Senkop: Mortal Seyreden Durumlar

Uz. Dr. Mustafa Önder GÖNEN
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Senkop nedir?

- Postural tonus kaydı ile birlikte seyreden herhangi bir tıbbi müdahale gerektirmeyen geçici kısa süreli bilinç kaybıdır.
- Altta yatan temel mekanizma her iki serebral kortexte global hipoperfüzyon veya retiküler aktive edici sistemde fokal hipoperfüzyondur.
- Öncesinde; baş dönmesi, terleme, göz kararması, bulantı, halsizlik gibi prodromal semptomlar olabilir.

- Presenkop. senkopun öncül hali olup bilinç kaybı görülmez.
- USA'da her yıl acil servis başvurularının %1-3'ü senkop nedeniyledir.
- İnsanların %40'ı hayatında en az bir defa senkop oluyor.
- Senkop hastalarının 1/3'ü herhangi bir tanı konulamadan acil servisten ayrılmaktadırlar.

D'Ascenzo F, Biondi-Zoccai G, Reed MJ, Gabayan GZ, Suzuki M, Costantino G et al. Incidence, etiology and predictors of adverse outcomes in 43,315 patients presenting to the Emergency Department with syncope: an international meta-analysis. Int J Cardiol 2013;167:57–62.

Patofizyoloji

- Serebral perfüzyonun %35 azalması veya 5-10 saniye boyunca tamamen kesilmesi semptomların gelişmesine neden olacaktır.
- Bunun dışında kardiak outputta azalma, vazospazm ve kan akımında diğer değişikliklerde SSS'ne kan akımını azaltarak senkopun oluşumuna katkı sağlamaktadır.

Etyoloji

- Yapısal kalp hastalığı olmayanlarda en sık senkop sebebi vazovagal senkoptur.
- Kardiyak kökenli senkop en kötü prognoza sahip olup yıllık mortalite %20-30 dur.
- Day ve arkadaşlarının yaptığı çalışmada ise %40 vazovagal –psikojenik,%32 hastada SSS,%8 kardiyak,%7 ilaca bağlı, %13 nedeni bilinmeyen olarak sıralanmıştır.

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Review

Syncope: Classification and risk stratification

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Table 1
The diagnostic classification of the causes of syncope modified from the European Society of Cardiology syncope practice guidelines.

Reflex (neurally-mediated) syncope
- Vasovagal:
  - triggered by emotional distress
  - triggered by orthostatic stress
- Situational:
  - cough, sneeze
  - gastrointestinal stimulation
  - micturition
  - others
- Carotid sinus syncope

Orthostatic hypotension syncope
- Volume depletion:
  - inadequate fluid intake (hot weather), diarrhea, vomiting, etc.
- Drug-induced orthostatic hypotension:
  - alcohol, vasodilators, diuretics, beta-adrenergic blockers
- Primary autonomic failure:
  - pure autonomic failure, multiple system atrophy, Parkinson's disease with autonomic failure, Lewy body dementia
- Secondary autonomic failure:
  - diabetes, amyloidosis, spinal cord injuries

Cardiac syncope (cardiovascular)
- Arrhythmia as primary cause:
  - Bradycardia:
    - sinus node dysfunction, atrioventricular conduction system disease
    - implanted device malfunction
  - Tachycardia:
    - supraventricular including atrial fibrillation
    - ventricular (idiopathic secondary to structural heart disease, or due to channelopathies)
- Structural disease:
  - Cardiac: cardiac valvular disease, acute myocardial infarction/ischemia, hypertrophic cardiomyopathy, cardiac masses (atrial myxoma, tumors, etc.), pericardial disease/tamponade, congenital anomalies of coronary arteries, prosthetic valves dysfunction
  - Other cardiovascular: pulmonary embolus/hypertension, acute aortic dissection

- Serebro vasküler sebepler bağlı senkop:TİA, Steal Sendromu(Subklavian kaçış)
- Senkop benzerleri:intoksikasyon, nöbet,konküzyon vb.
- Pskojenik pseudo-senkop

Senkop Risk Sınıflandırmaları

Table 2
Short-term risk (1 week to 1 month).

Study	Clinical markers
San Francisco [18]	Abnormal ECG, low blood pressure, CHF, SOB, hematocrit <30%
Rose rule [19]	Abnormal ECG, elevated BNP, chest pain, fecal blood
STePS [21]	Abnormal ECG, trauma, no warning, male gender

ECG, echocardiography; CHF, congestive heart failure; SOB, shortness of breath; BNP, brain natriuretic peptide.

Table 3
Longer-term.

Study	Clinical markers
Martin et al. [22]	Abnormal ECG, CHF, SOB, ventricular arrhythmia, age >45 years
OESIL score [23]	Abnormal ECG, age >65 years, history of cardiovascular disease, no warning
EGSYS [24]	Palpitation before event, abnormal ECG or heart disease, syncope during effort, syncope supine

ECG, echocardiography; CHF, congestive heart failure; SOB, shortness of breath.

- Soteriades'in yaptığı çalışmada(7814 hasta 17 yıl boyunca izlenmiş,822 hastada senkop rapor edilmiş) Çalışmada senkop nedenleri: vazovagal (%21,2), kardiyak (%9,4), ortostatik (%9), nöbet (%5), nörolojik (%4,1) ve nedeni bilinmeyen (%36,6) olarak sıralanmştır.

- Kapoor ve arkadaşlarının yaptığı çalışmada; senkop tanısı ile başvuran 433 hastanın 5 yıllık mortalite ve morbidite çalışmasında %50,5' kardiyak nedenlere bağlı ex olmuş ve bu hastaların %33,1'i kardiak nedenlere bağlı senkop geçişmiştir.

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Patterns and Pre-existing Risk Factors of 30-day Mortality after a Primary Discharge Diagnosis of Syncope or Near Syncope

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- 1 ocak 2002-31 aralık 2006 tarihleri rasında acil servise başvuran erişkin sadece senkop veya near(pre) senkop tanısı alan hastaların kısa dönem(30 günlük mortalitesi) hakkında yapılmış bir retrospektif kohort çalışmasıdır.
- 5 yıllık sürede 46130 kişi senkop nedeniyle acil servise başvurmuştur.
- 22189 kişi sadece senkop tanısı ile 23951 defa acil servise başvurmuştur.

Table 1

Characteristics of study participants at the time of their first ED visit during the study period.

Characteristic	Study Cohort (N = 22,189)	Survived past 30 days (n = 21,908)	Died by 30 days (n = 281)	P-value *
Age (years)† mean (±SD)	58.8 (±21.0)	58.5 (±21.0)	76.9 (±12.2)	<0.001
Age (years)† n (%)				<0.001
18-39	5,008 (22.57)	5,005 (22.85)	3 (1.07)	
40-59	5,599 (25.23)	5,574 (25.44)	25 (8.90)	
60-79	7,464 (33.64)	7,339 (33.50)	125 (44.48)	
80 plus	4,118 (18.56)	3,990 (18.21)	128 (45.55)	
Female n (%)	12,727 (57.36)	12,602 (57.52)	125 (44.48)	<0.001
Race/ethnicity, n (%)				<0.001
White	10,186 (45.91)	10,013 (45.7)	173 (61.57)	
Hispanic	3,907 (17.61)	3,875 (17.69)	32 (11.39)	
Black or African American	2,874 (12.95)	2,837 (12.95)	37 (13.17)	
Asian or Pacific Islander	1,106 (4.98)	1,090 (4.98)	16 (6.1)	
Other, multiple, unknown	4,116 (18.55)	4,093 (18.68)	23 (8.19)	
Admitted to hospital†‡ n (%)	7,571 (34.12)	7,356 (33.58)	215 (76.51)	<0.001
Syncope visits per subject mean (±SD)	1.08 (±0.34)	1.08 (±0.34)	1.03 (±0.17)	0.011
Pre-existing comorbidity†,§ n (% of cohort)				
Diabetes	4,195 (18.91)	4,083 (18.64)	112 (39.86)	<0.001
Heart failure	2,436 (10.98)	2,316 (10.57)	120 (42.70)	<0.001
Hypertension	11,387 (51.32)	11,169 (50.98)	218 (77.58)	<0.001
Dysrhythmia§	2,729 (12.30)	2,638 (12.04)	91 (32.38)	<0.001
Valvular heart disease	1,575 (7.10)	1,516 (6.92)	59 (21.00)	<0.001
Myocardial infarction	1,165 (5.25)	1,122 (5.12)	43 (15.30)	<0.001
Cerebrovascular disease	1,413 (6.37)	1,378 (6.29)	35 (12.46)	<0.001
Seizure	809 (3.65)	787 (3.59)	22 (7.83)	<0.001
Dementia	1,281 (5.77)	1,236 (5.64)	45 (16.01)	<0.001
Gastrointestinal hemorrhage	591 (2.66)	578 (2.64)	13 (4.63)	0.058

*P-value for comparison of a characteristic between the group who died and the group who survived at 30 days based on a two-sided hypothesis: Fischer's Exact test and Wilcoxon Rank Sum test.

†Based on first ED visit for syncope during the study period in subjects with multiple visits.

‡Admission the same day or the day after the ED visit.

§Comorbidity definitions are provided in the Data Supplement. Dysrhythmia included a past history of 3rd degree heart block, Mobitz II heart block, other heart block, ventricular tachycardia, ventricular fibrillation or flutter, atrial fibrillation or flutter, paroxysmal atrial tachycardia, SA node dysfunction, anomalous AV excitation (pre-excitation), other conduction disorders, and cardiac arrest.

- Yaş
- Cinsiyet
- Etnik köken
- Hastaneye yatırılma
- Komorbit hastalık(GİS kanama hariç)
- Mortalite açısından anlamlıdır.

- Acil servis ziyaretinden 7-30-365 gün sonra sırasıyla 107-321-1655 mortalite görülmektedir.

Table 2

Causes of death by time interval following the final ED visit for syncope during the study period.

Cause of Death	0-7 days	8-30 days	Total by 30 days
Heart disease	42 (39.25)	71 (33.18)	113 (35.20)
Cancer	15 (14.02)	50 (23.26)	65 (19.31)
Stroke	10 (9.35)	16 (7.48)	26 (6.54)
Respiratory	4 (3.74)	16 (7.48)	20 (5.92)
Injuries*	5 (4.67)	5 (2.34)	10 (3.12)
Diabetes	2 (1.87)	13 (6.07)	15 (4.67)
Alzheimer's, other dementia	3 (2.80)	10 (4.67)	13 (4.05)
Liver	1 (0.93)	1 (0.47)	2 (0.62)
Renal	4 (3.74)	8 (3.74)	12 (3.74)
Infectious	6 (5.61)	7 (3.27)	13 (4.05)
Other	13 (12.15)	12 (5.61)	25 (7.79)
Missing cause	2 (1.87)	5 (2.34)	7 (2.18)
Total (column)	107 (100)	214 (100)	321 (100)

* Includes unintentional and intentional injuries.

Values are reported as n (%)

Cause of death was categorized according to the ICD-10 category blocks.

7-30 günlük mortaliteler değerlendirildiğinde en sık kalp hastalıklarına bağlı mortalite gözükmektedir.

Table 3

Risk factors for death by 30 days subsequent to any ED visit for syncope during the study period (proportional hazards model).

Characteristics	Death by 30 days		
	HR	(95% CI)	P-value
Male	1.36*	1.08-1.72	0.009
Age*			
60-79 years	6.59*	3.83-11.34	<0.001
80 plus years	11.73*	6.58-20.92	<0.001
Recent visit for syncope†	1.86*	1.08-3.18	0.024
Diabetes	1.49*	1.16-1.90	0.002
Hypertension	0.79	0.57-1.10	0.161
Dysrhythmia	1.14	0.88-1.48	0.318
Valvular heart disease	1.16	0.86-1.56	0.332
Myocardial infarction	1.16	0.83-1.62	0.380
Cerebrovascular disease	0.92	0.66-1.28	0.622
Seizure	1.65*	1.10-2.48	0.016
Dementia	1.41*	1.03-1.94	0.034
Gastrointestinal hemorrhage	0.88	0.52-1.51	0.652
Heart failure‡			
18-59 years	14.3*	6.28-32.5	<0.001
60-79 years	3.09*	2.12-4.49	<0.001
80 plus years	2.34*	1.63-3.36	<0.001

* Reference group: age 18-59 years.

† Defined as one or more visits within the 30 days of the index ED visit.

‡ HR for presence vs. absence of the comorbidity within the same age group.

* Significant associations (P<0.05).

Multivariable Cox proportional hazards model using all ED visits for syncope during the study period. Multiple visits by a participant were clustered for correction of standard errors using the robust, sandwich estimator. ED visits among 415 patients during the first month of the study (Jan 2002) were dropped from analysis so that all patients included in the regression model had at least one month of observation to determine a history of prior syncope visits within 30 days of the index ED visit. Among the 21,774 patients included in the model, there were 23,491 visits, 103 deaths at 7 days, and 307 deaths at 30 days.

Comorbidity definitions are provided in the Data Supplement.

- >6oyaş mortalite anlamlı olarak yükseliyor.
- Ayrıca kalp yetmezliği hastalarında mortalite her yaş grubunda anlamlı olarak yükseliyor.

Table 4

Mortality at 30 days given heart failure, sex, and age.

Sex and Age (years)	Deaths per 1,000 Cases (95% CI) Heart Failure	
	No	Yes
Males		
18-59	1.9 (0.7-3.8)	33.5 (7.2-59.9)
60-79	14.5 (10.6-19.3)	41.9 (28.0-60.0)
80 plus	35.4 (25.7-47.3)	55.9 (36.8-80.9)
Females		
18-59	1.8 (0.9-3.2)	26.3 (5.5-75.0)
60-79	9.0 (6.0-12.9)	45.9 (29.3-68.1)
80 plus	13.0 (8.4-19.1)	66.8 (46.7-92.1)

Confidence intervals were based on the binomial distribution and determined using the exact method. Cells with zero had no deaths. The numbers of participants with pre-existing heart failure is provided in Table 1.

- Kalp yetmezliği senkop hastalarında ölüm riskini en fazla arttıran etken olarak her yaş grubunda görülmektedir.

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

Deutsches Ärzteblatt International | Dtsch Arztebl Int 2014; 111(12): 197–204

- Acil servise temmuz ve ekim 2011 yılları arasında başvuran senkop ve near senkop tanısı alan 395 hastanın mortalite ve morbiditelerini araştırmıştır.
- Near syncope: bilinç kaybı ve kas tonusu kaybı olmadan bayılmadır.

TABLE 1

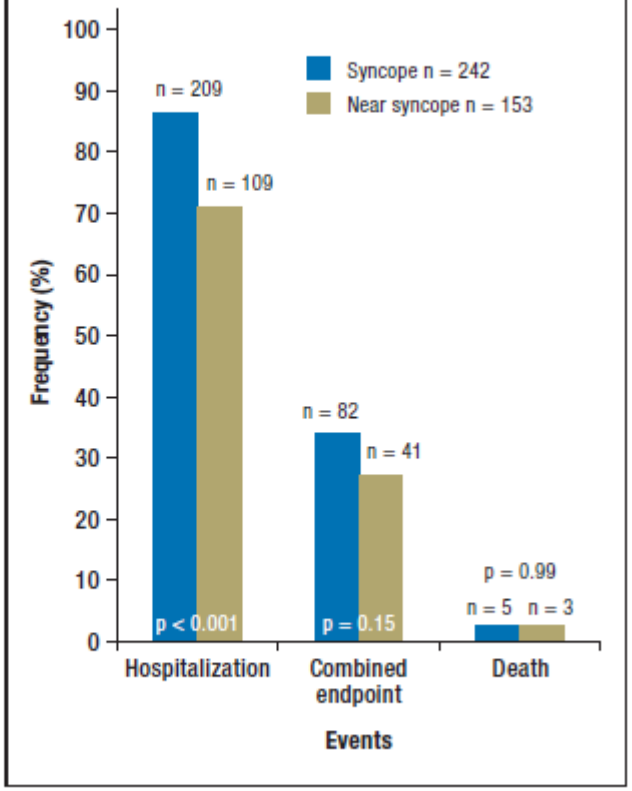
Demographic and other characteristics of patients presenting to the emergency department with syncope or near syncope

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, $10^3/\mu L$	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 ($p \leq 0.05$)
CHD: Coronary heart disease; pAOD: Peripheral arterial obstructive disease; WBC, white blood cells
Q_1: 25th quartile; Q_3: 75th quartile

- 30 gün takipleri sonucunda hastalar arasında mortalite açısından anlamlı fark yoktur.

FIGURE 2



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.

Clinical Investigation

PREVENTION

Etiology of Syncope in Patients Hospitalized With Syncope and Predictors of Mortality and Rehospitalization for Syncope at 27-Month Follow-Up

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- Acil servise başvuran 325 hasta çalışmaya dahil edildi.
- Ortalama yaş:66, %59 erkek cinsiyet
- Osservatorio Epidemiologico sulla Sincope nel Lazio (OESIL) risk skorlaması (>65 yaş, Kv hastalık, prodromal semptom olmaması, EKG değş.) ve San Francisco syncope rule (SFSR: EKG değş.,dispne, hmt <%30, sistolik kb <90mmHg/KY öyküsü) bütün hastalara uygulanıyor.

Table 1. Baseline Characteristics of 325 Patients

SD Variable	Mean +/− or No. (%)
Age, y	66+/−17
Men	192 (59)
Women	133 (41)
Whites	227 (70)
Nonwhites	98 (30)
Systemic hypertension	249 (77)
Diabetes mellitus	74 (23)
Dyslipidemia[a]	172 (53)
Coronary artery disease	107 (33)
Congestive heart failure	26 (8)
Smoker	48 (15)
Glomerular filtration rate, mL/min	73 +/− 29
per 1.73 m²	
Aspirin use	130 (40) b-
Blocker use	141 (43)
ACEI/ARB use	147 (45)
Calcium channel blocker use	66 (20) a-
Blocker use	20 (6)
Lipid-lowering medication use	138 (43)
Diuretic use	79 (24)
Nitrate use	19 (6)
Psychotropic medications use	74 (23)
Narcotics use[b]	23 (7)
Trauma/injury during syncope	57 (18)
Absence of prodromal symptoms	165 (51)
Orthostatic hypotension	30 (9)

Abbreviations: ACEI, angiotensin-converting enzyme inhibitor; ARB, angiotensin receptor blocker; SD, standard deviation.
[a]Defined as serum cholesterol >/ =200 mg/dL, serum low-density lipoprotein cholesterol >/ = 100 mg/dL, serum high-density lipoprotein cholesterol <40 mg/dL, or serum triglycerides >150 mg/dL, or use of lipid-lowering drugs.
[b]Narcotic use was appropriate in all patients taking narcotics.

Table 2. Etiology of Syncope on Workup of 325 Patients

Etiology	No. (%)
Vasovagal	58 (18)
Volume depletion (including acute blood	39 (12)
loss and dehydration)[a]	
Orthostatic hypotension	8 (3)
Bradyarrhythmias	28 (9)
Sick sinus syndrome	18 (6)
Advanced second- or third-degree	10 (3)
atrioventricular block	
Tachyarrhythmias	36 (11)
Supraventricular tachyarrhythmias	15 (5)
Ventricular tachyarrhythmias	20 (6)
Pacemaker-mediated tachycardia	1 (<1)
Cardiomyopathy leading to implantable	7 (2)
cardioverter-defibrillator	
Acute coronary syndromes	23 (7)
Aortic stenosis	8 (3)
Hypertrophic obstructive cardiomyopathy	4 (1)
Carotid sinus hypersensitivity	7 (2)
Intracranial abnormalities (hemorrhage, stroke, tumor)	5 (2)
Anaphylaxis	2 (1)
Pulmonary embolism	2 (1)
Hypoglycemia	3 (1)
Sedative overdose	5 (2)
Primary pulmonary hypertension	2 (1)
Micturition syncope	2 (1)
Heat stroke	1 (<1)
Cardiac tamponade	1 (<1)
Etiology undetermined	84 (26)

[a]Volume depletion was diagnosed by a combination of clinical findings including dry mucous membranes, orthostatic hypotension, elevated blood urea nitrogen/serum creatinine ratio, and clinical improvement with restoration of euvolemia.

Table 3. Incidence of Death and Readmission for Syncope at 27-Month Follow-Up in 324 Patients

Outcomes	No. (%)
Death	38 (12)
Readmission for syncope	13 (4)

1 yıllık mortalite incelemesinde OESIL >57% artış gösteriyor.

SFSR ilk 7 gün mortalitede %96 sensitivite, %62 spesifitesi mevcut.

Fakat; Senkop hastalarında uzun dönem(27 aylık) mortalite ve tekrar hastaneye yatışta OESIL skoru ve SFSR anlamlı değil.

Clinical Investigations

Evaluation of the $CHADS_2$ Risk Score on Short- and Long-Term All-Cause and Cardiovascular Mortality After Syncope

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- Atrial fibrilasyonlu hastalarda uygulanan CHADS2(Kalp yetmezliği, Hipertansiyon, Yaş>75, Diyabetes Mellitus, İnme/TİA-2 puan) skorlama sisteminin senkop sonrası kardiyo vasküler mortalitede artışı ile ilgili yapılmış bir çalışmadır.

- Hastaları ortalama takip süresi 4.2 yıl olarak ölçülmüştür.

- Toplamda 37750 senkop hastası ve 188525 kontrol grubu hastası çalışmaya dahil edilmiştir.
- 7761(%21) senkop hastası exitus olmuştur.
- 4020(%52)'si kardiyo vasküler nedenlere bağlı ex. olmuştur.
- Kontrol grubu 27862(%15) hasta exitus olmuştur.%50 kardiyovasküler nedene bağlı ölümdür.

Table 1. Baseline Characteristics of the Syncope Population

Characteristics	$CHADS_2 = 0$, N = 21 197 (56.2%)	$CHADS_2 = 1–2$, N = 13 589 (36.0%)	$CHADS_2 = 3–4$, N = 2710 (7.2%)	$CHADS_2 = 5–6$, N = 209 (0.6%)
Age, median (range), y	45 (30–59)	77 (67–83)	79 (75–85)	81 (77–85)
Male sex (%)	9885 (47)	6203 (46)	1418 (52)	110 (53)
Hypertension (%)	0	6630 (49)	1757 (65)	193 (92)
Ischemic heart disease (%)	390 (2)	1699 (13)	729 (27)	100 (48)
Cerebral vascular disease (%)	0	549 (4)	1694 (63)	209 (100)
Previous myocardial infarction (%)	132 (1)	667 (5)	293 (11)	41 (20)
Cardiac conduction disorder (%)	117 (1)	315 (3)	118 (4)	13 (6)
Previous atrial fibrillation (%)	254 (1)	1148 (8)	587 (22)	84 (40)
Heart failure (%)	0	934 (7)	837 (31)	154 (74)
Diabetes (%)	0	1511 (11)	847 (31)	116 (56)
COPD (%)	1335 (6)	1423 (10)	370 (14)	29 (14)
Cancer (%)	327 (2)	564 (4)	146 (5)	9 (4)
Renal disease (%)	39 (0)	229 (2)	108 (4)	12 (6)
Concomitant pharmacotherapy				
Statins (%)	799 (4)	2715 (20)	900 (33)	82 (39)
β-blockers (%)	650 (3)	3555 (26)	1002 (37)	106 (51)
ACEI/ARB (%)	498 (2)	5609 (41)	1,515 (56)	165 (79)
Loop diuretics (%)	381 (2)	2273 (17)	940 (35)	137 (66)
Spironolactone (%)	69 (0)	621 (5)	344 (13)	52 (25)
Thiazide (%)	447 (2)	3360 (25)	726 (25)	53 (25)
Calcium channel blockers (%)	379 (2)	3192 (23)	800 (30)	90 (43)
Nitrates (%)	173 (1)	1367 (10)	452 (17)	60 (28)
Digoxin (%)	99 (0)	884 (7)	432 (16)	61 (29)
ASA (%)	686 (3)	3694 (27)	1230 (45)	104 (50)
VKA (%)	220 (1)	790 (6)	351 (13)	40 (19)
Antidepressants (%)	2238 (11)	2397 (18)	714 (26)	64 (31)
Antiepileptics (%)	678 (3)	580 (4)	217 (8)	25 (10)
Anxiolytics (%)	2957 (14)	3958 (29)	900 (33)	70 (33)

Abbreviations: ACEI, angiotensin-converting enzyme inhibitor; ARB, angiotensin receptor blocker; ASA, acetylic salicylic acid; COPD, chronic obstructive pulmonary disorder; VKA, vitamin K antagonists.

Table 2. Univariate and Multivariate Cox Proportional Hazard Models Depicting Hazard Ratios of All-Cause Mortality and Cardiovascular Death in Patients With Syncope According to $CHADS_2$ Score, With $CHADS_2$ Score = 0 as Reference

	$CHADS_2$ Score	Hazard Ratio (Unadjusted), $CHADS_2$ Score = 0 Is Reference	95% Confidence Interval	Hazard Ratio (Adjusted), $CHADS_2$ Score = 0 Is Reference	95% Confidence Interval
Death from all-cause long term	1–2	6.37	6.02-6.76[a]	5.60	5.28-5.94[a]
	3–4	11.09	10.30-11.94[a]	8.29	7.66-8.96[a]
	5–6	19.23	16.16-22.97[a]	12.97	10.81-15.56[a]
Death from all-cause within 1 year	1–2	5.46	4.91-6.07[a]	4.53	4.06-5.04[a]
	3–4	10.24	9.02-11.61[a]	6.90	6.03-7.10[a]
	5–6	17.45	13.38-22.76[a]	10.35	7.84-13.68[a]
Death from all-cause within 1 week	1–2	6.87	4.88-9.87[a]	5.75	3.80-8.31[a]
	3–4	13.16	8.71-19.90[a]	9.69	6.25-15.02[a]
	5–6	20.11	8.95-45.19[a]	14.61	6.29-33.97[a]
Cardiovascular death long term	1–2	10.57	9.56-11.66[a]	9.11	8.25-10.07[a]
	3–4	24.85	22.26-27.75[a]	17.32	15.42-19.47[a]
	5–6	47.80	38.70-59.03[a]	26.66	21.40-33.21[a]
Cardiovascular death within 1 year	1–2	10.32	8.51-12.53[a]	8.59	7.06-10.45[a]
	3–4	28.24	23.00-34.68[a]	18.05	14.53-22.41[a]
	5–6	51.80	37.23-72.08[a]	26.27	18.58-37.13[a]
Cardiovascular death within 1 week	1–2	10.48	5.85-18.77[a]	8.90	4.94-16.05[a]
	3–4	29.76	16.15-54.86[a]	20.75	10.93-39.38[a]
	5–6	55.67	22.21-139.53[a]	33.42	12.75-87.57[a]

Multivariate model adjusted for sex, year of inclusion, and comorbidities noted in baseline characteristics except for the variables involved in the $CHADS_2$ score.

[a]Denotes a *P* value < 0.001.

- Referans gruba göre bütün mortalite sürelerinde senkop hastalarında artış görülmektedir.
- Uzun dönemde CHADS2 0-1-2'de sonkop hastalarında mortalite artmıştır.

Table 3. Long-term Mortality Rates per 1000 Person-Years According to $CHADS_2$ Score in Syncope and Control Population

	All-Cause Mortality–Syncope	Cardio-vascular Mortality–Syncope	All-Cause Mortality–Control	Cardio-vascular Mortality–Control
$CHADS_2$ score 0	15.1	4.8	7.5	2.3
$CHADS_2$ score 1–2	97.9	51.0	85.5	42.8
$CHADS_2$ score 3–4	172.8	121.9	178.1	120.8
$CHADS_2$ score 5–6	310.9	242.3	272.2	211.1

Table 4. Multivariate Cox Model Comparing Syncope With Controls According to CHADS2 Score

	$CHADS_2$ Score	Hazard Ratio Syncope–Control	95% Confidence Interval	*P* Value	Events Syncope/Control
All-cause mortality long-term	0	2.14	2.02-2.27	<0.001	1516/4289
	1–2	1.29	1.25-1.33	<0.001	4741/19587
	3–4	1.09	1.02-1.16	0.009	1368/3683
	5–6	1.25	1.01-1.54	0.039	136/303
All-cause mortality 1 year	0	2.78	2.48-3.13	<0.001	445/837
	1–2	1.43	1.34-1.51	<0.001	1477/5181
	3–4	1.18	1.06-1.30	0.002	524/1317
	5–6	1.27	0.93-1.73	0.131	62/130
All-cause mortality 1 week	0	4.17	2.62-6.62	<0.001	36/40
	1–2	2.84	2.33-3.48	<0.001	158/259
	3–4	1.83	1.32-2.54	<0.001	60/95
	5–6	1.26	0.51-3.13	0.621	7/15
Cardiovascular death long-term	0	2.17	1.95-2.41	<0.001	477/1338
	1–2	1.29	1.24-1.35	<0.001	2472/9798
	3–4	1.10	1.02-1.19	0.010	965/2498
	5–6	1.19	0.94-1.51	0.152	106/235
Cardiovascular death 1 year	0	2.81	2.34-3.52	<0.001	119/235
	1–2	1.41	1.29-1.53	<0.001	748/2542
	3–4	1.20	1.06-1.35	<0.003	388/929
	5–6	1.20	0.85-1.69	0.306	50/104
Cardiovascular death 1 week	0	8.01	3.22-19.93	<0.001	13/8
	1–2	3.76	2.81-5.03	<0.001	87/104
	3–4	2.34	2.60-3.44	<0.003	49/60
	5–6	1.60	0.62-4.15	0.332	7/12

Multivariate model adjusted for age, sex, year of inclusion, and comorbidities (not in the $CHADS_2$ score).

- CHADS2 skoru 0-1-2 olan bütün hastalarda bütün ve kardiyo vasküler mortalite senkop hastalarında kontrol grubuna göre anlamlı olarak artmıştır.

- Özellikle kardiyo vasküler mortalite oranları bir yıla kadar güne kadar CHADS2'de 3-4 de de anlamlıdır.

Table 5. Individual $CHADS_2$ Risk Factor Covariates Contribution in Composing a Total $CHADS_2$ Scores of 1 and 2.

	Hazard Ratio	95% Confidence Interval	*P* Value
$CHADS_2$ score = 0	1.00	NA	NA
$CHADS_2$ score = 1			
Hypertension	1.80	1.74-1.85	<0.001
Heart failure	3.84	3.68-4.00	<0.001
Diabetes	2.13	2.04-2.22	<0.001
Age >75 years	5.73	5.55-5.91	<0.001
$CHADS_2$ score = 2			
Diabetes + heart failure	3.97	3.66-4.31	<0.001
Diabetes + hypertension	2.08	1.96-2.21	<0.001
Diabetes + age >75 years	3.52	3.33-3.72	<0.001
Heart failure + hypertension	3.41	3.24-3.59	<0.001
Heart failure + age >75 years	4.93	4.70-5.17	<0.001
Hypertension + age >75 years	2.72	2.63-2.82	<0.001
Previous stroke	2.54	2.43-2.64	<0.001

Abbreviations: NA, not applicable.
Results from Cox proportional hazard analysis using $CHADS_2$ score of 0 as a reference.

- CHADS2 skorlaması senkop hastalarında mortalite açısından yüksek prognostik bir risk göstergesi olarak kullanılabilir.

Observational Study

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Deceleration capacity as a risk predictor in patients presenting to the emergency department with syncope

A prospective exploratory pilot study

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- Senkop ile başvuran deselerasyon kapasitesi düşmüş hastalar(kalp yetmezliği, MI, aort stenozu vb.) üzerine çalışma yapılmıştır.
- Acil servise kasım 2010-aralık 2012 tarihleri arasında senkop tanısı başvuran 529 hasta prospektif inceleniyor. 134 hasta sinüs ritmi olmaması veya sinyal kalitesi kötü olması nedeniyle dışlanıyor.
- 395 hasta çalışmaya dahil ediliyor.

- Deselerasyon kapasitesi 5 adımda ölçülüyor 14 puan üzerinden değerlendiriliyor. <7 yüksek risk, >7 düşük risk kabul ediliyor.
- Hastalara MEWS(Modified Early Warning Score) ve SFSS (San Francisco syncope rule: EKG değş.,dispne, hmt <%30, sistolik kb <90mmHg/KY öyküsü) skoru uygulandı.
- Hastalara 180 günlük takip uygulandı.

Table 1

Baseline characteristics and outcomes of the study population.

Demographics	All patients (n = 395)
Age, y	57.1 ± 20.0
Females, n	201 (50.9%)
Medical history	
Previous myocardial infarction, n	21 (5.3%)
Stroke, n	25 (6.3%)
Peripheral arterial obstructive disease, n	21 (5.3%)
Chronic renal insufficiency, n	29 (7.3%)
Hypertension, n	178 (45.1.0%)
Diabetes mellitus, n	55 (14.0%)
Hyperlipidemia, n	60 (15.2%)
Smoking, n	62 (15.7%)
Family history of CVD, n	21 (5.3%)
Laboratory parameter	
Serum creatinine, mg/dL	0.9 ± 0.3
Hemoglobin, g/dL	13.5 ± 1.4
Vital signs	
Heart rate, 1/min	76 ± 15
Systolic blood pressure, mm Hg	139 ± 24
Oxygen saturation, %	97.2 ± 2.4
Respiratory rate, 1/min	16.1 ± 1.4
Criteria of the San Francisco Score	
Congestive heart failure, n	26 (6.6%)
Hematocrit <30%, n	2 (0.5%)
Abnormal ECG, n	32 (8.1%)
Shortness of breath, n	2 (0.5%)
Systolic BP <90 mm Hg, n	2 (0.5%)
Outpatient treatment, n	150 (38.0%)
Death after 180 d	8 (2.0%)

CVD = cardiovascular disease, ECG = electrocardiography.

Table 2

History of the patients who died while a 180-day period after admission to ED.

Patient's no.	Patient's history	Cardiac death
1	Congenital heart disease and pulmonary hypertension	Yes
2	Coronary artery disease	Yes
3	Coronary artery disease and heart failure	Yes
4	Previously healthy patient	Yes
5	Coronary artery disease and heart failure	Yes
6	Known malignancy	No
7	Multiple strokes	No
8	Known malignancy	No

ED = emergency department.

Table 3

Characteristics of survivors and nonsurvivors 180 d after ED admission.

	Survivors (n = 387)	Nonsurvivors (n = 8)	*P* value
Patient age, y	56.9 ± 20.0	67.00 ± 19.9	.15
Female, n	198 (51.2%)	3 (37.5%)	.44
MEWS, range 0–14	2.1 ± 1.0	2.1 ± 0.8	.84
Heart rate, 1/min	80 ± 15	76 ± 15	.14
Systolic blood pressure, mm Hg	139 ± 24	135 ± 31	.35
Oxygen saturation, %	97.3 ± 2.2	94.1 ± 7.3	.30
Respiratory rate, 1/min	16.1 ± 1.4	16.9 ± 1.9	.06
San Francisco-Score positive, n	53 (13.7%)	4 (50%)	.004
Hemoglobin, g/dL	13.5 ± 1.4	11.9 ± 2.5	.02
Creatinine, mg/dL	0.9 ± 0.3	1.3 ± 0.8	.06
DC, ms	6.7 ± 2.4	3.1 ± 2.5	<.001

DC = deceleration capacity, ED = emergency department, MEWS = modified early warning score.

- 180 günlük takipte %2(8) hasta ex oldu.
- DC anlamlı derecede farklıdır.
- MEWS ve SFSS de anlamlı fark görülmedi.

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CLINICAL RESEARCH
Syncope

Syncope recurrence and mortality: a systematic review

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- Acil servise senkop tanısıyla başvuran erişkin hastalarla ilgili prospektir makaleler taranmıştır.
- Kısa sürede(7 gün) mortalite, morbidite ve rekürrens sonuçları incelenmiştir.
- Eğer çalışmada 10-30 gün, 3 ay vb sonuçlar varsa onların sonuçlarıda incelenmiştir (7-810 gün).

- 45770 makale inceleniyor; çeşitli mnedenlerle makaleler ayrıştırılıyor.
- 25 makale meta analiz çalışmasına dahil ediliyor (1982-2012 yılları arasında).
- 1978-2009 yılları arasında 11158 (69-1474) hasta dahil ediliyor.
- Ortalama %46 erkek(38-58),
- Ortalama yaş 60(41-74) olarak ölçülüyor.

Table 1 Characteristics of the included studies

Author and publication year	Journal	Nation	Year of study begin	Multicentre study	Aim of the study	Number of patients	Mean age (years)	Percentage of males	Mean follow-up
Day (1982)	Am J Med	USA	1978	No	Diagnostic strategy and prognosis	198	44	44	330 days
Martin (1984)	Ann Emerg Med	USA	1982	No	Diagnosis	151	41	n.r.	6.2 months
Eagle (1985)	Am J Med	USA	1981	No	Prognosis	176	54	49	11.7 months
Racco (1993)	Minerva Med	Italy	1990	No	Prognosis	194	57	56	660 days
Martin (1997)	Ann Emerg Med	USA	1981	No	Derivation of Martin risk score	626	57	46	365 days
Wagner (2000)	Eur J Int Med	Switzerland	n.r.	No	Identification of hospitalization predictors	87	64	42	27 months
Sarasin (2001)	Am J Med	Switzerland	1997	No	Diagnostic strategy and prognosis	611	60	48	18 months
Crane (2002)	Emerg Med J	UK	1998	No	Prognosis according to ACP classification	189	55	39	365 days
Colivicchi (2003)	Eur Heart J	Italy	1997	Yes	Derivation of OESIL risk score	598	58	46	365 days
Cosgriff (2007)	Can J Emerg Med	Oceania	2005	No	Validation of SFSR	89	74	42	7 days
Grossman (2007)	J Emerg Med	USA	2003	No	Prognosis	293	58	42	30 days
Reed (2007)	Emerg Med J	UK	2005	No	Prognosis and validation of SFSR and OESIL risk score	99	71	48	n.r.
Birnbaum (2008)	Ann Emerg Med	USA	2005	No	Validation of SFSR	713	61	38	7 days
Costantino (2008)	JACC	Italy	2004	Yes	Prognosis	670	59	44	365 days
Quinn (2008)	Ann Emerg Med	USA	2000	No	Long term prognosis of SFSR	1474	62	44	365 days
Rodriguez-Entem (2008)	Rev Esp Cardiol	Spain	2005	No	Diagnostic strategy	199	67	54	237 days
Agarwal (2009)	Ann Emerg Med	USA	n.r.	No	Prognosis according to ECG presentation	282	61	44	365 days
Han (2010)	Heart, Lung and Circulation	Oceania	n.r.	No	Prognosis	69	n.r.	n.r.	18 months
Reed (2010)	JACC	UK	2007	No	Derivation and validation of ROSE rule	1067	63	45	1 month
Romero-Rodriguez (2010)	Rev Clin Esp	Spain	2005	No	High risk syncope prognosis	77	74	56	2.1 years
Ungar (2010)	Eur Heart J	Italy	2004	Yes	EGSYS patients prognosis	380	66	58	614 days
Long (2011)	Ann Emerg Med	USA	2009	No	Prognosis	447	62	50	30 days
Reed (2011)	Ann Emerg Med	UK	2007	No	1-year follow-up of ROSE rule	1043	63	45	365 days
Kayayurt (2012)	Int J Emerg Med	Turkey	2009	No	Validation of existing rules and derivation of the Anatolic Syncope Rule	231	n.r.	n.r.	7 days
Tan (2012)	Acad Emerg Med	Singapore	n.r.	Yes	Prospective validation of SFRS	1195	n.r.	n.r.	7 days

n.r., not reported; OESIL, Osservatorio Epidemiologico della Sincope nel Lazio; SFSR, San Francisco Syncope Rule; ECG, electrocardiogram; ROSE, Risk Stratification of Syncope in the Emergency Department; EGSYS, European Guidelines in Syncope Study.

- 1 yıllık
- Mortalite; hızı 9 çalışmada %5,7-15,5, Ortalaması %8,4
- Morbidite ortalaması:%11,3
- Senkop rekürrensi: %9

Table 2 Pooled incidence of mortality, syncope relapse, major events, and overall serious outcomes at different times

Outcome	Time	Number of studies	Number of patients	Number of events	Pooled rate (%)	95% CI (%)	I^2 (%)[b]	Heterogeneity *P*-value[c]
Mortality	10 days	3 (S2; S4; S5)	1472	10	0.7	0.4–1.3	0	0.8015
	30 days	4 (S9; S15; S18; S24)	3214	50	1.6	1.2–2.1	0	0.6851
	6 months	4 (S13; S15; S17; S20)	1923	75	3.7	2.5–5.4	29.2	0.2372
	1 year	9 (S1; S3; S5–S8; S14; S15; S19)	4879	387	8.4	6.7–10.2	77.2	<0.0001
	1.5 years	4 (S10; S16; S22; S24)	1254	111	8.9	7.4–10.6	0	0.8345
	2 years	2 (S21; S25)	164	18	11.0	7–16.8	0	0.7836
Syncope recurrence	30 days	1 (S24)	380	1	0.3	0–1.8[a]	0	–
	6 months	2 (S13; S20)	350	18	5.2	3.3–8.2	0	0.3915
	1 year	2 (S7; S22)	797	72	9.0	7.2–11.3	0	0.5987
	1.5 years	4 (S10; S16; S22; S24)	1254	202	16.1	14.2–18.3	0	0.9582
	2 years	2 (S21; S25)	164	36	22.0	16.3–29.1	0	0.4727
Morbidity	10 days	2 (S4; S5)	759	45	6.9	3.7–12.6	67.3	0.0804
	30 days	3 (S9; S12; S18)	1807	179	11.4	5.7–21.5	96.6	<0.0001
	6 months	1 (S17)	99	6	6.1	2.7–12.8[a]	0	–
	1 year	4[d] (S5; S14; S19)	2336	262	11.3	5.8–20.9	96.3	<0.0001
	1.5 years	2 (S10; S16)	263	58	25.2	11–47.8	90.5	0.0012
Overall serious outcomes	10 days	7 (S2; S4; S5; S11; S17; S19; S23)	4040	357	9.1	6.6–12.5	88.5	<0.0001
	30 days	3 (S9; S17; S18)	1459	155	11.6	4.5–26.4	96.4	<0.0001
	6 months	2 (S17; S19)	1142	118	10.3	8.7–12.2	0	0.79012
	1 year	4 (S1; S5; S14; S19)	2244	363	17.3	8.6–31.6	97.6	<0.0001
	1.5 years	2 (S10; S16)	263	79	32.9	19.3–50.2	84.1	0.01227

[a]CI were calculated on the basis of a single study.
[b]Variation in the pooled rate not attributable to chance.
[c]Assessed using a χ^2 test.
[d]In one study,[19] two different cohorts (derivation and validation) have been analysed separately.

Tartışma-Sonuç

- Senkopta kısa dönem mortalite %1'in altında
- Morbidite 10-30 günde en yüksek seviyede
- Rekürrens 6 ayda belirgin yükseliyor(%5).
- Mortalite ve rekürrens oranları lineer seyrederken morbidite aynı doğrultuda seyretmiyor.

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CE - SYSTEMATIC REVIEW

Outcomes in syncope research: a systematic review and critical appraisal

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- Sistematik bir literatür taraması yapılıyor.
- Senkop hastalarının 1 hafta(kısa dönem), 30 gün ve 3 ay sonuçları inceleniyor.
- Acil servise senkop nedeniyle başvuran yetişkin hastalarla ilgili prospektif mortalite ve morbidite sonuçları inceleniyor.

- Acil servise senkop nedeniyle başvuran hastalarla ilgili yapılan 67,909 makaleyi database inceliyorlar.
- 129 full-text makaleye ulaşılıyor.
- Çeşitli nedenlerle(analizlerde yetersizlik, retrospektif olması ve seçilen hasta grubu uygun olmaması) 98 makale eleniyor.
- 31 makale çalışmaya dahil ediliyor.

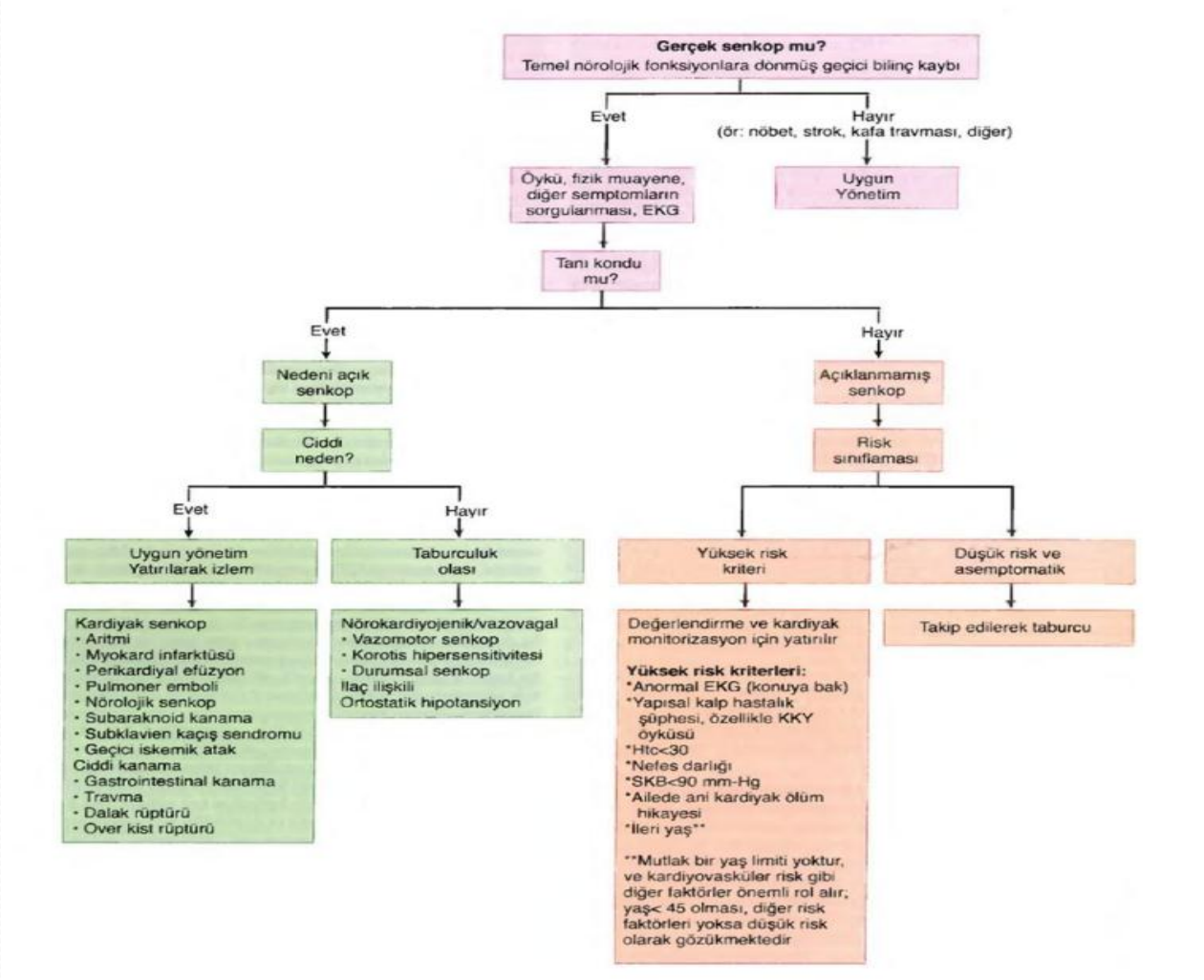
- Çeşitli ülkelerden makaleler inceleniyor.
- 69-4030 arası toplam 21,000 hasta inceleniyor.
- Vakaların ortalama yaşları 41 ile 79 arasında.

- 7. gün sonuçlarına göre mortalite ile sonuçlanan hastaların tanı oranları;
- Aritmi (%73),
- MI(%73),
- SVO(%64),
- SAK(%45), Pulmoner Emboli (%45), Tranfüzyon gerektiren kanama(%46), ICD takılması, Akciğer Ödemi, İntrakraial kanama vb.

- 30. gün sonuçlarına göre mortalite ile sonuçlanan hastaların tanı oranları;
- Aritmi (%54),
- MI (%54),
- SVO (%54),
- Pulmoner Emboli(%46), Tranfüzyon gerektiren kanama(%46), ICD takılması(%46), vb.

- 3. ay sonuçlarına göre (sadece 1 çalışma 3 aylık sonuçları incelemiş); MI, aritmiler,
- SVO, TİA
- SAK, Serebral hemoraji,
- Pulmoner ödem, emboli vb ensık mortalite sebepleri.

Algoritma


Gerçek senkop mu?
Temel nörolojik fonksiyonlara dönmüş geçici bilinç kaybı
Evet
Hayır
(ör: nöbet, strok, kafa travması, diğer)
Öykü, fizik muayene, diğer semptomların sorgulanması, EKG
Uygun Yönetim
Tanı kondu mu?
Evet
Hayır
Nedeni açık senkop
Açıklanmamış senkop
Ciddi neden?
Risk sınıflaması
Evet
Hayır
Uygun yönetim Yatırılarak izlem
Taburculuk olası
Yüksek risk kriteri
Düşük risk ve asemptomatik
Kardiyak senkop
· Aritmi
· Myokard infarktüsü
· Perikardiyal efüzyon
· Pulmoner emboli
· Nörolojik senkop
· Subaraknoid kanama
· Subklavien kaçış sendromu
· Geçici iskemik atak
Ciddi kanama
· Gastrointestinal kanama
· Travma
· Dalak rüptürü
· Over kist rüptürü
Nörokardiyojenik/vazovagal
· Vazomotor senkop
· Korotis hipersensitivitesi
· Durumsal senkop
İlaç ilişkili
Ortostatik hipotansiyon
Değerlendirme ve kardiyak monitorizasyon için yatırılır
Yüksek risk kriterleri:
*Anormal EKG (konuya bak)
*Yapısal kalp hastalık şüphesi, özellikle KKY öyküsü
*Htc<30
*Nefes darlığı
*SKB<90 mm-Hg
*Ailede ani kardiyak ölüm hikayesi
*İleri yaş**
**Mutlak bir yaş limiti yoktur, ve kardiyovasküler risk gibi diğer faktörler önemli rol alır; yaş< 45 olması, diğer risk faktörleri yoksa düşük risk olarak gözükmektedir
Takip edilerek taburcu