

2. DACH ANCA VASKULITIS FORUM 2024

22. & 23. NOVEMBER 2024 | MÜNCHEN

CSL Vifor

Kontrolle der kardiovaskulären Risikofaktoren bei AAV

Prof. Dr. Stefan M. Weiner



Trier



2. DACH ANCA-Vaskulitis Forum 2024

22.- 23.11.2024

Kontrolle der kardiovaskulären Risikofaktoren bei AAV

Stefan M. Weiner

II. Medizinische Abteilung, Krankenhaus der Barmherzigen Brüder Trier

Rheumatologie, Immunologie, Diabetologie,

Endokrinologie, Hochdruckkrankheiten,

Zentrum für Dialyse und Nephrologie

KfH Nierenzentrum Nordallee Trier

Conflicts of interest

Forschungsunterstützung: keine

Vortragstätigkeit: Bayer, Boehringer, Amgen,
Novartis, CSL Vifor

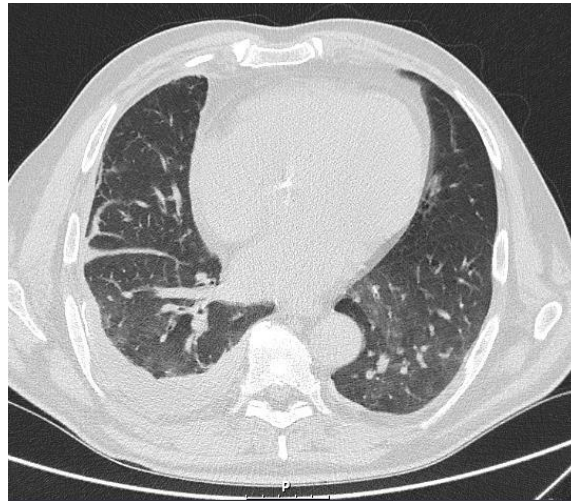
60-jähriger Patient

03/2016 ED Granulomatose mit Polyangiitis, PR3-ANCA positiv

- Renale Beteiligung mit RPGN (eGFR 36 ml/min, Proteinurie initial 3,6 g/g Krea)
- Pulmonale Beteiligung mit Pleuraerguss, Alveolitis
- Zerebrale Beteiligung mit multiplen Hirninfarkten (passagere Hemiparese li und Doppelbilder, Gangunsicherheit)

Vorgeschichte

- rez. Fieberschübe
- Gewichtsverlust



60-jähriger Patient

BMI 24,5 (75 kg bei 175 cm)

Kardiovaskuläre Risikofaktoren bei Diagnosestellung:

- arterielle Hypertonie (Blutdruck 161/82 mmHg)
- Z.n. Nikotinabusus bis 12/2015, seitdem abstinent
- LDL bei Diagnosestellung: 122 mg/dl
- **Neu: Niereninsuffizienz im Stadium G3b A3**

Klassifikation der chronischen Niereninsuffizienz und kardiovaskuläres Risiko

Kidney International 2020; 98, S1-S115

				Persistent albuminuria categories		
				Description and range		
				A1	A2	A3
				Normal to mildly increased	Moderately increased	Severely increased
				<30 mg/g <3 mg/mmol	30–300 mg/g 3–30 mg/mmol	>300 mg/g >30 mg/mmol
				GFR categories (ml/min per 1.73 m ²) Description and range	G1	Normal or high
G2	Mildly decreased	60–89				
G3a	Mildly to moderately decreased	45–59				
G3b	Moderately to severely decreased	30–44				
G4	Severely decreased	15–29				
G5	Kidney failure	<15				



- Low risk
- Moderate risk
- High risk
- Very high risk

60-jähriger Patient

Therapie:

- 5 x Plasmapherese
- 3 x 250 mg Prednisolon, dann 60 mg initial in absteigender Dosis
- 2 x Cyclophosphamid 750 mg absolut
- 4 x Rituximab (375 mg/m²), im Verlauf Azathioprin
- Ramipril, Torasemid
- ASS
- Cotrim, Amphomoronal
- Vitamin D3

65-jähriger Patient

ab 01/2021 3 Rezidive der GPA

- erneut Prednisolon
- 6 x Cyclophosphamid (jeweils 1000 mg)
- 4 x Rituximab (375 mg/m²)

65-jähriger Patient

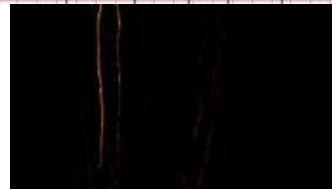
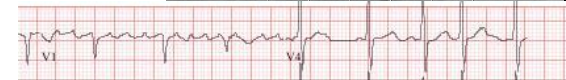
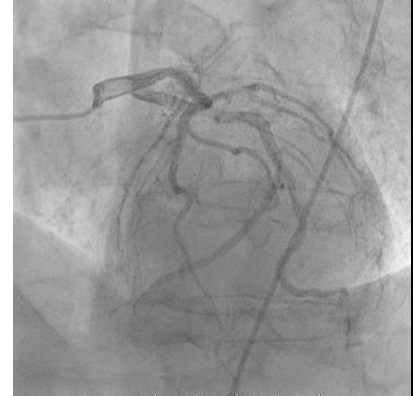
Kardiovaskuläre **Risikofaktoren** im Langzeit-Follow-up:

- arterielle Hypertonie (136/88 mmHg unter Ramipril + Amlodipin)
- Nikotinabusus bis 12/2015, seitdem abstinent
- Niereninsuffizienz im Stadium G3b A3 (eGFR 30 – 40 ml/min)
- **BMI angestiegen auf 35,9 (110 kg bei 175 cm)**
- **LDL im Verlauf: angestiegen bis 226 mg/dl (unter Steroidtherapie und Adipositas), deshalb Gabe von Atorvastatin**
- **Insulinpflichtiger Diabetes mellitus unter Steroidtherapie**
- **Wiederholte Inflammation bei Aktivität der GPA**

65 - 68 jähriger Patient

Kardiovaskuläre **Ereignisse** im Verlauf:

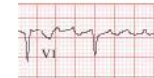
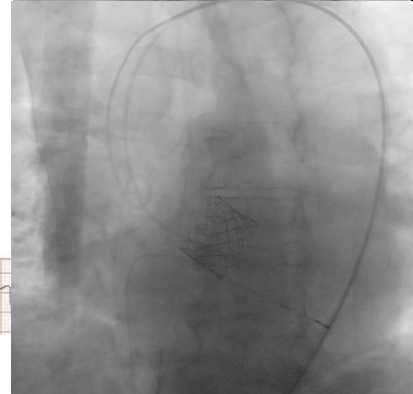
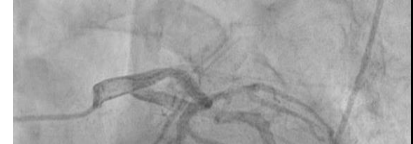
- 12/2021 teilthrombosiertes Aneurysma der linken A. poplitea
Angiographische Aneurysma-Ausschaltung
- 11/2022 Zunehmende Belastungsdyspnoe:
KHK, LAD 40%, prox. RCA 70%
Kombiniertes AK-Vitium AS II.Grades , AI II.Grades
- 02/2023 ED permanentes VHF, orale Antikoagulation



65 - 68 jähriger Patient

Kardiovaskuläre **Ereignisse** im Verlauf:

- 12/2021 teilthrombosiertes Aneurysma der linken A. poplitea
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Kombiniertes AK-Vitium AS II.Grades , AI II.Grades
- 02/2023 ED permanentes VHF, orale Antikoagulation
- 04/2024 Transfemoraler Aortenklappenersatz
- 09/2024 TAVI-Endokarditis, antibiotische Therapie für 2 Monate



Faktencheck: Kardiovaskuläres Risiko bei AAV

Einflußfaktoren auf das kardiovaskuläre Risiko bei AAV

- Inflammation
- Medikamente
- Niereninsuffizienz
- traditionelle kardiovaskuläre Risiken

Therapieoptionen

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Therapieoptionen

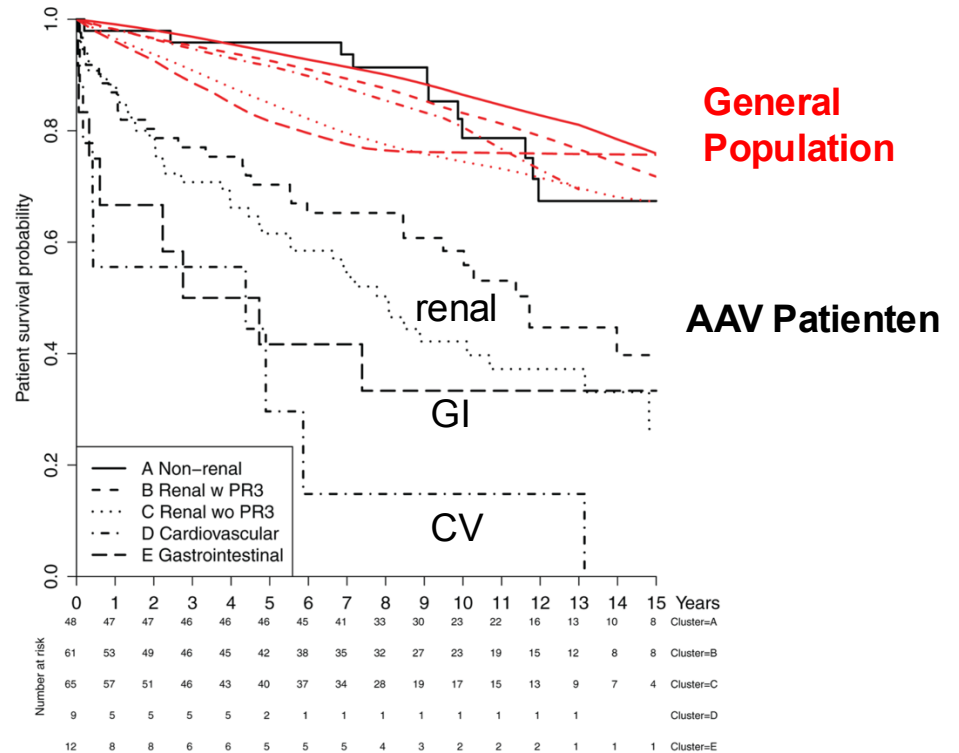
Prognostische Faktoren bei AAV in Schweden

Heijl C et al. RMD Open 2017

Überleben nach Organmanifestation (schwedische Kohorte)

Cardiovascular Cluster:

- Cardiomyopathie (n=1)
- Heart failure (n=2)
- Pericarditis (n=1)
- Myocardial infarction (n=2)
- New onset atrial fibrillation (n=1)



Prognostische Faktoren bei AAV in randomisierten Studien

Alamo BS et al. NDT 2023; 38: 1655-1665

Häufigste Todesursachen in RCTs (GPA n=478; MPA n=370)

1.Jahr:

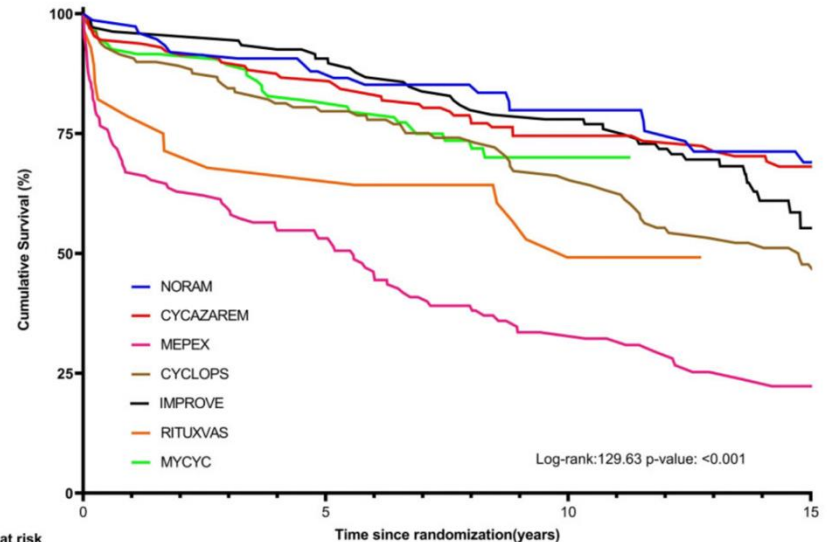
- Infektionen (n=36)
- CV Erkr. (n=8)

2.-5.Jahr

- Malignome (n=15)
- CV Erkr. (n=13)

nach 5.Jahr

- Infektionen
- Malignome
- CV-Erkr.

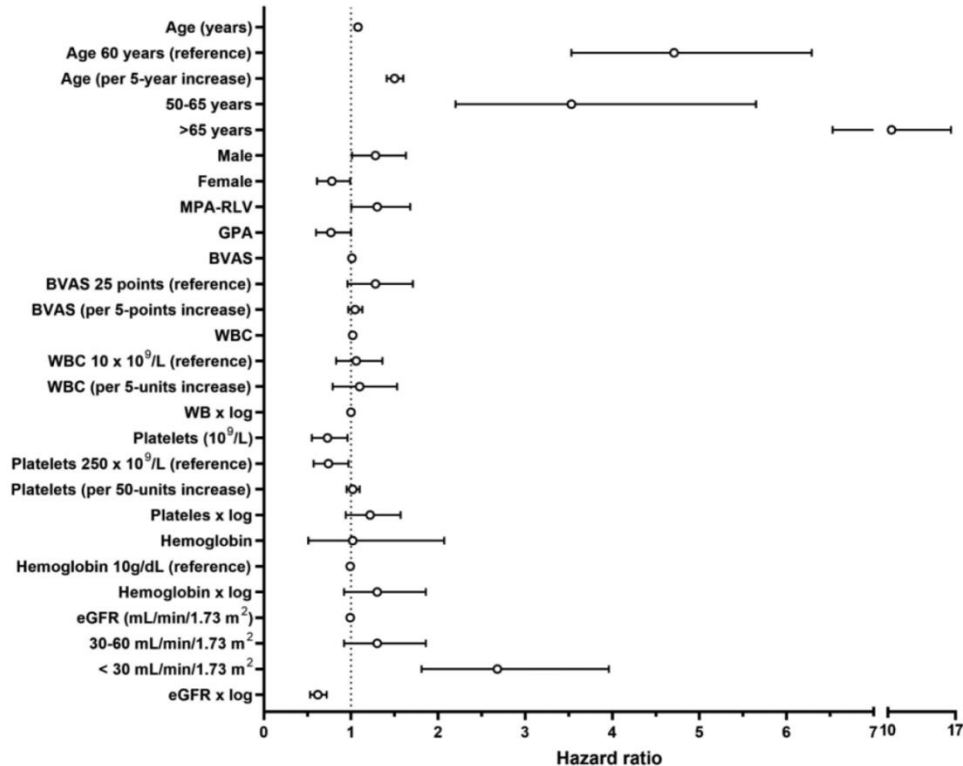


	0	5	10	15
NORAM	94	67	41	31
CYCAZAREM	155	113	81	65
MEPEX	137	63	26	15
CYCLOPS	143	95	68	42
IMPROVE	167	106	86	42
MYCYC	116	75	12	17
RITUXVAS	36	20	13	

Prognostische Faktoren bei AAV in randomisierten Studien

Alamo BS et al. NDT 2023; 38: 1655-1665

Alter, eGFR haben größten Einfluß auf das Überleben, geringer auch Geschlecht und BVAS

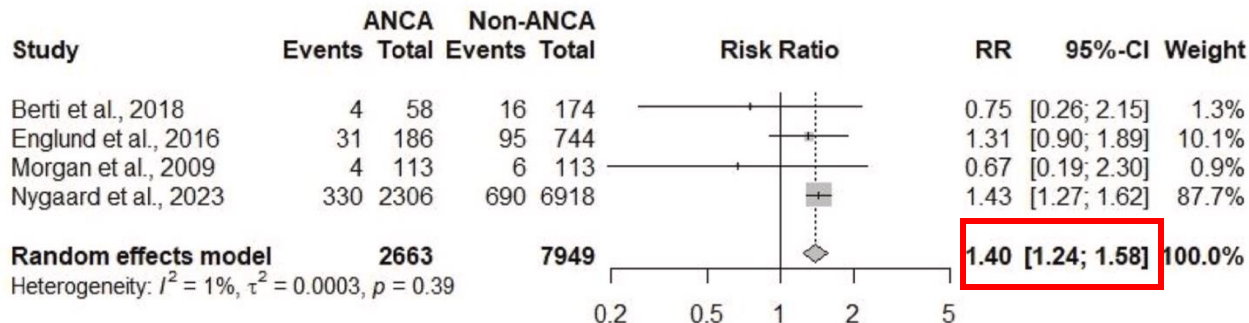


Häufigkeit von kardiovaskulären Ereignissen bei AAV in retrospektiven Kohortenstudien

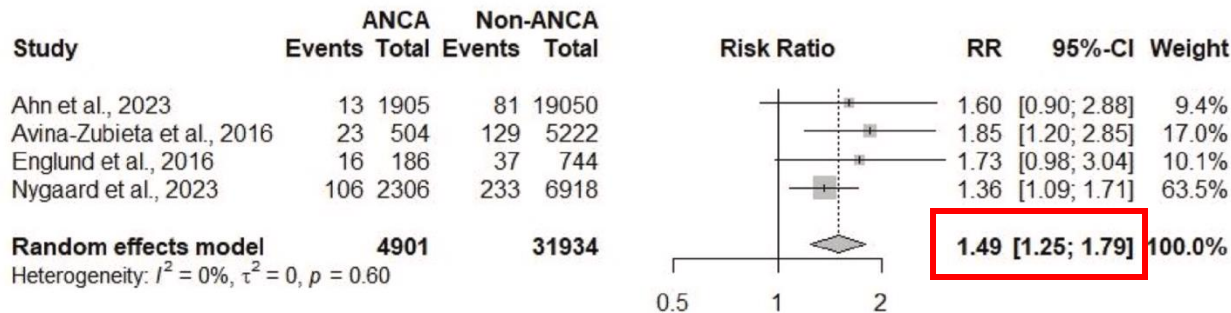
Goyal A et al. *Int J Cardiology Cardiovasc Risk and Prevention* 2024; 23:200334

- 9 retrospektive Kohortenstudien mit 45024 Patienten

KHK



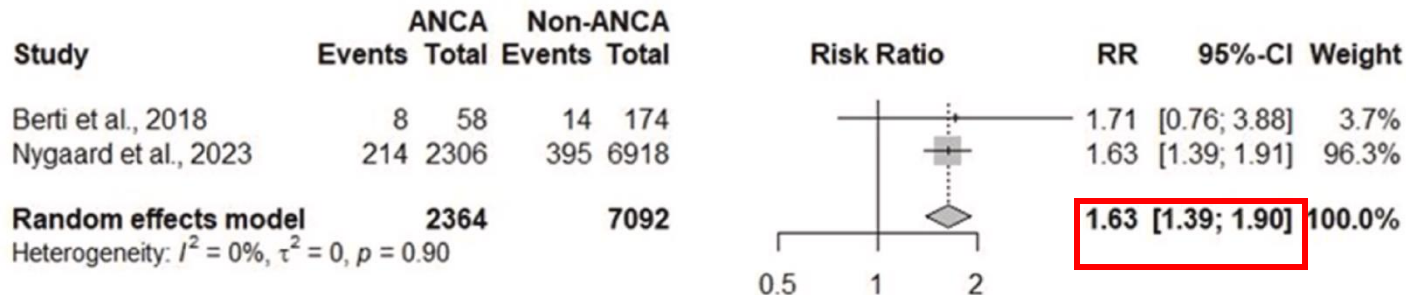
Myokardinfarkt



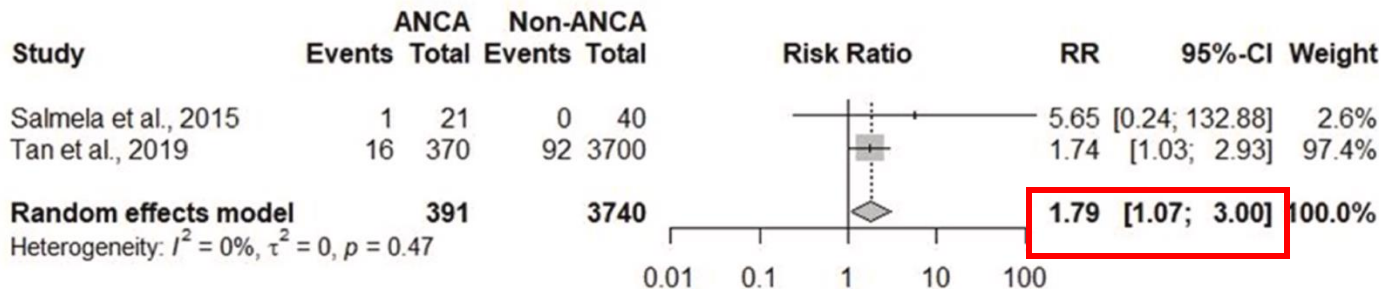
Häufigkeit von kardiovaskulären Ereignissen bei AAV in retrospektiven Kohortenstudien

Goyal A et al. *Int J Cardiology Cardiovasc Risk and Prevention* 2024; 23:200334

Herzinsuffizienz



Kardiovaskuläre Mortalität

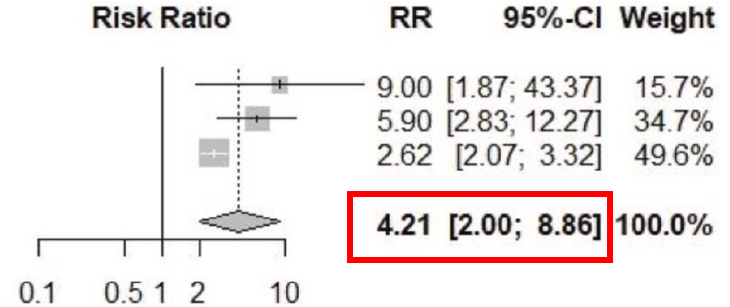


Häufigkeit von kardiovaskulären Ereignissen bei AAV in retrospektiven Kohortenstudien

Goyal A et al. *Int J Cardiology Cardiovasc Risk and Prevention* 2024; 23:200334

Tiefe Venenthrombose

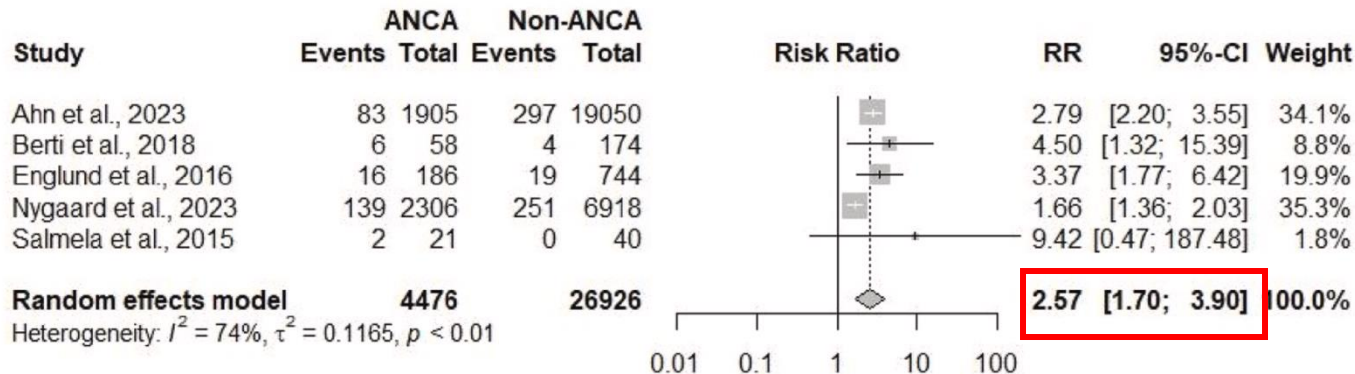
Study	ANCA		Non-ANCA	
	Events	Total	Events	Total
Berti et al., 2018	6	58	2	174
Faurschou et al., 2014	9	180	29	3420
Nygaard et al., 2023	124	2306	142	6918
Random effects model	2544		10512	
Heterogeneity: $I^2 = 68\%$, $\tau^2 = 0.2758$, $p = 0.04$				



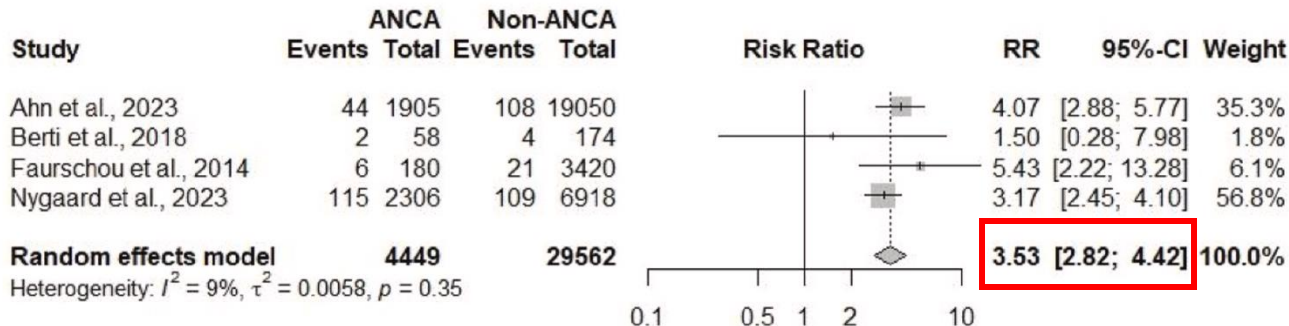
Häufigkeit von kardiovaskulären Ereignissen bei AAV in retrospektiven Kohortenstudien

Goyal A et al. *Int J Cardiology Cardiovasc Risk and Prevention* 2024; 23:200334

Venöse Thromboembolie



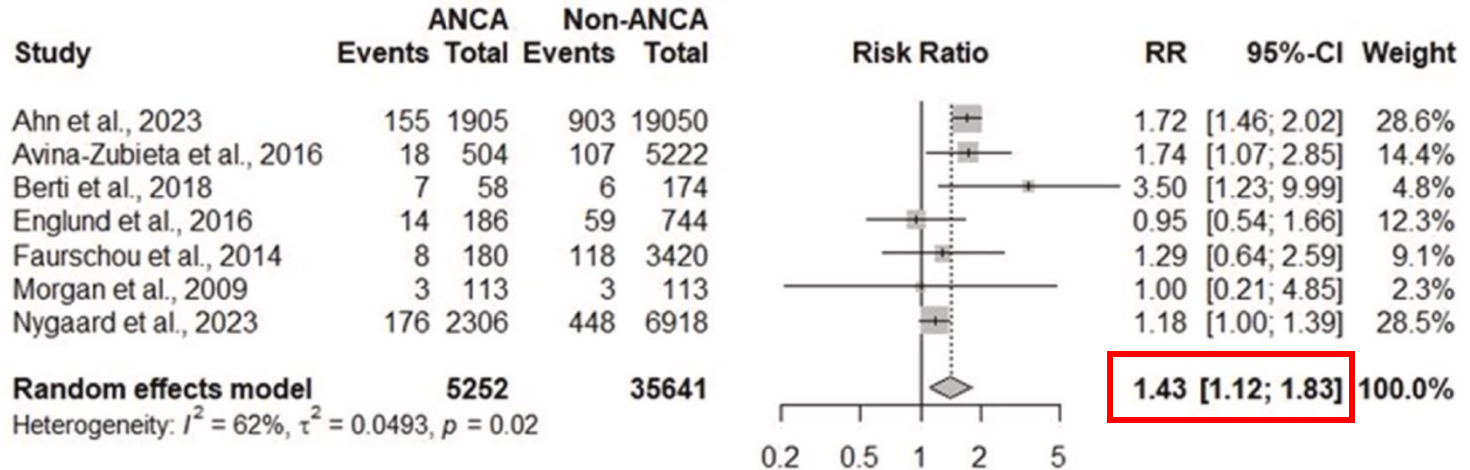
Lungenembolie



Häufigkeit von kardiovaskulären Ereignissen bei AAV in retrospektiven Kohortenstudien

Goyal A et al. *Int J Cardiology Cardiovasc Risk and Prevention* 2024; 23:200334

Zerebraler Insult



Faktencheck: Kardiovaskuläres Risiko bei AAV

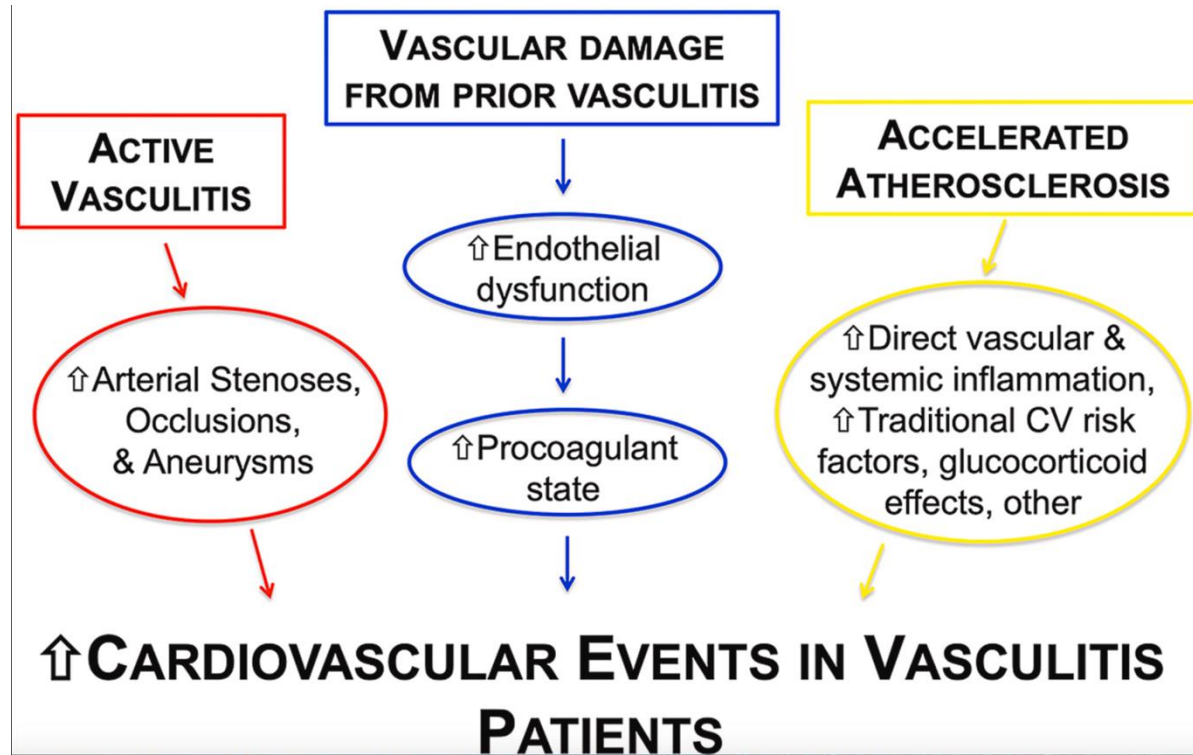
Einflußfaktoren auf das kardiovaskuläre Risiko bei AAV

- Inflammation
- Medikamente
- Niereninsuffizienz
- traditionelle kardiovaskuläre Risiken

Therapieoptionen

Cardiovascular events and accelerated atherosclerosis in systemic vasculitis

Clifford AH et al. *Atherosclerosis* 2021

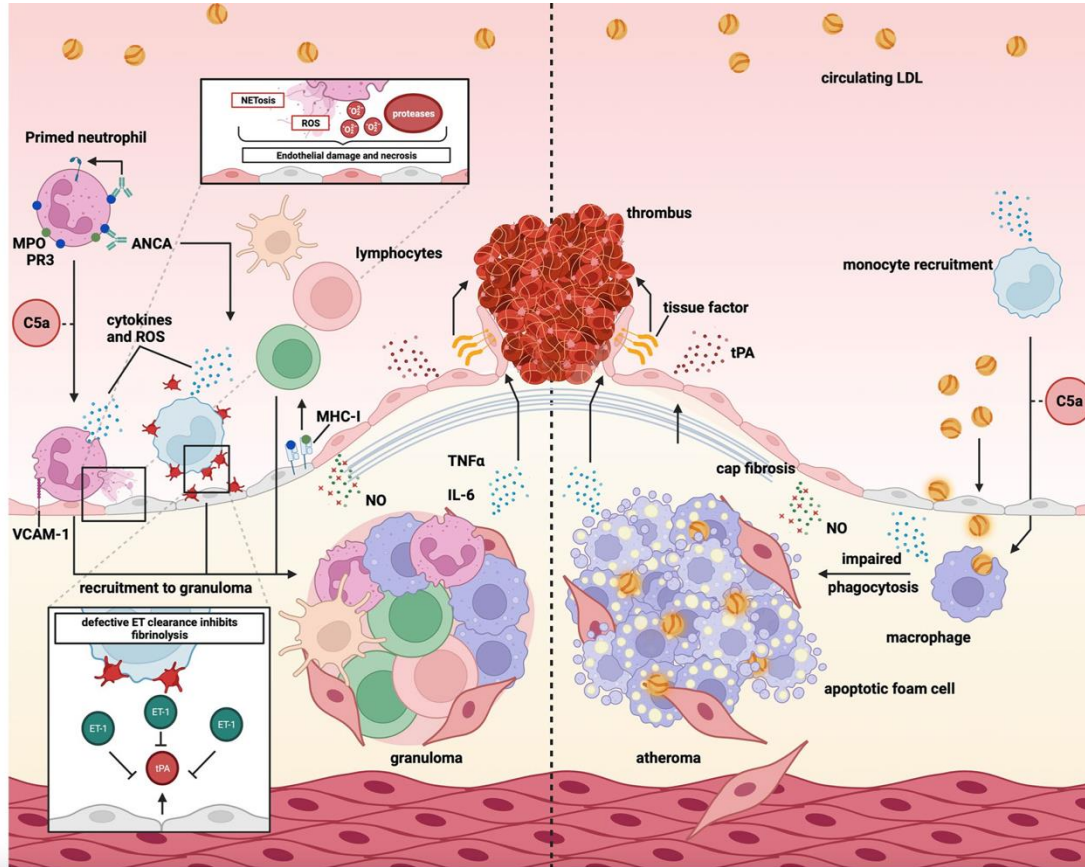


Pathogenese der Granulomatose mit Polyangiitis versus Atherosklerose

Sayer M et al. *Curr Rheumatol Rp* 2024; 26: 12-23

ANCA-assoziierte
Vaskulitis

Atherosklerose

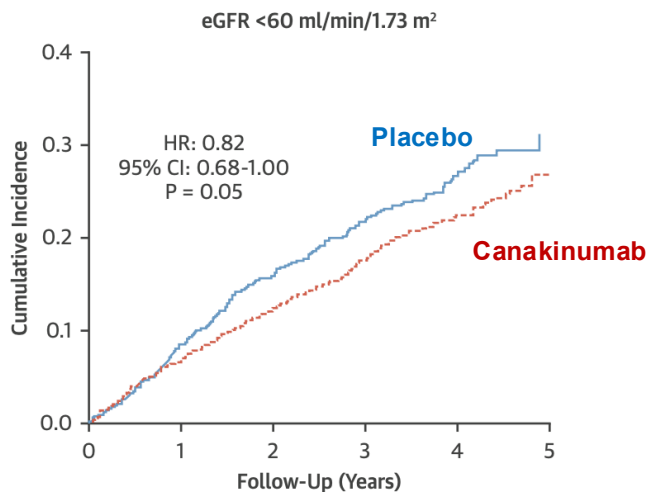


Effekt von Zytokinblockade auf kardiovaskuläre Morbidität und Mortalität nach Myokardinfarkt

Ridker PM et al. *J Am Coll Cardiol* 2018;71:2405-14

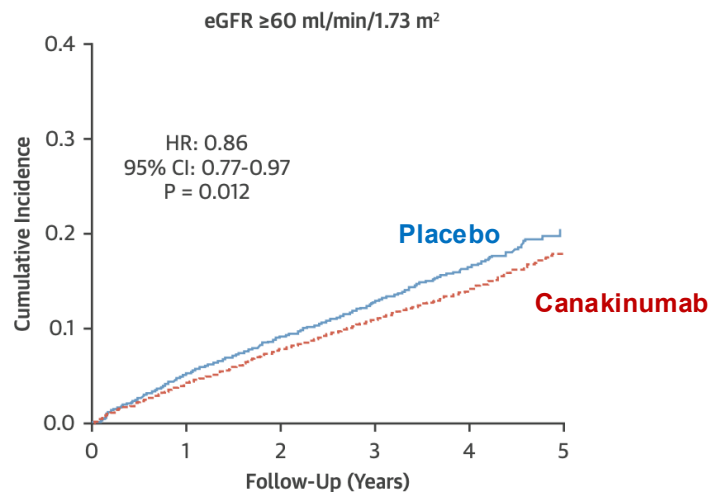
Patienten nach Myokardinfarkt und CRP ≥ 2 mg/L randomisiert auf Canakinumab alle 3 Monate s.c. versus Placebo (CANTOS-Studie)

Inzidenz von MACE



No. at risk:

Placebo	626	561	499	423	182	27
Canakinumab	1249	1139	1047	894	410	58



No. at risk:

Placebo	2717	2546	2422	2155	1056	179
Canakinumab	5467	5177	4940	4410	2155	382

Faktencheck: Kardiovaskuläres Risiko bei AAV

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Therapieoptionen

Prospektive Studie zur Glukokortikoid-Toxizität bei AAV

Scherbacher PJ et al. RMD Open 2024

Glukokortikoid-Toxizität bei aktiver AAV versus stabiler Remission

Table 1 GC toxicity according to disease activity

	Active disease at t1	Stable remission
N	29	109
Cumulative GC dose (mg)	5700.00 (3205.00–11 036.00)	10282.00 (5390.00–18 104.00)
Average daily GC dose (mg/day)	11.91 (8.45–24.50)	7.32 (5.89–10.01)
Duration of illness (months)	10.00 (7.00–98.50)	61.00 (30.50–110.00)
Cumulative GC dose in the GTI-AIS calculation period (mg)	1745.00 (1206.50–2542.00)	240.00 (0.00–733.00)
GTI-AIS calculation period (days)	184.00 (159.50–217.00)	182.00 (161.00–198.00)
GTI AIS* (at t2)	23.00 (0.00–74.00)	0.00 (0.00–0.00)
Subjects (N) with GTI-AIS<0	2 (6.9)	25 (22.9)
Subjects (N) with GTI-AIS=0	8 (27.6)	62 (56.9)
Subjects (N) with GTI-AIS>0	19 (65.5)	22 (20.2)
Metabolism		
Weight gain	8 (27.6)	3 (2.8)
Lipodystrophy	2 (6.9)	3 (2.8)
Diabetes/glucose intolerance	11 (37.9)	12 (11.0)
Adrenal insufficiency	0	2 (1.8)
Dyslipidaemia	6 (20.7)	8 (7.3)

Lipid-Level bei AAV: Auswertung der RAVE-Studie

Wallace ZS et al. *Arthritis Rheumatol* 2019; 71: 1879-87

Veränderung des Lipidprofil im Monat 6 gegenüber Baseline

Lipid Parameter	Baseline N=142	Month 6 N=142	Difference (95% CI)
TC	166.1 (37.2)	178.5 (43.8)	+12.4 (+7.1, +21.0) ***
HDL-C	50.0 (21.2)	49.4 (16.6)	-0.6 (-5.0, +2.1)
LDL-C	95.6 (30.8)	106.0 (35.6)	+10.3 (+6.1, +17.1) ***
ApoA1	121.4 (30.8)	126.5 (26.7)	+5.1 (-1.4, +10.1)
ApoB	89.6 (22.6)	93.1 (25.8)	+3.5 (+1.0, +8.3) *
TC:HDL	3.7 (1.4)	4.0 (1.5)	+0.2 (+0.1, +0.6) *
B:A1	0.8 (0.3)	0.8 (0.3)	-0.02 (-0.05, +0.04)

Bold font indicates statistical significance

*
<0.05

**
<0.01

<0.001

Lipid-Level bei AAV: Auswertung der RAVE-Studie

Wallace ZS et al. *Arthritis Rheumatol* 2019; 71: 1879-87

Anstieg von LDL, ApoB und TC ist unter RTX geringer als unter CYC

	RTX			CYC		
	Baseline	Month 6	Difference (95% CI)	Baseline	Month 6	Difference (95% CI)
TC	167.8 (39.6)	176.8 (47.4)	+9.0[*] (+1.1, +20.7)	164.2 (34.6)	180.3 (39.5)	+16.1^{***} (+7.6, +27.6)
HDL-C	52.3 (21.8)	49.4 (15.7)	-2.9 (-9.1, +0.2)	47.3 (20.5)	49.5 (17.7)	+2.1 (-3.7, +7.4)
LDL-C	96.0 (32.2)	104.4 (39.4)	+8.5[*] (+2.4, +17.3)	95.2 (29.4)	107.7 (31.0)	+12.5^{**} (+5.2, +21.9)
ApoA1	125.2 (33.1)	126.8 (23.4)	+1.6 (-6.6, +8.2)	117.1 (29.7)	126.1 (28.2)	+9.0 (-0.8, +17.4)
ApoB	89.5 (23.6)	91.8 (27.6)	+2.4 (-1.8, +8.8)	89.8 (21.6)	94.6 (23.8)	+4.7[*] (+0.7, +11.0)
TC:HDL	3.6 (1.3)	3.9 (1.4)	+0.3^{**} (+0.1, +0.7)	3.9 (1.4)	4.1 (1.6)	+0.2 (-0.2, +0.7)
B:A1	0.8 (0.3)	0.7 (0.2)	-0.02 (-0.1, +0.04)	0.8 (0.3)	0.8 (0.3)	-0.02 (-0.1, +0.1)

[†] Adjusted for age, sex, ANCA-type, disease status, and glucocorticoid exposure prior to baseline

Bold font indicates statistical significance

Glucokortikoid-assoziierte Ereignisse unter Avacopan versus Prednisolon.

Jayne DRW et al. NEJM 2021

Event	Avacopan (N=166)	Prednisone (N=164)
Any adverse event potentially related to glucocorticoids — no. (%)**	110 (66.3)	132 (80.5)
Cardiovascular	72 (43.4)	85 (51.8)
Infectious	22 (13.3)	25 (15.2)
Gastrointestinal	3 (1.8)	4 (2.4)
Psychological	27 (16.3)	39 (23.8)
Endocrine or metabolic	23 (13.9)	48 (29.3)
Dermatologic	14 (8.4)	28 (17.1)
Musculoskeletal	19 (11.4)	21 (12.8)
Ophthalmologic	7 (4.2)	12 (7.3)

Faktencheck: Kardiovaskuläres Risiko bei AAV

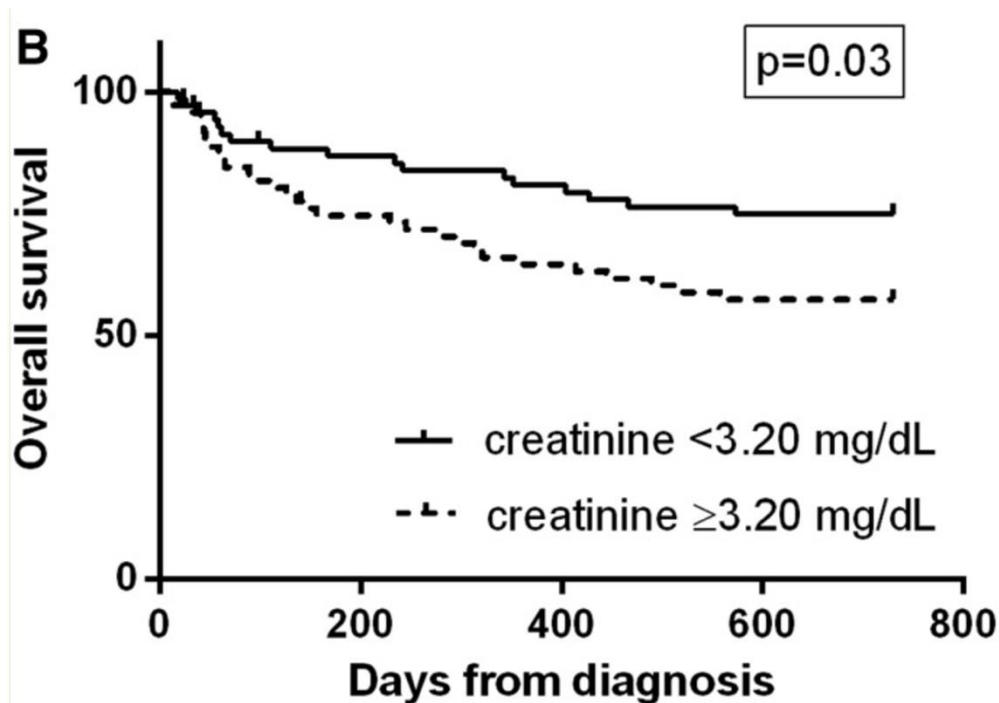
Einflußfaktoren auf das kardiovaskuläre Risiko bei AAV

- Inflammation
- Medikamente
- **Niereninsuffizienz**
- traditionelle kardiovaskuläre Risiken

Therapieoptionen

Niereninsuffizienz und Überleben bei älteren Patienten mit AAV

Weiner M et al. CJASN 2015; 10:1128-35

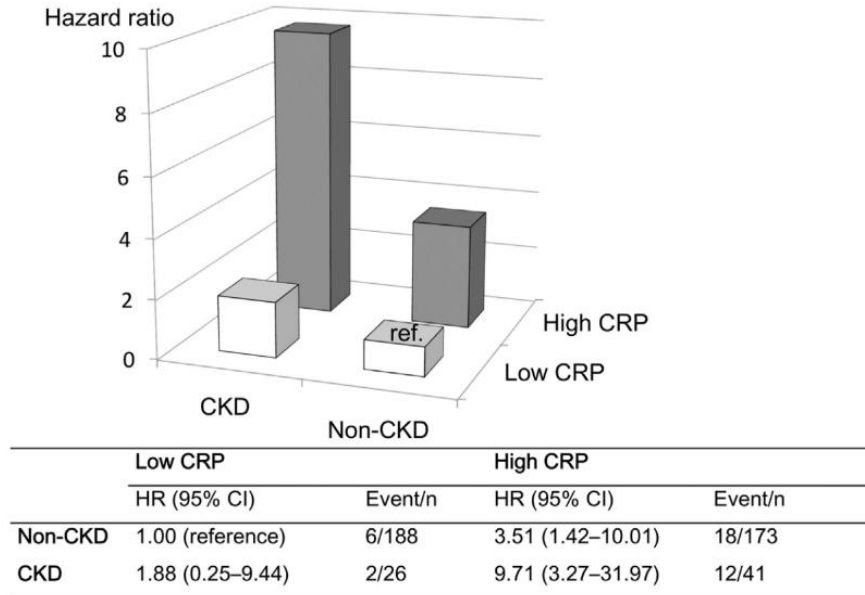


Niereninsuffizienz und kardiovaskuläres Risiko bei rheumatoider Arthritis

Kochi M et al., *Journal of Cardiology* 2018; 71: 277-83

Häufigkeit von kardiovaskulären Ereignissen in Abhängigkeit von Nierenfunktion und CRP

- HR für CV-Erkrankung¹: Patienten mit CKD und erhöhtem CRP haben das höchste Risiko.



¹adjustiert für Alter, Geschlecht, CVD Vorgeschichte, Hypertonie, Diabetes, Dyslipidämie, Nikotinkonsum

Effekt des sekundären Hyperparathyreoidismus und Hyperphosphatämie auf kardiovaskuläre Ereignisse

Bozic M et al. *Nephrol Dial Transplant* 2022; 37:663-672

Full cohort: N=2445 with CKD



CV events (4 years)

N=203 (8.3%)



SHPT

N=1427 (65.5%)

Hazard ratios (HR) for CV events
on Fine and Gray regression



1.37

SHPT (95% CI 0.98–1.93)



1.44

Phosphate (95% CI 1.01–2.06)

Model 3: adjusted for age, sex, body mass index, diabetes, hypertension, dyslipidaemia, smoking status, CKD stage and 25(OH) vitamin D levels

Definition Hyperphosphatämie

Phosphat >4,5 mg/dl

Definition sekundärer HPT

Parathormon

CKD 3

> 70 pg/ml

CKD 4

> 110 pg/ml

CKD 5

> 300 pg/ml

Faktencheck: Kardiovaskuläres Risiko bei AAV

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Klassische kardiovaskuläre Risikofaktoren bei AAV in retrospektiven Kohortenstudien

Goyal A et al. Int J Cardiology Cardiovasc Risk and Prevfention 2024; 23:200334

Studie	n AAV/Control	Hypertonie	Diabetes	CKD
Nygaard 2023				
Dänemark	2306/6918	30% vs 22,7%	7,8% vs. 6,8%	23% vs 1,6%
Ahn 2023				
Korea	1905/19050	53,9% vs. 38,9%	49,9% vs. 21,7%	NR

Hypertonie und Diabetes nimmt im Verlauf der AAV zu

Robson J et al. *Ann Rheum Dis* 2015; 74: 177-184

Auswertung von 4 EUVAS-Trials (n=535)

Table 3 Frequency, n (%), of Vasculitis Damage Index (VDI) items related to treatment over course of long-term follow-up (LTFU) for n=270 patients with VDI scores at baseline, six, 12 months and LTFU

VDI Item	Baseline (%)	6/12 (%)	12/12 (%)	LTFU (%)	% Change at LTFU from baseline (95% CI)
Hypertension†	13 (4.8)	46 (17.0)	60 (22.2)	112 (41.5)	+36.7 (30.8 to 42.5)***
Osteoporosis‡	0	4 (1.5)	12 (4.4)	38 (14.1)	+14.1 (9.9 to 18.2)***
Malignancy§	0	0	1 (0.4)	34 (12.6)	+12.6 (8.6 to 16.6)***
Diabetes¶	3 (1.1)	17 (6.3)	22 (8.1)	28 (10.4)	+9.3 (5.8 to 12.7)***
Angina/bypass††	2 (0.7)	3 (1.1)	4 (1.5)	22 (8.1)	+7.4 (4.3 to 10.6)***
Cataract‡‡	2 (0.7)	5 (1.9)	8 (3.0)	25 (9.3)	+8.5 (5.2 to 11.9)***
Atrophy or weakness§§	5 (1.9)	14 (5.2)	16 (5.9)	20 (7.4)	+5.6 (2.6 to 8.5)***
Alopecia¶¶	0	11 (4.1)	19 (7.0)	23 (8.5)	+8.5 (5.2 to 11.9)***
Cerebrovascular accident†††	0	1 (0.4%)	1 (0.4)	10 (3.7)	+3.7 (1.4 to 6.0)**
Myocardial infarction‡‡‡	1 (0.4)	4 (1.5)	5 (1.9)	12 (4.4)	+4.1 (1.7 to 6.4)**

Faktencheck: Kardiovaskuläres Risiko bei AAV

Einflußfaktoren auf das kardiovaskuläre Risiko bei AAV

- Inflammation
- Medikamente
- Niereninsuffizienz
- traditionelle kardiovaskuläre Risiken

Therapieoptionen

Therapieoptionen zur Vermeidung kardiovaskulärer Ereignisse bei AAV

Krankheitsspezifisch:

- Kontrolle der Krankheitsaktivität
- Vermeiden von Flares
- Möglichst Glukokortikoid-arme Therapie (PEXIVAS, Avacopan...)

Therapie der allgemeinen kardiovaskulären Risikofaktoren:

- Lifestyle: Nikotin, Gewicht, Ernährung...
- Lipid- und Blutdruckkontrolle
- Nephroprotektive Therapien (u.a. SGLT2i, GLP-1a) schützen auch vor CV-Ereignissen

Therapie der ANCA-assoziierten Vaskulitis mit Glomerulonephritis ACR 2021, EULAR 2022 und KDIGO Leitlinien/Empfehlungen

Moura MC et al. NDT 2023;38: 2637-2651

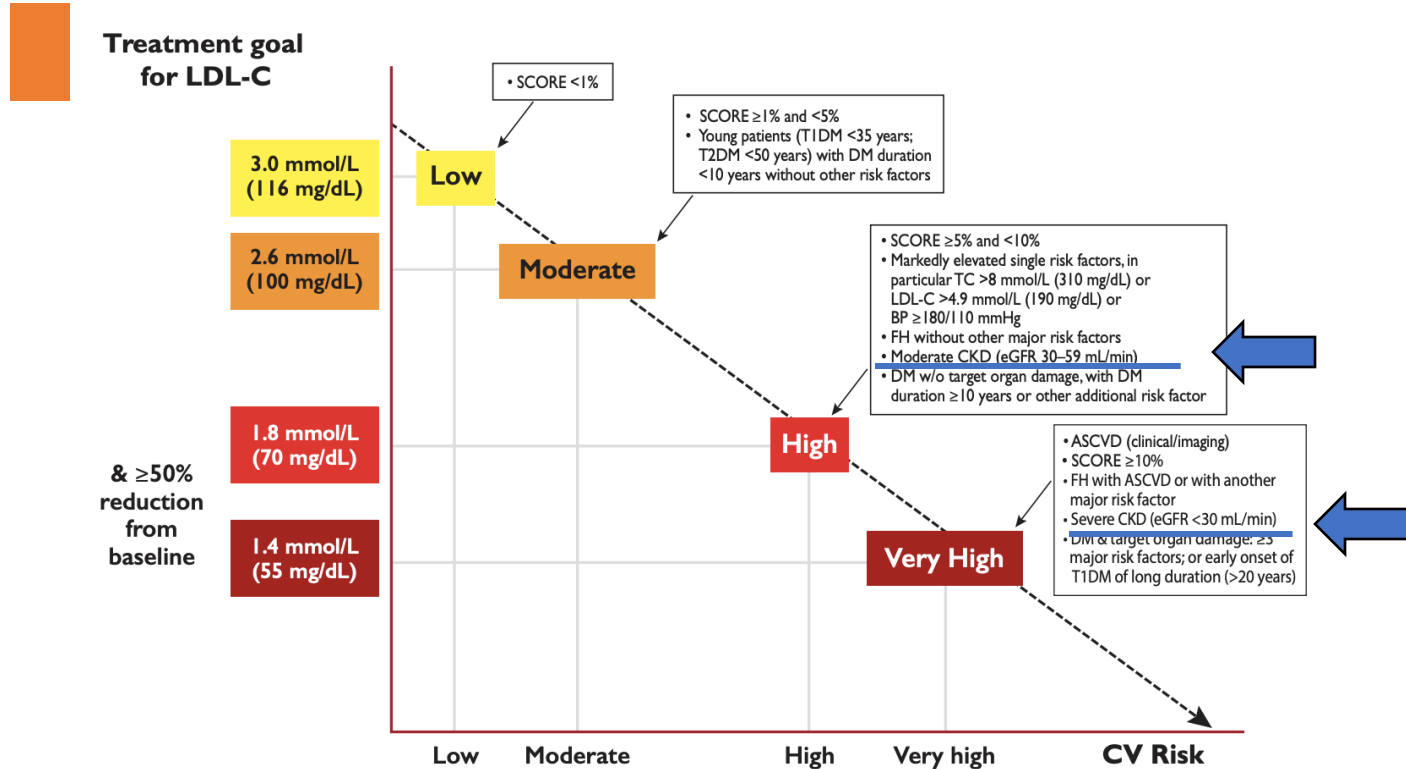
Steroidreduktions-
schema (PEXIVAS):

Weeks	Body weight (kg)		
	<50	50–75	>75
1*	50	60	75
2	25	30	40
3–4	20	25	30
5–6	15	20	25
7–8	12.5	15	20
9–10	10	12.5	15
11–12	7.5	10	12.5
13–14	6	7.5	10
15–18	5	5	7.5
19–52	5	5	5
>52	Individual taper	Individual taper	Individual taper

*Consider use of intravenous methylprednisolone at a cumulative dose of 1–3 g on days 1–3 in patients with severely active disease, including but not limited to renal involvement with a documented estimated glomerular filtration rate <50 mL/min/1.73 m² and/or diffuse alveolar haemorrhage.
GPA, granulomatosis with polyangiitis; MPA, microscopic polyangiitis.

2019 ESC/EAS Guidelines for the management of Dyslipidaemias: Lipidmodification to reduce cardiovascular risk

Mach F et al. *European Heart Journal* 2020; 41: 111-188



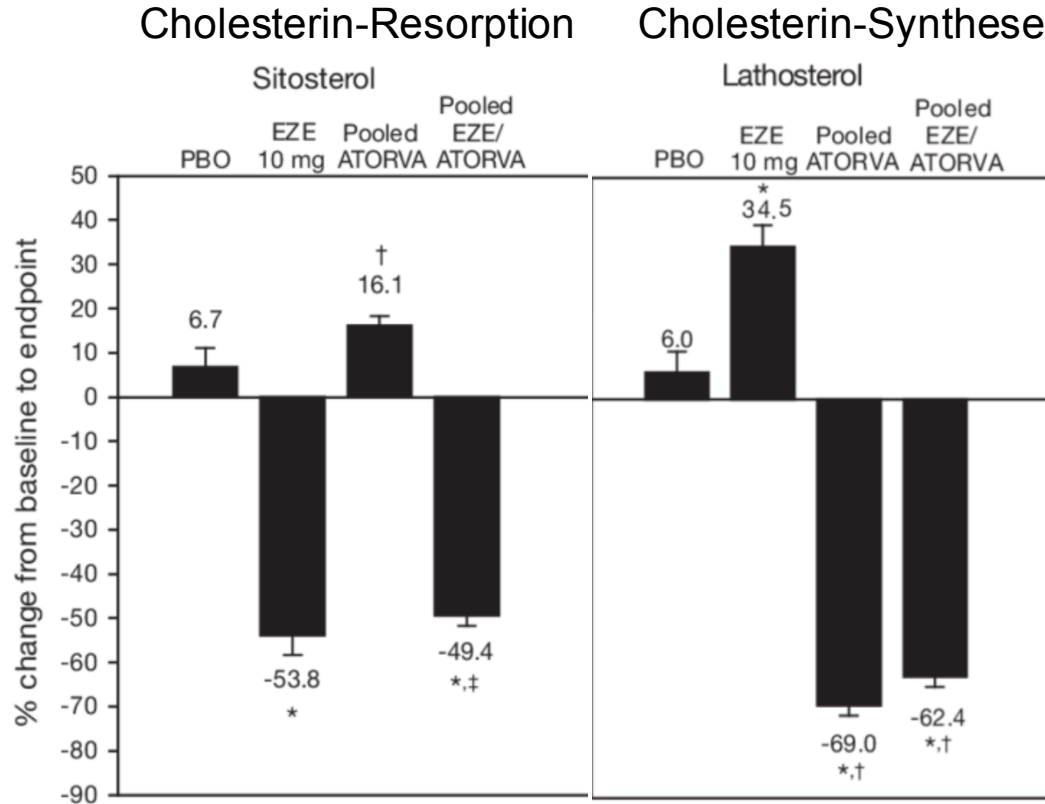
Effekt von Ezetimib/Simvastatin Kombination

Davidson et al. JACC 2002;12:2125-34



Effekt von Ezetimib und Atorvastatin auf Cholesterin-Synthese und -Resorption

Assmann G et al. *Curr Med Res* 2008;24:249-259



Therapie der Hypercholesterinämie: 2021 ESC Guidelines on cardiovascular disease prevention in clinical practice

Visseren FLJ et al. *European Heart Journal* 2021;42:3227-3337

Empfehlung für Patienten mit Niereninsuffizienz CKD-Stadium 3-5

Recommendations	Class ^a	Level ^b
The use of <u>statins or statin/ezetimibe</u> combination is recommended in patients with non-dialysis-dependent, stage 3–5 CKD. ^{525,544,545}	I	A
In patients already on statins, ezetimibe, or a statin/ezetimibe combination at the time of dialysis initiation, <u>continuation</u> of these drugs should be considered, particularly in patients with ASCVD.	IIa	C
In patients with dialysis-dependent CKD who are free of ASCVD, commencing statin therapy is not recommended. ^{546,547}	III	A

STATVAS Study: Rosuvastatin bei AAV

Completed 

Multicenter, Prospective, Randomized, Controlled, Double-blind Trial on the Impact of Rosuvastatin on Subclinical Markers of Atherosclerosis in Patients With Primary Necrotizing Vasculitides (STATVAS)

ClinicalTrials.gov ID  NCT02117453

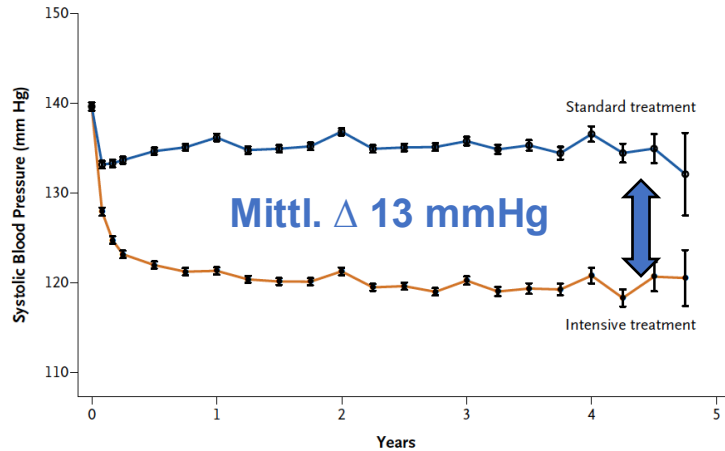
Sponsor  Assistance Publique - Hôpitaux de Paris

Information provided by  Assistance Publique - Hôpitaux de Paris (Responsible Party)

Last Update Posted  2022-10-13

SPRINT Study

The SPRINT Research Group NEJM 2015; 373:2103-16

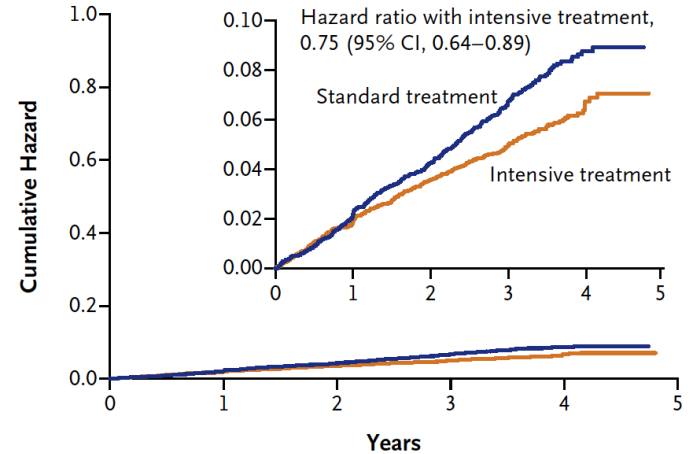


No. with Data

Standard treatment	4683	4345	4222	4092	3997	3904	3115	1974	1000	274
Intensive treatment	4678	4375	4231	4091	4029	3920	3204	2035	1048	286

Mean No. of Medications

Standard treatment	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9
Intensive treatment	2.3	2.7	2.8	2.8	2.8	2.8	2.8	2.8	2.8	3.0



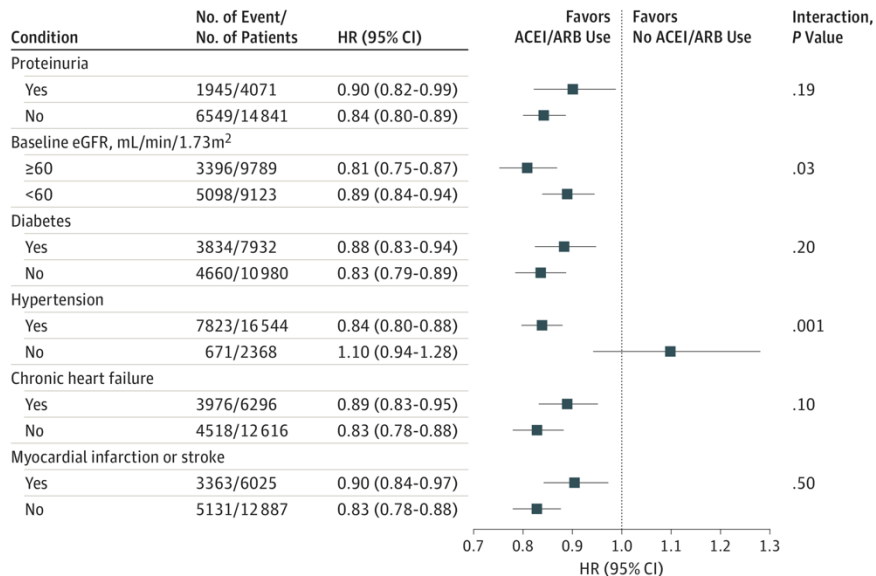
No. at Risk

Standard treatment	4683	4437	4228	2829	721
Intensive treatment	4678	4436	4256	2900	779

Assoziation von ACE-Hemmer oder AT1-Blocker nach akutem Nierenversagen mit dem Outcome

Brar S et al. JAMA Internal Medicine 2018; 178(12):1681-90

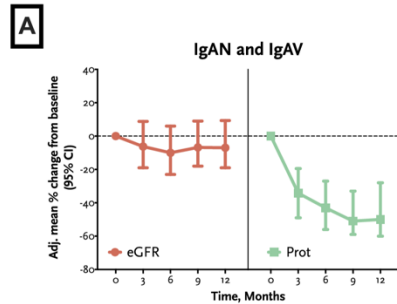
- Nach ANV reduziert ein ACE-Hemmer oder AT1-Blocker die Mortalität bei Vorliegen einer Hypertonie.
- Renaler Outcome wird durch ACEi oder AT1-Blocker nicht verschlechtert, aber vermehrte Kreatininkontrollen erforderlich.



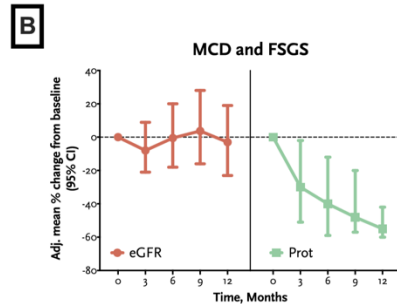
SGLT2-Inhibitor bei primären und sekundären Glomerulonephritiden

Caravaca-Fontán F et al. NDT 2024; 39: 328-340

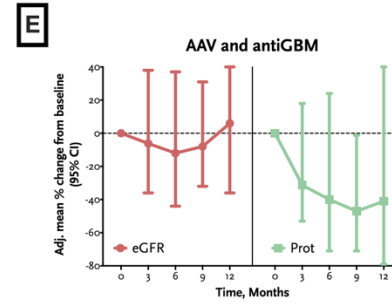
Retrospektive internationale Kohortenstudie mit 493 Patienten mit bioptisch-gesicherter glomerulärer Erkrankung: Reduktion der 24h-Proteinurie unter SGLT2-Inhibitortherapie



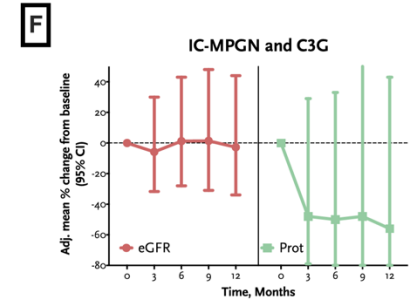
Number of Patients 203 203 144 75 72



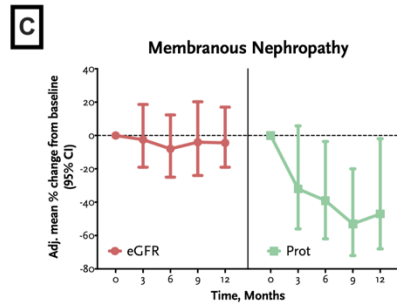
Number of Patients 104 104 70 43 25



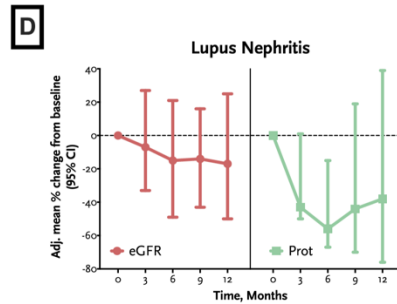
Number of Patients 23 23 13 9 5



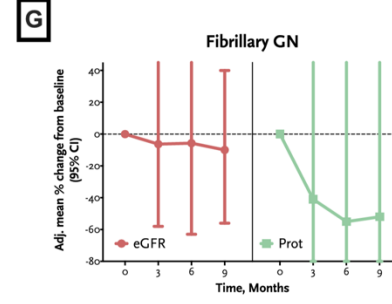
Number of Patients 22 22 17 10 8



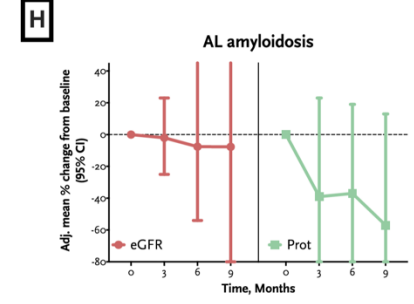
Number of Patients 89 89 74 47 40



Number of Patients 32 32 21 13 5



Number of Patients 8 8 5 5

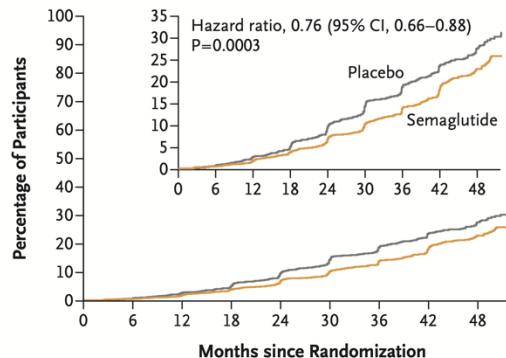


Number of Patients 6 6 6 4

FLOW – Kidney outcomes trial with Semaglutide in type 2 Diabetes and CKD

Perkovic V et al. NEJM 2024; DOI:10.1056/NEJMoa2403347

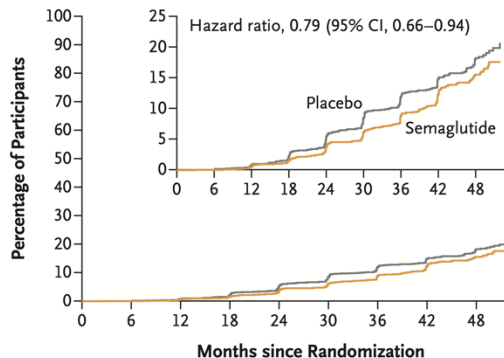
A First Major Kidney Disease Event



No. at Risk

Placebo	1766	1736	1682	1605	1516	1408	1048	660	354
Semaglutide	1767	1738	1693	1640	1572	1489	1131	742	392

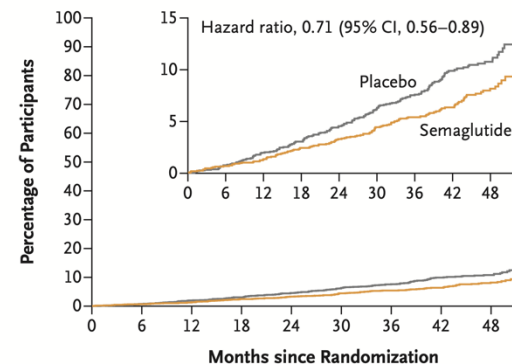
B First Kidney-Specific Component Event



No. at Risk

Placebo	1766	1736	1682	1605	1516	1408	1048	660	354
Semaglutide	1767	1738	1693	1640	1572	1489	1131	742	392

C Death from Cardiovascular Causes



No. at Risk

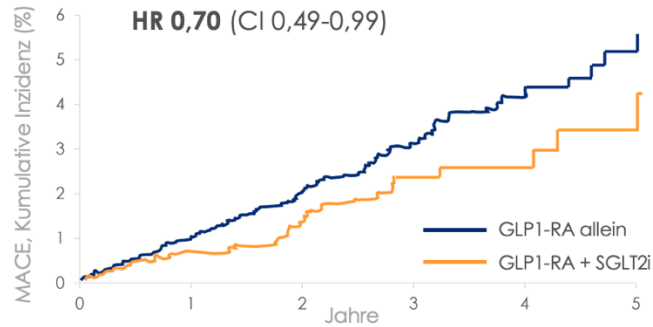
Placebo	1766	1737	1697	1641	1601	1544	1185	772	437
Semaglutide	1767	1739	1703	1665	1627	1583	1234	838	460

Kombinationstherapie SGLT2i und GLP1-RA (RWE, Kohortenstudie, T2D)

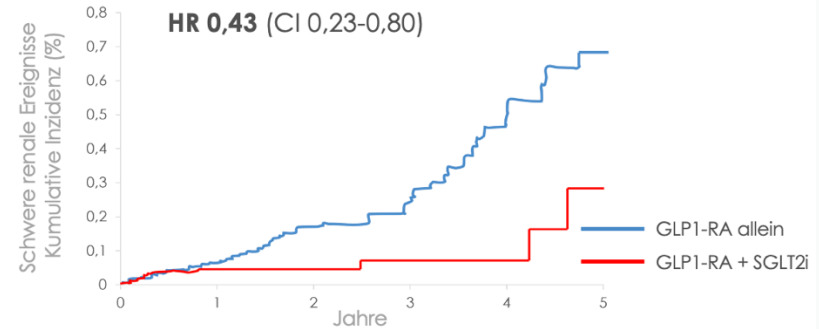
Simms-Williams N et al. *BMJ*. 2024 Apr 25;385:e078242

GLP1-RA
zuerst

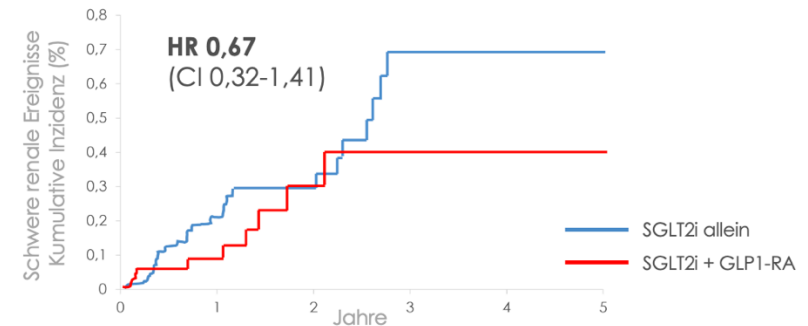
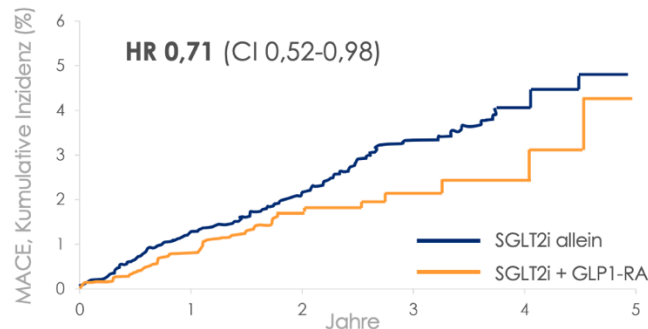
MACE



Schwere renale Ereignisse



SGLT2i
zuerst



Zusammenfassung

Kontrolle der kardiovaskulären Risikofaktoren bei AAV

- Systematische Erfassung und Therapie der kardiovaskulären Risikofaktoren bei AAV sinnvoll.
- Steroidreduktion und Vermeiden einer persistierenden Krankheitsaktivität und Vermeiden von Schüben reduziert auch das kardiovaskuläre Risiko.
- Konsequente renoprotektive Therapie schützt auch vor kardiovaskulären Erkrankungen.

Diskussion

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Gekürzte Verschreibungsinformationen

Schweiz:

Tavneos®. Z: Avacopan. **I:** Tavneos, als ergänzende Therapie zu einer immunsuppressiven Standardbehandlung auf Basis von Rituximab oder Cyclophosphamid mit Glukokortikoiden, ist für die Behandlung erwachsener Patienten mit schwerer aktiver ANCA Vaskulitis (GPA/MPA) indiziert. **D:** Orale Einnahme morgens und abends 2x täglich 30 mg (3 Kapseln zu je 10 mg) mit Nahrung. **KI:** Überempfindlichkeit gegen den Wirkstoff oder einen der Hilfsstoffe. **VM:** Hepatotoxizität; Angioödem; Überwachung des Blutbildes (weisse Blutkörperchen); Schwere Infektionen; Reaktivierung des Hepatitis-B-Virus; Herzbeschwerden; Bösartige Tumore; Macroglycerinhydroxystearat. **S/S:** Eine Anwendung während der Schwangerschaft und bei Frauen im gebärfähigen Alter, die keine Verhütungsmethode anwenden, ist nicht empfohlen. Es ist nicht bekannt, ob Avacopan in die Muttermilch ausgeschieden wird. Der Nutzen des Stillens für das Kind sollte gegen den Nutzen der Behandlung für die Patientin abgewogen werden. **UW:** Sehr häufig: Infektion der oberen Atemwege, Nasopharyngitis; Kopfschmerzen; Erbrechen, Durchfall, Übelkeit; erhöhter Lebertest; verminderte Anzahl weisser Blutkörperchen. Häufig: Lungenentzündung, Infektion der unteren Atemwege, Influenza, Bronchitis, Zellulitis, Infektion der Harnwege, Herpes zoster, Sinusitis, orale Candidose, Herpes im Mundbereich, Otitis media, Rhinitis, Gastroenteritis; Neutropenie; Oberbauchschmerzen; Anstieg der Kreatinphosphokinase im Blut. Gelegentlich: Angioödeme. **IA:** Avacopan ist ein Substrat von CYP3A4. Die gleichzeitige Verabreichung von Induktoren oder Inhibitoren dieses Enzyms kann die Pharmakokinetik von Avacopan beeinflussen. Siehe Fachinformation. **P:** Tavneos 10 mg: 30 und 180 Hartkapseln. **Liste B.** Detaillierte Informationen: www.swissmedicinfo.ch. Stand der Information: Januar 2024. **Zulassungsinhaberin:** Vifor Fresenius Medical Care Renal Pharma Ltd., St. Gallen. **Vertrieb:** Vifor Pharma Switzerland AG, CH-1752 Villars-sur-Glâne |

▼Dieses Arzneimittel unterliegt einer zusätzlichen Überwachung. Für weitere Informationen, siehe Fachinformation TAVNEOS® auf www.swissmedicinfo.ch.

Gekürzte Verschreibungsinformationen

Österreich:

Tavneos® Fachkurzinformation

Tavneos®10mg Hartkapsel

Zusammensetzung: Jede Hartkapsel enthält 10 mg Avacopan. Sonstige Bestandteile mit bekannter Wirkung: 245 mg Macrogolglycerolhydroxystearat(Ph.Eur). **Anwendungsgebiete:** Tavneos® ist in Kombination mit einem Rituximab- oder Cyclophopamid-Dosierungsschema indiziert zur Behandlung erwachsener Patienten mit schwerer aktiver Granulomatose mit Polyangiitis (GPA) oder mikroskopischer Polyangiitis (MPA). **Gegenanzeigen:** Überempfindlichkeit gegen den Wirkstoff oder einen der sonstigen Bestandteile. **Pharmakotherapeutische Gruppe:** Komplement-Inhibitoren **ATC- Code:** L04AJ05 **Inhaber der Zulassung:** Vifor France, 100-101 Terrasse Boieldieu Tour Franklin La Defense 8 92042 Paris La Defense Cedex, Frankreich. Rezept- und apothekenpflichtig. Weitere Angaben zu Warnhinweisen und Vorsichtsmaßnahmen für die Anwendung, Wechselwirkungen mit anderen Arzneimitteln oder sonstigen Wechselwirkungen, Schwangerschaft und Stillzeit und Nebenwirkungen sowie Gewöhnungseffekten sind der veröffentlichten Fachinformation zu entnehmen. Stand der Information: Mai 2023

▼ Dieses Arzneimittel unterliegt einer zusätzlichen Überwachung. Dies ermöglicht eine schnelle Identifizierung neuer Sicherheitsdaten. Angehörige der Gesundheitsberufe werden gebeten, alle Verdachtsfälle von unerwünschten Wirkungen zu melden.