ORIGINAL ARTICLE

The Prevalence and Prognostic Significance of Near Syncope and Syncope

A prospective study of 395 cases in an emergency department (the SPEED Study)

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SUMMARY

Background: The prognostic significance of near-syncope has not yet been adequately characterized.

Methods: We collected prospective data on a consecutive series of patients seen in an emergency department with syncope (brief loss of consciousness, usually with loss of muscle tone) or near-syncope (a feeling that syncope is about to occur, but without actual loss of consciousness or muscle tone). We report on the prevalence, etiology, and prognosis of such events (the SPEED study). Patients were followed up at 30 days and at 6 months after the event.

Results: From 17 July to 31 October 2011, 395 patients were seen in the emergency department for a chief complaint of syncope or near-syncope (3% of all emergency patients). Their median age was 70 years, and 55% were men. 62% had experienced syncope, and 38% near-syncope. The patients with near-syncope were younger than those with syncope (63 vs. 72 years, $p < 0.014$) and were also more commonly male (63% vs. 49%, $p = 0.006$). The two patient groups did not differ significantly with respect to their measured laboratory values and vital parameters or their accompanying medical conditions. Hospitalizations were more common for syncope than for near-syncope (86% vs. 70%, $p < 0.001$). Etiologies were similarly distributed in the two patient groups, with the main ones being reflex syncope, orthostatic syncope, cardiac syncope, and syncope of uncertain origin. In all, 123 of 379 patients (32%) had further undesired events within 30 days of the event. Multivariable logistic regression revealed that age, heart rate, and renal dysfunction were independent predictors of undesired events, while the type of syncope was not.

Conclusion: Patients with near-syncope do not differ to any large extent from patients with syncope with respect to the features studied. The diagnostic evaluation should be similar for patients in the two groups.

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Syncope is defined as a transient loss of consciousness caused by short-term global cerebral underperfusion, which can be accompanied by a loss of muscle tone (1, 2). Although many causes of syncope are benign and self-limiting, some events are associated with significant morbidity and mortality (1, 3–5). Up to 3% of emergency department consultations are due to syncope (6–8), and in Germany more than 70% of the affected patients are admitted as inpatients (5). During a 30-day follow-up period, serious events such as a need for intervention (e.g. cardioversion, defibrillator or pacemaker implantation, endoscopic intervention) or death are common (occurring in between 5 and 23% of cases) (4, 9–13).

Although current guidelines provide detailed procedures for syncope (1, 2), this is not the case for near syncope. In near syncope, patients report “impending syncope” but do not lose consciousness or muscle tone. The fact that there is no clear definition of near syncope leads to a lack of clarity in diagnosis; data on the frequency and prognosis of near syncope is therefore lacking. In individual cases patients with near syncope have been enrolled in syncope studies (6, 14–18). Patients with near syncope are probably excluded from most studies as a result of the lack of a clear definition of it (4, 8, 9, 19).

In clinical practice patients are often asked whether they lost consciousness completely. The authors have questioned their colleagues on this subject, and the prevailing opinion among those asked was that not having lost consciousness was associated with a more favorable prognosis in this population of patients. This investigation aimed to analyze the frequency and causes of near syncope in a German emergency department and the significance of these for prognosis.

Methods

Study design, patients

Between 17 July and 31 October 2011 the authors gathered prospective data in order to evaluate consecutive patients with syncope or near syncope (the *Syncope Patient Evaluation in the Emergency Department* [SPEED] Study) in the emergency department of a hospital providing the maximum range of services (with

TABLE 1

Demographic and other characteristics of patients presenting to the emergency department with syncope or near syncope

Variable	Cohort (n = 395)	Syncope (n = 242)	Near syncope (n = 153)	p
Male, n (%) ^{*1}	216 (55)	119 (49)	97 (63)	0.01
Age, years (median) ^{*1}	70 (Q ₁ -Q ₃ ; 47 to 80)	72 (Q ₁ to Q ₃ ; 50 to 82)	63 (Q ₁ to Q ₃ ; 53.5 to 78)	0.01
>70 years, n (%) ^{*1}	191 (48)	130 (54)	61 (40)	0.01
>80 years, n (%) ^{*1}	93 (24)	66 (27)	27 (18)	0.03
History				
CHD, n (%)	76 (19)	46 (19)	30 (20)	0.88
Arrhythmia, n (%)	81 (21)	51 (21)	30 (20)	0.73
Heart failure, n (%)	80 (20)	49 (20)	31 (20)	0.99
pAOD, n (%)	22 (6)	14 (6)	8 (5)	0.81
Diabetes mellitus, n (%)	91 (23)	57 (24)	34 (22)	0.88
Hypertension, n (%) ^{*1}	237 (60)	155 (64)	82 (54)	0.04
Dementia, n (%)	45 (11)	30 (12)	15 (10)	0.43
Lung disease, n (%)	41 (10)	29 (12)	12 (8)	0.19
Tumor, n (%)	52 (13)	30 (12)	22 (14)	0.76
Kidney failure, n (%)	121 (31)	76 (31)	45 (29)	0.23
Liver disease, n (%)	8 (2)	3 (1)	5 (3)	0.17
Vital signs				
Breathing rate per min	16 (Q ₁ to Q ₃ ; 14 to 18)	16 (Q ₁ to Q ₃ ; 14 to 18)	16 (Q ₁ to Q ₃ ; 14 to 18)	0.27
Heart rate, b.p.m.	76 (Q ₁ to Q ₃ ; 65 to 88)	76 (Q ₁ to Q ₃ ; 66 to 89)	75 (Q ₁ to Q ₃ ; 64 to 86)	0.10
Systolic blood pressure, mm Hg	135 (Q ₁ to Q ₃ ; 120 to 152)	135 (Q ₁ to Q ₃ ; 119 to 152)	134 (Q ₁ to Q ₃ ; 120 to 150)	0.69
Oxygen saturation, %	98 (Q ₁ to Q ₃ ; 96 to 100)	98 (Q ₁ to Q ₃ ; 96 to 100)	98 (Q ₁ to Q ₃ ; 96 to 100)	0.06
Body temperature, °C	36.6 (Q ₁ to Q ₃ ; 36.3 to 36.8)	36.6 (Q ₁ to Q ₃ ; 36.3 to 36.9)	36.5 (Q ₁ to Q ₃ ; 36.2 to 36.8)	0.20
Laboratory parameters				
WBC, 10 ³ /μL	8.2 (Q ₁ to Q ₃ ; 6.6 to 10.1)	8.3 (Q ₁ to Q ₃ ; 6.6 to 9.7)	8.1 (Q ₁ to Q ₃ ; 6.5 to 10.5)	0.93
Hemoglobin, g/dL ^{*1}	13.6 (Q ₁ to Q ₃ ; 12.5 to 14.8)	13.4 (Q ₁ to Q ₃ ; 12.2 to 14.7)	14.1 (Q ₁ to Q ₃ ; 12.7 to 15)	0.04
Sodium, mmol/L	136 (Q ₁ to Q ₃ ; 134 to 137)	136 (Q ₁ to Q ₃ ; 134 to 137)	136 (Q ₁ to Q ₃ ; 134 to 137)	0.56
Potassium, mmol/L	3.9 (Q ₁ to Q ₃ ; 3.6 to 4.2)	3.9 (Q ₁ to Q ₃ ; 3.6 to 4.2)	3.9 (Q ₁ to Q ₃ ; 3.7 to 4.2)	0.44
Creatinine, mg/dL	0.99 (Q ₁ to Q ₃ ; 0.8 to 1.26)	0.98 (Q ₁ to Q ₃ ; 0.8 to 1.3)	1.20 (Q ₁ to Q ₃ ; 0.83 to 1.24)	0.80
Glucose, mg/dL	122 (Q ₁ to Q ₃ ; 105 to 151)	122 (Q ₁ to Q ₃ ; 105 to 160)	122 (Q ₁ to Q ₃ ; 105 to 145)	0.54

^{*1} Significant difference between syncope and near syncope patients (p ≤ 0.05)

CHD: Coronary heart disease; pAOD: Peripheral arterial obstructive disease; WBC, white blood cells

Q₁: 25th quartile; Q₃: 75th quartile

approximately 90 000 emergency patients per year). No study-specific interventions were performed. Data collection was qualitative and took data protection into account, and patients gave their consent using the General Conditions of Contract (Clause 14, paragraph 4). In this form the project was rated ethically sound by the Ethics Committee and was registered with clinicaltrials.gov (ID: NCT01916070). For follow-up, patients' consent to oral questioning was obtained. The Declaration of Helsinki was followed.

The variables recorded in the research were those stated in current recommendations (1, 2, 4, 5).

Concomitant diseases were assessed using the Charlson Comorbidity Index (CCI) (20, 21), and incompletely documented cases and cases of loss of consciousness unrelated to syncope were excluded (*eFigure 1*). The following diagnostic steps were taken according to standard procedure in all patients (5, 22):

- Clinical history taken
- Physical examination
- Vital signs recorded (including 12-lead ECG)
- Routine laboratory tests:
 - Blood count without differential
 - Sodium level

- Potassium level
- Glucose level
- Urea level
- Creatinine level
- International normalized ratio (INR)
- Activated partial thromboplastin time (aPTT)

All other examinations were performed as indicated. Data was extracted prospectively by a study assistant and entered into an electronic database.

All patients aged 18 years or over who presented to the emergency department with syncope or near syncope were included. The definition of syncope is short-term loss of consciousness as part of transient global cerebral underperfusion, accompanied by loss of muscle tone (1). Patients with near syncope report impending syncope with loss of consciousness or muscle tone but do not meet the criteria for syncope (15, 23).

All patients who had a progressive disorder of consciousness, had taken mind-altering substances, or presented with loss of consciousness unrelated to syncope (e.g. hyperventilation, hypoglycemia, epileptic seizure) were excluded (1).

The final, gold-standard diagnosis was established independently by two experienced emergency physicians who were familiar with all patient records. A substantial lack of consensus is to be expected in the diagnosis of near syncope in particular, as there are no clear criteria defining it. The agreement between the two physicians was 90% (kappa 0.77). Agreement on the etiology of syncope was 69% (kappa 0.59). In cases of disagreement between the two emergency physicians, the final gold-standard diagnosis was established by a cardiologist.

Endpoints

In addition to describing the characteristics of the patient population, clinical endpoints occurring within 30 days following the index event were quantified and named (the combined endpoint was need for invasive interventions or serious adverse events) (5, 6, 24–26). The available treatment records were consulted for this purpose during follow-up. The prospectively defined endpoints were as follows:

- Resuscitation
- Sudden death
- Myocardial infarction
- Intervention on coronary vessels or heart valves
- Implantation of pacemaker or automatic implantable cardioverter-defibrillator (AICD)
- Electrical cardioversion
- High-grade valvular heart disease
- Dangerous arrhythmia
- Decompensated heart failure

Non-cardiac endpoints included the following parameters:

- Endoscopy with intervention
- Blood transfusion
- Aortic dissection
- Stroke
- Pulmonary embolism

FIGURE 1

Parties admitting patients who presented to the emergency department with syncope or near syncope

- Severe infection
- Craniocerebral trauma
- Repeat presentation within 30 days
- Severe electrolyte disorders
- Acute kidney failure
- Other life-threatening events (5)

Follow-up questions were asked by telephone 30 days and 6 months after the index event by a study assistant, using a structured questionnaire. If individual patients could not be reached, questions were asked by mail.

Statistical analysis

The recorded data are presented as frequencies, mean and standard deviation, 95% confidence interval or median, and first and third quartile (Q1, Q3). The Shapiro–Wilk test was used to test for normal distribution; normally distributed data was compared using Student's t-test for independent samples, and non-normally distributed data using nonparametric tests (the U-test).

Discrete data was compared using the chi-square test. The p-values shown here make clear the differences between the prospectively defined groups. They have not undergone Bonferroni correction and should not be interpreted as significance tests in the narrow sense. Survival analyses were performed using Kaplan–Meier analysis. Statistical tests, including univariate and multivariable logistic regression analysis, were performed using standard software (SPSS version 20).

Results

Of a total of 12 872 patients who presented to the emergency department during the study period, 408 were screened. Of these, 13 were excluded (patients who did not meet the criteria for syncope or near syncope, and incompletely documented cases; eFigure 1).

Endpoints of patients who presented to the emergency department with syncope or near syncope. Frequencies are shown for hospitalization, the combined endpoint serious adverse event or intervention within 30 days, and the endpoint death within 30 days following the index event, according to whether the patient presented to the emergency room with syncope or near syncope.

The symptoms of the remaining 395 patients met the criteria for syncope (n = 242) or near syncope (n = 153).

Demographic characteristics are summarized in *Table 1* (median age: 70 years; 48% of patients were aged over 70 years [n = 191] and 24% over 80 years [n = 93]; 55% were male [n = 215]). The proportion of men was higher among near syncope patients than among syncope patients (63% [n = 97] versus 49% [n = 119], p = 0.006). There were no differences in terms of comorbidities, vital signs, or laboratory parameters (*Table 1*). Patients with near syncope were more often admitted by physicians in private practice (n = 28; 18%) or paramedics (n = 45, 29%), while those with syncope were more often admitted by emergency physicians (n = 117; 48%) (*Figure 1*). The underlying causes were comparable in both patient groups (*eFigure 2*). 86% of patients with syncope (n = 209) and 71% of those with near syncope (n = 109) were admitted as inpatients after presenting to the emergency department (p < 0.001) (*Figure 2*). During the 30-day follow-up period an adverse event occurred in 82 syncope patients (34%) and 41 near syncope patients (27%) (combined endpoint; p = 0.15). The endpoint death after 30 days occurred in 2% of cases in both patient groups (*Figure 2*).

Clinical endpoints

At 30 days, the health of 379 patients (96%) was successfully inquired after. The two patient groups did not differ in terms of the type of endpoint in 30-day follow-up (*Table 2*). Pacemaker or AICD implantation was indicated due to arrhythmia in 4% (n = 16) of the total

cohort. The most frequent non-cardiac endpoint was a diagnosis of severe infection or sepsis, which occurred in 5% of patients (n = 20). One patient (0.3%) died as a result of acute myocardial infarction during follow-up.

The probability of an adverse event after 30 days was 34% (82 of 242) in the syncope group and 27% (41 of 153; p = 0.135) in the near syncope group. 6% of patients with syncope (n = 14) and 5% of those with near syncope (n = 8; p = 0.44) died within a follow-up period of six months following the index event (95% response rate) (*Figure 3a*). The combined endpoint had occurred in 149 patients (38%) after six months. The probability of event-free survival after six months was 58% (n = 134) for syncope patients, and 67% (n = 95; p = 0.09) in patients with incomplete loss of consciousness (*Figure 3b*).

Predictive factors for onset of the combined endpoint within a 30-day follow-up period were analyzed using univariate and multivariable logistic regression analysis (*Table 3*). While the type of syncope is no predictor of the occurrence of an endpoint, age, heart rate, and kidney function are independent predictive factors for an adverse event during follow-up.

Duration, follow-up care

The follow-up care received by syncope and near syncope patients following their emergency department treatment can be seen in *eFigure 3*. 51 of the 395 patients (13%) were discharged to outpatient care following their emergency department treatment. Of the 315 (80%) patients admitted as inpatients, 121 (31%) were treated in one of the follow-up units attached to the emergency department, 197 (62%) patients received further inpatient treatment in other specialized units, and 25 (6%) refused further treatment. Syncope patients were hospitalized for longer (median: three days [Q1 to Q3; 1–7]) than near syncope patients (median: one day [Q1 to Q3; 0–7]; p = 0.006).

Discussion

The most important results of this prospective study, which was conducted in the emergency department of a hospital providing the maximum range of services and examined the frequency and prognostic significance of near syncope, can be summarized as follows:

- The constellation of symptoms “syncope” or “near syncope” is common (accounting for 3% of all emergency department patients). Of these patients, 62% lose consciousness completely, while the other 38% experience near syncope.
- A serious adverse event occurs within 30 days following the index event in 34% and 27% of patients with syncope and near syncope respectively; 2% of syncope patients and near syncope patients die within 30 days.
- There is no difference in the frequency or type of endpoint within the 30-day follow-up period between syncope and near syncope patients. After six-month follow-up there was a trend towards less favorable prognosis for syncope patients.

TABLE 2

Adverse events or invasive interventions after the index event of patients presenting to the emergency room with syncope or near syncope*

Endpoint	Cohort (n = 123)	Syncope (n = 82)	Near syncope (n = 41)	p
1. Sudden death	1 (1%)	0 (0%)	1 (2%)	0.20
2. Cardiac endpoints	63 (51%)	45 (54%)	18 (43%)	
<i>Coronary</i>				
Myocardial infarction	9 (2%)	7 (3%)	2 (1%)	0.30
Cardiopulmonary resuscitation	1 (0.3%)	1 (0.4%)	0	0.43
CABG, percutaneous coronary intervention, or heart valve replacement indicated	8 (2%)	7 (3%)	1 (0.7%)	0.12
Decompensated heart failure				
<i>Arrhythmia</i>	2 (0.5%)	0	2 (1%)	0.07
Pacemaker or AICD implanted				
Ventricular tachycardia	16 (4%)	14 (6%)	2 (1%)	0.03
Atrial fibrillation with cardioversion	12 (3%)	9 (4%)	3 (2%)	0.32
Supraventricular tachycardia	3 (0.8%)	1 (0.4%)	2 (1%)	0.32
	12 (3%)	6 (3%)	6 (4%)	0.42
3. Noncardiac endpoints	48 (39%)	31 (39%)	17 (39%)	
Repeat presentation after <30 days	7 (2%)	3 (1%)	4 (2%)	0.82
Craniocerebral trauma	3 (0.8%)	2 (0.8%)	1 (0.7%)	0.85
Endoscopy with intervention (clipping, etc.)	0	0	0	
Blood transfusion	6 (2%)	3 (1%)	3 (2%)	0.57
Stroke (ischemic or hemorrhagic)	2 (0.5%)	1 (0.4%)	1 (0.7%)	0.74
Severe infection/sepsis	20 (5%)	15 (6%)	5 (3%)	0.20
Pulmonary embolism	10 (3%)	7 (3%)	3 (2%)	0.57
Aortic dissection/carotid perforation	0	0	0	
4. Other	11 (9%)	6 (7%)	5 (12%)	
Other life-threatening events	2 (0.5%)	0 (0%)	2 (1%)	0.08
Electrolyte disorders	3 (1%)	2 (1%)	1 (1%)	0.85
Acute kidney failure	6 (2%)	4 (2%)	2 (1%)	0.78

*First adverse event for each of 379 patients during 30-day follow-up. CABG; coronary artery bypass graft

The adverse event rate in syncope and near syncope patients in this analysis, 32%, is high. Italian working groups report an adverse event rate of 5 to 6% after 10 days (13, 27), while US emergency physicians state a rate of 11.5% after seven days (6). These differences may be due to the differing structures of the health-care systems concerned (5): Germany's two-tiered specialized physician structure means that fewer patients with only mild medical problems present to the emergency departments of facilities that provide the maximum range of services (5), whereas in other countries emergency departments dispense primary care (28–30). Because of the differing prevalence of adverse events, diagnosis strategies developed in other systems cannot be transferred to Germany (1, 9, 31).

A cohort study conducted in Boston, USA shows comparable adverse event rates (4). It is possible that the adverse event rate found in this study, which is higher than in an earlier publication by the authors' own working group (5), can be explained by syncope as a constellation of symptoms not having been identified retrospectively in cases in which other diagnoses were given (e.g. syncope in third-degree AV block). This cohort study was therefore able to examine the patient population of a German hospital providing the maximum range of services and to draw valuable conclusions on the challenges faced by physicians in clinical practice in an emergency department.

Grossman et al. were the first to investigate the prognostic significance of near syncope (15): although patients with near syncope were less likely to be hospitalized than those with syncope (49% versus 69%; $p = 0.001$), their frequency of serious adverse events was similar (20% versus 23%; $p = 0.40$). In one smaller study ($n = 93$) the adverse event rate in near syncope patients was twice as high as in syncope patients (30% versus 17%; [23]).

Our results confirm those of the analysis by Grossman et al. (14, 15). The significantly lower hospitalization rate of near syncope patients may cause the probability of adverse events in them being underestimated. However, an absence of loss of consciousness is certainly not associated with better prognosis and requires the same level of thoroughness in diagnosis as complete loss of consciousness. When the duration of cerebral underperfusion is shorter, e.g. thanks to appropriate counteracting measures being taken promptly, complete loss of consciousness does not occur. Although the comorbidities of younger patients are comparable to those of older patients, better compensation abilities may explain incomplete loss of consciousness (14, 15).

Our results show that emergency department patients present different medical problems than those of specialized clinics (31, 32). Standardized syncope diagnosis strategies that are suitable for specialized

Kaplan-Meier analysis of patients presenting to a German emergency department with syncope or near syncope. The figure shows the survival curves for the endpoint death (a) and the combined endpoint event-free survival (b).

syncope units or cardiology clinics (31, 32) cannot necessarily be transferred to the challenges that arise with emergency department patients. A suspected benign etiology for syncope, such as reflex syncope (neurally mediated syncope caused by inadequate cardiovascular reflex responses [33, 34]), must be critically queried in the context of emergency care in an emergency department (5, 15). For older patients in particular, reflex syncope should be considered a symptom that may potentially indicate a serious disease and therefore requires careful evaluation (35–37). This is also true for near syncope patients: 8% ($n = 12$) of reflex syncope patients present a severe infection, and 15% ($n = 12$) suffer other serious adverse events during short-term (30-day) follow-up. In summary, it can be established that the benign prognosis postulated for reflex syncope does not hold true for the heterogeneous patient population of an emergency department (33, 34, 38, 39).

Limitations

This study has the following limitations:

The study was single-center, so the extent to which its findings can be applied generally must be interpreted critically. The reproducibility of earlier findings,

the prospective nature of the study, its large patient population, and the completeness of follow-up (95% at six months) indicate high data quality and highlight how pertinent the analysis is.

Case numbers were not calculated prospectively. The fact that there was no statistical difference in the primary endpoint between the two types of syncope examined cannot be taken as indicating clinical equivalence. Ideally, this might be investigated in the future, in valid, multicenter research.

Because the definition of near syncope is unclear, patients suffering from general reduced performance may have been included erroneously. However, the fact that two independent physicians with access to all examination findings during the follow-up period agreed on the gold-standard diagnosis leads us to conclude that data quality was high. In this respect this study contrasts favorably with many others.

Summary

The 30-day adverse event rate in patients presenting to an emergency department in a hospital providing the maximum range of services with syncope or near syncope—32%—is very high. The prognosis for near syncope was not substantially different from the prognosis for syncope. The types of serious adverse events are also comparable. In order to avoid potentially endangering patients with near syncope, its cause should therefore be just as comprehensively investigated as that of syncope.

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Conflict of interest statement

Prof. Christ has received lecture fees from Roche, Novartis Pharma, Alere, and Radiometer. Roche and Novartis Pharma have funded research projects of Prof. Christ's.

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Ms. Greve, Ms. Geier, Dr. Popp, Prof. Bertsch, PD Dr. Singler, Dipl.-Sozialwirt Meier, Mr. Smolarsky and Prof. Mang declare that no conflict of interest exists.

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TABLE 3

Predictive factors for the combined endpoint death or adverse event in patients with syncope or near syncope

Variable	Univariate analysis			multivariable analysis		
	OR	95% CI	p	OR	95% CI	p
Age	1.04	1.03 to 1.06	<0.001	1.03	1.01 to 1.06	0.002
Male sex	1.08	0.70 to 1.66	0.74			
Charlson Comorbidity Index: total	1.38	1.24 to 1.53	<0.001	0.99	0.82 to 1.18	0.87
Stay at facility	1.30	0.52 to 3.21	0.58			
Admitted by emergency physician/paramedics	1.11	0.64 to 1.90	0.72			
Type of syncope: near syncope	0.74	0.47 to 1.17	0.20			
History: recurring syncope	0.82	0.46 to 1.47	0.51			
Prodromi	0.54	0.32 to 0.90	0.02	0.87	0.45 to 1.68	0.68
Systolic blood pressure, mm Hg	0.99	0.98 to 1.00	0.07			
Oxygen saturation, %	0.79	0.73 to 0.86	<0.001	0.91	0.82 to 1.00	0.05
Heart rate, b.p.m.	1.03	1.02 to 1.04	<0.001	1.03	1.01 to 1.05	0.001
Hemoglobin, g/dL	0.75	0.66 to 0.84	<0.001	0.91	0.76 to 1.10	0.32
WBC, 10 ³ /μL	1.10	1.03 to 1.18	0.005	1.03	0.93 to 1.14	0.58
Creatinine, mg/dL	3.37	2.13 to 5.35	<0.001	2.53	1.24 to 5.16	0.01

Logistic regression analysis was performed on predictive factors for death or an adverse event in patients who had presented to the emergency department with syncope or near syncope. The odds ratios (ORs) and 95% confidence intervals (95% CIs) for the variables are shown.

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KEY MESSAGES

- The constellation of symptoms “syncope” or “near syncope” is relatively common in emergency departments (accounting for 3% of patients) and poses major challenges to their treatment teams.
- The majority of these patients suffer syncope, with loss of consciousness (62%), while 38% suffer near syncope.
- The overall adverse event rate, 32%, is high: an adverse event occurs in 34% of syncope patients and 27% of near syncope patients during 30-day follow-up after the index event. There are no differences between the two patient groups in terms of the type or frequency of adverse events.
- The characteristics and comorbidities of near syncope patients are similar to those of syncope patients, as are their risk profiles and prognoses; however, syncope patients are admitted to the hospital more frequently, and their hospital stays are longer.
- The procedure for establishing the cause of incomplete loss of consciousness should therefore be just as standardized and thorough as for complete loss of consciousness.

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ORIGINAL ARTICLE

The Prevalence and Prognostic Significance of Near Syncope and Syncope

A prospective study of 395 cases in an emergency department (the SPEED Study)

Yvonne Greve, Felicitas Geier, Steffen Popp, Thomas Bertsch, Katrin Singler, Florian Meier, Alexander Smolarsky, Harald Mang, Christian Müller, Michael Christ

eFIGURE 1

Recruitment of syncope or near syncope patients included in analysis
(July 17, 2011 to October 31, 2011)
ED: Emergency department; TIA: Transient ischemic attack

eFIGURE 2

Etiology of syncope and near syncope and distribution of causes in patients with syncope and near syncope

eFIGURE 3

Further care received by patients with syncope or near syncope after presenting to a German emergency department
ICU: Intensive care unit; IMC: Intermediate care unit