients at Risk of Shock as Defined by the Shock Index

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Study objective: Ketamine is considered a stable induction agent for rapid sequence induction; however, hypotension rates up to 24% are reported. The shock index (shock index=pulse rate/systolic blood pressure [SBP]) may identify patients at risk of adverse hemodynamic change. We investigate whether SBP and pulse rate response to ketamine induction differ when patients are classified as being at risk of shock by their shock index.

Methods: We conducted a prospective observational study of electronically collected vital sign data from patients undergoing rapid sequence induction with ketamine. Patients were grouped into low shock index (shock index <0.9) or high shock index (shock index ≥ 0.9) preinduction. Pulse rate and SBP were compared between 3 minutes preinduction and for 3 measurements postinduction (3-minute intervals) by repeated-measures ANOVA. Proportions of patients developing hypotension or hypertension are also reported.

Gözlemsel Bir Çalışma

- Hastane öncesinde hızlı seri entübasyon yapılan ve ketamin verilen hastaların verileri prospektif olarak toplanmış.
- Hastaların kalp hızları ve kan basınçları indüksiyondan 3 dakika önce ve 3 sonra olacak şekilde kaydedilmiş.

Sonuçlar

- 112 hasta
- Tüm hastalarda hipotansiyon %9.
- Şok indeksi 0.9'un üstünde olanlarda hipotansiyon %26
- Şok indeksi 0.9'un altında olanlarda %2.

Teşekkürler