USZ Universitäts Spital Zürich

Lupus erythematodes: Klinische Fälle

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Rheuma Workshop, 25.09.2025, Universitätsspital Zürich

Agenda

1. Klinischer Fall ‘Polyarthritis’
2. Neuropsychiatrischer Lupus
3. Fragen und Diskussion

Fall 1: Polyarthritis

Herr G., 48 Jahre, Storenmonteur

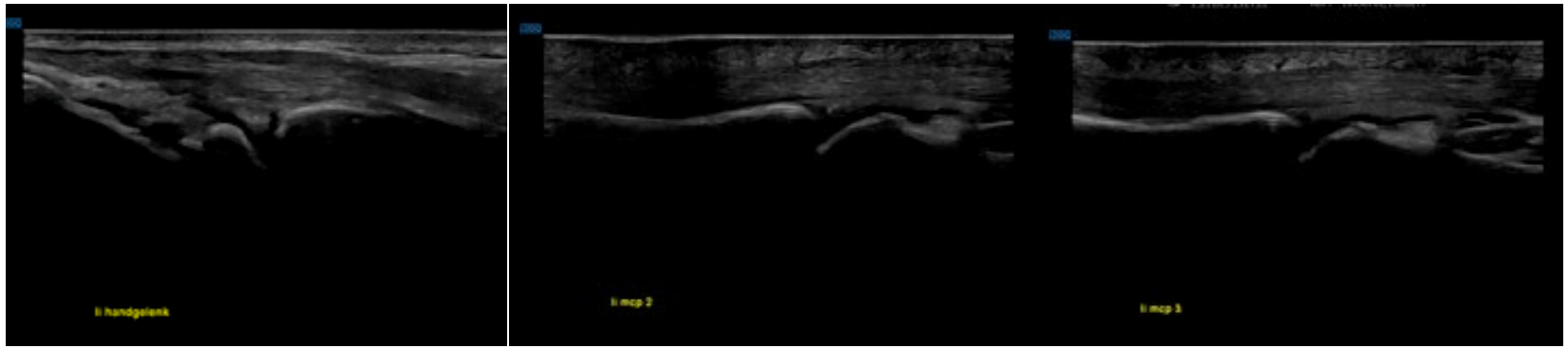
- initial (Juli 2024) entzündliche Arthralgien, Rückenschmerzen ohne eindeutig entzündlichen Charakter, zunächst unter NSAR kompensiert
- DD AxSpa, MRI ohne Befund, HLA-B27 negativ
- im Verlauf Synovitiden an den Händen, Beginn Prednison und MTX
- initial Besserung, dann Nachlassen der Wirksamkeit
- MTX Stopp bei Exanthem
- Seither Prednison 10-20mg/Tag
- 11/2025 Beginn Rinvoq

Fall 1: Polyarthritis

- Stationärer Eintritt am 24.11. mit 10mg Prednison und neu Rinvoq seit 3 Wochen, darunter leichte Besserung
- Dauertherapie mit mind. 10mg Prednison seit 1 Jahr, NNR-Insuffizienz
- Schwellungen Handgelenke und Fingergelenke bds
- B-Symptomatik seit 6 Monaten mit 12kg Gewichtsverlust, Abgeschlagenheit, Nachtschweiss

Fall 1: Polyarthritis

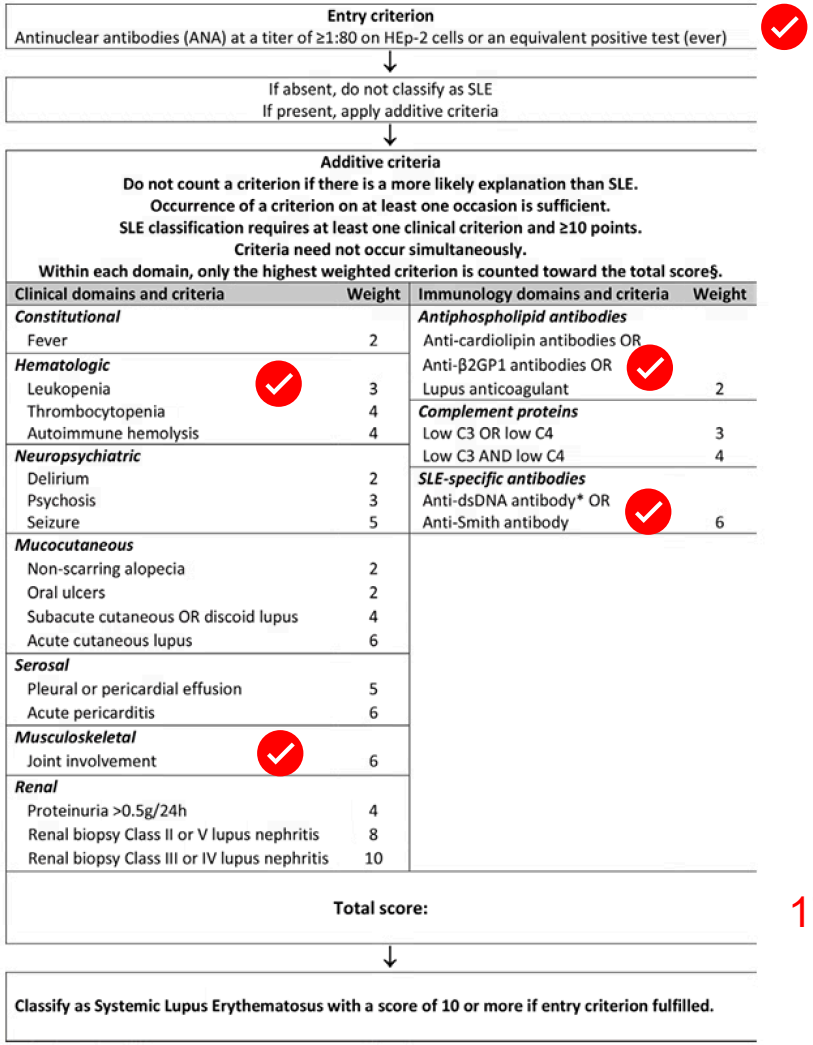
- Erguss radiocarpal und midcarpal bds, Erguss um die Extensorensehne 3. und 4. Strecksehnenfach, Synovitis Grad 2 in MCP II, III, IV, und V bds und PIP II, III, IV, und IV bds



Fall 1: Polyarthritis

Untersuchungen	Flag	Resultat	Einheit	Referenzbereich
Administration				
Material		Serum		
Material 2		Urin		
Immunglobuline				
IgG Serum		9.0 (1)	g/l	7.0-16.0
IgA Serum		2.27 (1)	g/l	0.7-4.0
IgM Serum		0.4 (1)	g/l	0.4-2.3
IgG Urin		<0.008 (2)	g/l	<0.009
Immunglobuline (spez.)				
Immunfixation Serum		unauffällig		
Freie Kappa-Ketten	H	**30.31 (3)**	mg/L	3.30-19.40
Freie Lambda-Ketten	H	**28.07 (4)**	mg/L	5.71-26.30
Kappa/Lambda-Quot.frei		1.08		0.26-1.65
Immunfixation Urin		unauffällig		
Freie Kappa-Ketten Urin	H	**128.7 (1)**	mg/l	<24.2
Freie Lambda-Ketten Urin	H	**27.0 (1)**	mg/l	<6.7
freie LK K/L-Quot. Urin		4.77		2.04-10.37
Autoantikörper				
SLE, MCTD, Sjögren-Syndrom				
Antinukleäre AK Titer	H	**1:2560 (5)**	Titer	<1:320
ANA:Zytoplasma Titer		negativ	Titer	<1:320
Anti-Doppelstrang-DNA	H	**22**	U/ml	<15
Anti-Histon IgG	H	**59**	E/ml	<20
Anti-Chromatin	H	**309 (6)**	E/ml	<20
Anti-DFS70		1	U/ml	<10
Rheumaserologie				
Rheumafaktor	H	**14 (7)**	IU/ml	<10
Anti-CCP		2	E/ml	<10
ANCA, Vaskulitis und Nephritis				
ANCA (IIF,Titer)		siehe Text (8)	Titer	<1:40
MPO-ANCA		0	U/ml	<5
PR3-ANCA		1	U/ml	<3

Fall 1: Polyarthritis



Entry criterion
Antinuclear antibodies (ANA) at a titer of ≥1:80 on HEp-2 cells or an equivalent positive test (ever)

↓

If absent, do not classify as SLE
If present, apply additive criteria

↓

Additive criteria
Do not count a criterion if there is a more likely explanation than SLE.
Occurrence of a criterion on at least one occasion is sufficient.
SLE classification requires at least one clinical criterion and ≥10 points.
Criteria need not occur simultaneously.
Within each domain, only the highest weighted criterion is counted toward the total score§.

Clinical domains and criteria	Weight
Constitutional	
Fever	2
Hematologic	
Leukopenia	3
Thrombocytopenia	4
Autoimmune hemolysis	4
Neuropsychiatric	
Delirium	2
Psychosis	3
Seizure	5
Mucocutaneous	
Non-scarring alopecia	2
Oral ulcers	2
Subacute cutaneous OR discoid lupus	4
Acute cutaneous lupus	6
Serosal	
Pleural or pericardial effusion	5
Acute pericarditis	6
Musculoskeletal	
Joint involvement	6
Renal	
Proteinuria >0.5g/24h	4
Renal biopsy Class II or V lupus nephritis	8
Renal biopsy Class III or IV lupus nephritis	10

Immunology domains and criteria	Weight
Antiphospholipid antibodies	
Anti-cardiolipin antibodies OR	
Anti-β2GP1 antibodies OR	
Lupus anticoagulant	2
Complement proteins	
Low C3 OR low C4	3
Low C3 AND low C4	4
SLE-specific antibodies	
Anti-dsDNA antibody* OR	
Anti-Smith antibody	6

Total score:

↓

Classify as Systemic Lupus Erythematosus with a score of 10 or more if entry criterion fulfilled.

ACR/EULAR 2019 classification criteria

17 Pkt

Fall 1: Krankheitsaktivität

SLEDAI-2K[1]

The Systemic Lupus Erythematosus Disease Activity Index 2000 (SLEDAI-2K) was developed and validated as a clinical index for the measurement of disease activity in SLE (systemic lupus erythematosus).

Patient name: _____ **Date:** _____

Check the score column of each descriptor that is present at the time of the visit or in the preceding 10 days.

8	☐	**Seizure** - Recent onset, exclude metabolic, infectious or drug causes.
8	☐	**Psychosis** - Altered ability to function in normal activity due to severe disturbance in the perception of reality. Include hallucinations, incoherence, marked loose associations, impoverished thought content, marked illogical thinking, bizarre, disorganized, or catatonic behavior. Exclude uremia and drug causes.
8	☐	**Organic brain syndrome** - Altered mental function with impaired orientation, memory, or other intellectual function, with rapid onset and fluctuating clinical features, inability to sustain attention to environment, plus at least 2 of the following: perceptual disturbance, incoherent speech, insomnia, or daytime drowsiness, or increased or decreased psychomotor activity. Exclude metabolic, infectious, or drug causes.
8	☐	**Visual disturbance** - Retinal changes of SLE. Include cytoid bodies, retinal hemorrhages, serous exudate, or hemorrhages in the choroid, or optic neuritis. Exclude hypertension, infection, or drug causes.
8	☐	**Cranial nerve disorder** - New onset of sensory or motor neuropathy involving cranial nerves.
8	☐	**Lupus headache** - Severe, persistent headache; may be migrainous, but must be nonresponsive to narcotic analgesia.
8	☐	**CVA** - New onset of cerebrovascular accident(s). Exclude arteriosclerosis.
8	☐	**Vasculitis** - Ulceration, gangrene, tender finger nodules, periungual infarction, splinter hemorrhages, or biopsy or angiogram proof of vasculitis.
4	☒	**Arthritis** - >2 joints with pain and signs of inflammation (i.e., tenderness, swelling, or effusion).
4	☐	**Myositis** - Proximal muscle aching/weakness, associated with elevated creatine phosphokinase/aldolase or electromyogram changes or a biopsy showing myositis.
4	☐	**Urinary casts** - Heme-granular or red blood cell casts.
4	☐	**Hematuria** - >5 red blood cells/high power field. Exclude stone, infection, or other cause.
4	☐	**Proteinuria** - >0.5 gram/24 hours.
4	☐	**Pyuria** - >5 white blood cells/high power field. Exclude infection.
2	☐	**Rash** - Inflammatory type rash.
2	☐	**Alopecia** - Abnormal, patchy, or diffuse loss of hair.
2	☐	**Mucosal ulcers** - Oral or nasal ulcerations.
2	☐	**Pleurisy** - Pleuritic chest pain with pleural rub or effusion, or pleural thickening.
2	☐	**Pericarditis** - Pericardial pain with at least 1 of the following: rub, effusion, or electrocardiogram or echocardiogram confirmation.
2	☐	**Low complement** - Decrease in CH50, C3, or C4 below the lower limit of normal for testing laboratory.
2	☒	**Increased DNA binding** - Increased DNA binding by Farr assay above normal range for testing laboratory.
1	☐	**Fever** - >38°C. Exclude infectious cause.
1	☐	**Thrombocytopenia** - <100,000 platelets / x10³/L, exclude drug causes.
1	☒	**Leukopenia** - <3,000 white blood cells / x10³/L, exclude drug cause.

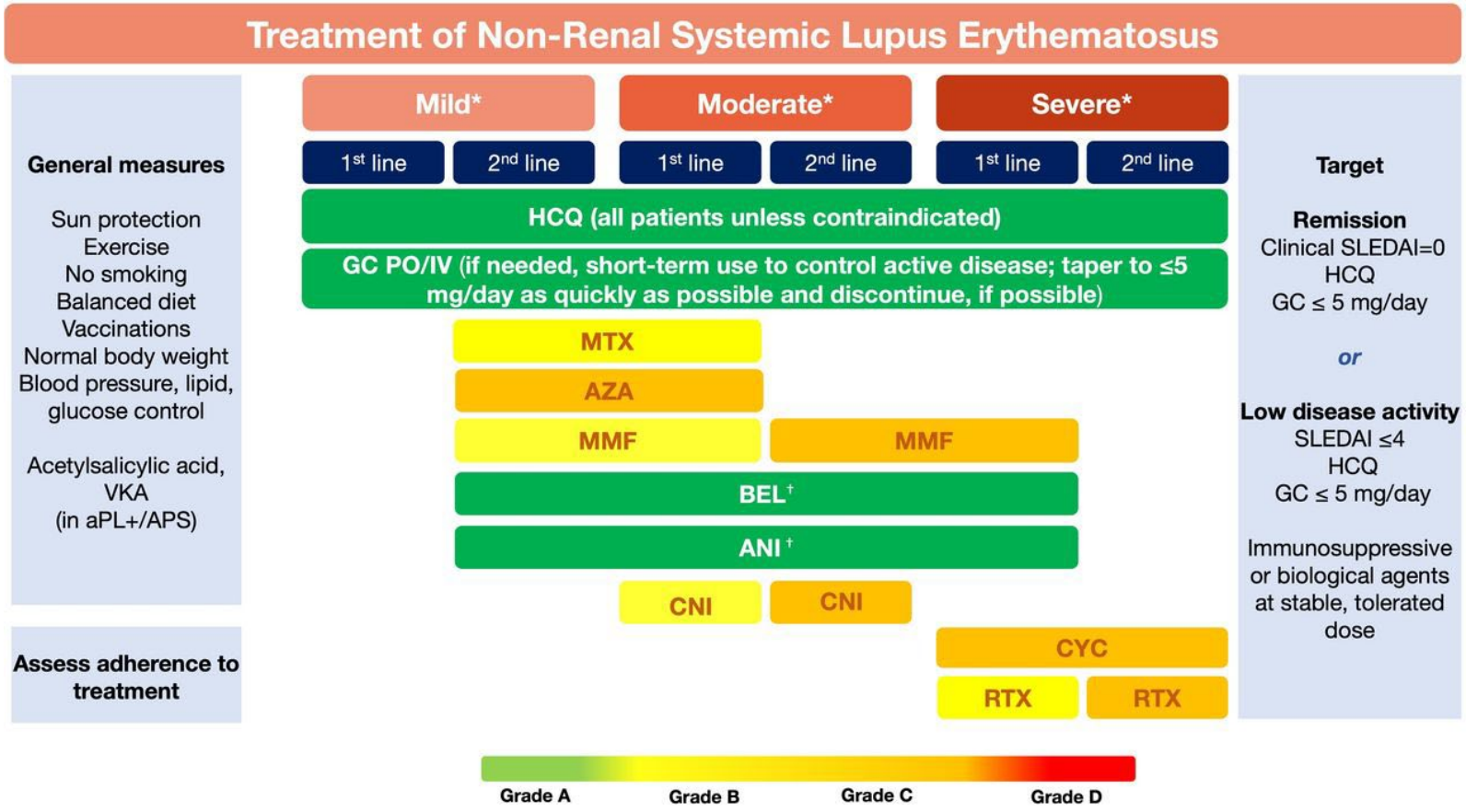
Add all the checked scores above to calculate the total score.

Total SLEDAI-2K Score: 7 Pkt.

- **0** = Remission
- **1-4** = milde …
- **5-6** = moderate …
- **≥7** = hohe …
- **>12** = sehr hohe Krankheitsaktivität

Fall 1: Therapie

Antonis Fanouriakis et al. Ann Rheum Dis 2024;83:15-29



Fall 1: Lupus Arthritis

- bis zu 90% der Pat. betroffen
- bei ca. 60% der Pat. bereits bei Erstdiagnose da
- in bis zu 40% der Fälle erosiv Ceccarelli et al, Lupus 2021
- cISD: MTX Carneiro et al. J Rheumatol 1999 AZA/MMF reviewed in Durcan et al Lancet 2019
- Biologika: Belimumab, RTX, Anifrolumab für refraktäre Fälle reviewed in Durcan et al Lancet 2019

Fall 1: Unser Therapiekonzept

- Prednison belassen bei 10mg mit langsamen Taper (NNR-Insuffizienz)
- Rinvoq Stopp
- Beginn Plaquenil 400mg/Tag (5mg/kg KG)
- Beginn Azathioprin 50mg/Tag, Aufdosierung nach Erhalt Resultat TPMT Aktivität
- Beginn Belimumab 200mg/Woche sobald Kostengutsprache vorhanden

Fall 1: Verlaufskontrolle heute Morgen

- Unter Plaquenil 400mg/Tag, Lodotra 7mg/Tag, Azathioprin 150mg/Tag, Benlysta 200mg s.c. 1x/Woche, Colchizin bei Perikarditis
- Deutlich gebesserter Allgemeinzustand
- Klinisch keine Synovitiden
- Arthralgien abends vor der Lodotraeinnahme
- SLEDAI-2K

Fall 1: Take Home Messages

- frühe Diagnose
- Ziel vollständige Remission / milde Krankheitsaktivität
- Bestimmung der Krankheitsaktivität bei jeder Konsultation
- Hydroxychloroquin für alle Pat. auch solche mit milder Erkrankung (5mg/kg KG)
- Ziel Steroide ganz stoppen oder nicht höher wie 5mg/Tag
- csDMARDs (MTX, Azathioprin, MMF, CYC), Biologika (Belimumab, Anifrolumab, Rituximab, Obinituzumab), CNI (cyclosporin, tacrolimus, vaclosporin)
- früher Einsatz von Biologika

Fall 2: Psychose

- 28-Jährige Patientin, Juristin
- Hochgradiger V.a. SLE ab 07/2025 mit Autoimmunhämolytischer Anämie (AIHA) bei Nachweis von IgG Wärmeantikörpern (Haptoglobin nicht nachweisbar, Bilirubin 25 umol/l)
- Beginn 06/2025 mit TIA, Diagnose eines APS (Triple positiv), seither antikoaguliert mit Marcoumar
- Panzytopenie: Anämie (AIHA), Thrombopenie <150 G/l, Leukopenie <4 G/l
- Generalisierte Lymphadenopathie: kein Nachweis einer Neoplasie
- Haarausfall, Müdigkeit und Inappetenz mit 6 kg Gewichtsverlust, emotionale Labilität und zuletzt wahnhafte Gedanken, dann mutistische Patientin
- Psychisiche Labilität und Rückzug, Belastungssituation aufgrund des Todes der Mutter 06/2025

Fall 2: Psychose bei SLE

Untersuchungen	Flag	Resultat	Einheit	Referenzbereich
Administration				
Material		Serum		
Serum hämolytisch		s.Text (1)		
Faktoren				
Komplementfaktoren				
Kompl. Faktor C3c	L	0.60 (2)	g/l	0.8-1.6
Kompl. Faktor C4	L	0.07 (2)	g/l	0.10-0.40
Autoantikörper				
SLE, MCTD, Sjögren-Syndrom				
Antinukleäre AK Titer	H	1:1280 (3)	Titer	<1:320
ANA:Zytoplasma Titer	H	1:640 (4)	Titer	<1:320
Crithidien	H	>1:100 (5)	Titer	<1:10
Anti-Doppelstrang-DNA		10	U/ml	<15
Anti-Histon IgG	H	27	E/ml	<20
Anti-Chromatin	H	55	E/ml	<20
Anti-SmD	H	39 (6)	U/ml	<10
Anti-U1-snRNP (70)		1	U/ml	<10
Anti-SSA (Ro52+Ro60)		1	E/ml	<10
Anti-SSB (La+Ha)		1	E/ml	<10
Rheumaserologie				
Rheumafaktor		<6 (2)	IU/ml	<10
Anti-CCP		2	E/ml	<10
HIV und HTLV				
HIV Ag/Ak Comboscreen		negativ (9)		neg.
HIV Ag/Ak Combo quant		0.18	Quot.	<1.0
Virale Hepatitiden A, B, C, D, E				
HBs-Antigen		negativ		neg.
Anti-HBs		positiv (7)		neg.
Anti-HBs quant	H	81	IE/l	<10
Anti-HBc-total		negativ		neg.
Anti-HBc-total quant		1.91	Quot.	>1.0
Anti-HCV (Screening)		negativ (8)		neg.
Anti-HCV-IgG quant		0.04	Quot.	<1.0

Legende:
* Pathologischer Wert

Fall 2: Zuweisung Spital Uster

Fall 2: Bestätigung Diagnose

Entry criterion
Antinuclear antibodies (ANA) at a titer of ≥1:80 on HEp-2 cells or an equivalent positive test (ever)

If absent, do not classify as SLE
If present, apply additive criteria

Additive criteria
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Fever	2	Anti-cardiolipin antibodies OR	
Hematologic		Anti-β2GP1 antibodies OR	
Leukopenia	3	Lupus anticoagulant	2
Thrombocytopenia	4	***Complement proteins***	
Autoimmune hemolysis	4	Low C3 OR low C4	3
Neuropsychiatric		Low C3 AND low C4	4
Delirium	2	***SLE-specific antibodies***	
Psychosis	3	Anti-dsDNA antibody* OR	
Seizure	5	Anti-Smith antibody	6
Mucocutaneous			
Non-scarring alopecia	2		
Oral ulcers	2		
Subacute cutaneous OR discoid lupus	4		
Acute cutaneous lupus	6		
Serosal			
Pleural or pericardial effusion	5		
Acute pericarditis	6		
Musculoskeletal			
Joint involvement	6		
Renal			
Proteinuria >0.5g/24h	4		
Renal biopsy Class II or V lupus nephritis	8		
Renal biopsy Class III or IV lupus nephritis	10		

Total score: 31 Pkt

Classify as Systemic Lupus Erythematosus with a score of 10 or more if entry criterion fulfilled.

Fall 2: Krankheitsaktivität

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2	☐	**Mucosal ulcers** - Oral or nasal ulcerations.
2	☐	**Pleurisy** - Pleuritic chest pain with pleural rub or effusion, or pleural thickening.
2	☐	**Pericarditis** - Pericardial pain with at least 1 of the following: rub, effusion, or electrocardiogram or echocardiogram confirmation.
2	☒	**Low complement** - Decrease in CH50, C3, or C4 below the lower limit of normal for testing laboratory.
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1	☐	**Fever** - >38°C. Exclude infectious cause.
1	☐	**Thrombocytopenia** - <100,000 platelets / x10³/L, exclude drug causes.
1	☒	**Leukopenia** - <3,000 white blood cells / x10³/L, exclude drug cause.

Add all the checked scores above to calculate the total score.

Total SLEDAI-2K Score: 23 Pkt.

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- **≥7** = hohe …
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Fall 1: Therapie

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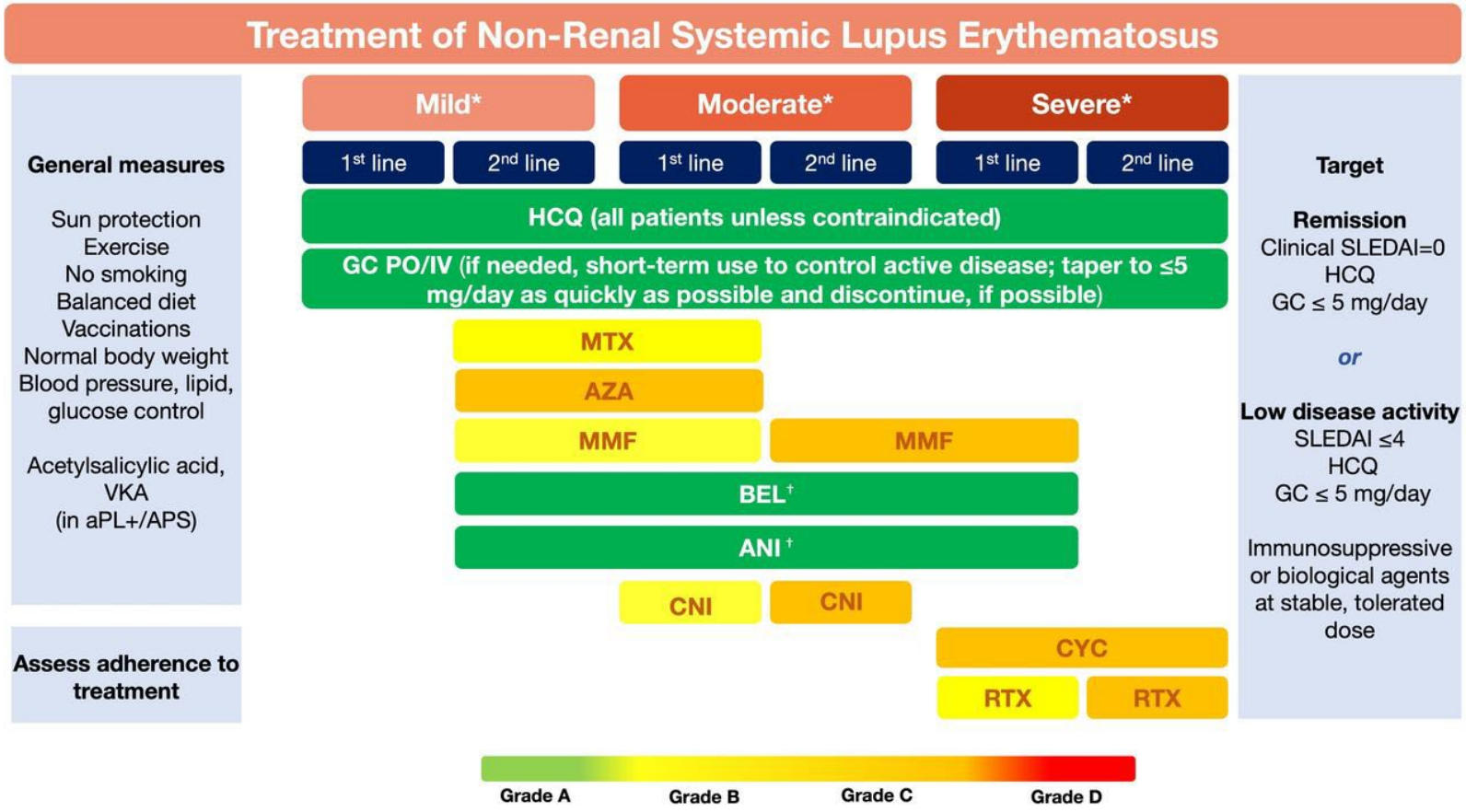

Fall 2: NPSLE

- 30-50% aller SLE Fälle Fan et al, Front Med 2025
- Kopfschmerzen 25%, Krampfanfälle 25%, CVI 18%, Psychose 8%

  reviewed in Carrion-Barbera et al. Autoimmunity Rev 2021

- Pathomechanismus: Störung der Blut-Hirn-Schranke
- Diagnostik: MRI, LP, EEG, neuropsychologische Tests
- Therapie: Methylprenison i.v. 500-1000mg, Cyclophosphamid ->Euro-Lupus), Erhaltung mit AZA, MMF, HCQ für alle
- Prognose: besser als bei neuropshychologischen Syndromen anderer Ätiologie

Fall 2: Neuropsychiatrischer SLE (NPSLE)
Primäre *vs* organische Psychose

- zunehmend mutistisch, fehlende Nahrungsaufnahme, Selbstgefährdung
- DD primäre Psychose, DD organische Psychose inkl. SLE-oder APS, oder Steroid-induzierte Psychose

- Primäre Psychose: Auslöser, vorwiegend akustische Halluzinationen, Verfolgungswahn, produktive Symptome, komplexe Wahnvorstellungen
- Organische Psychose: abrupter Beginn ohne Auslöser, rascher Funktionsverlust, negative Familienanamnese, visuelle Halluzinationen, sprachliche Verarmung

Fall 2: Diagnostik

- Anamnese: Auslöser (Tod der Mutter), neg. Familienanamnese, keine Drogen, hochdosiert Steroide
- cMRI 07.08.25: altersentsprechend
- EEG 07.08.25: kein Status epilepticus
- 1. Lumbalpunktion 08.08.25: Zellzahl 8/microl, Protein im Liquor 1020mg/l, Oligoklonale Banden positiv
- 2. Lumbalpunktion 21.08.25: Zellzahl 0/microl., Protein im Liquor 317mg7l
- negativ für: VZV; HSV 1+2, EBV

Fall 2: Therapie

Therapie prästationär

- Prednison 60mg

Therapie stationär

- Hydroxychloroquin
- Solu-Medrol 1000mg i.v. 11.-15.08.25
- Cyclophosphamid 750mg i.v. 1x am 23.08.25
- Induktion mit Rituximab 1 g i.v. am 02.09. und 16.09.25
- aktuell: Rituximab 500mg i.v. alle 6 Monate

+ Marcoumar
+ antipsychotische Medikation (Olanzapin, Temesta)

Fall 2: Letztes Update Konsultation 24.2.

- Prednison 5 mg/Tag, Plaquenil 200mg/Tag, und Rituximab 500 mg i.v. alle 6 Monate, Apiprazol antipsychotische Medikation mehr
- SLEDAI-2K: 2 Pkt.
- 100% AUF, 2 Tage/Woche ambulante Neuroreha
- Arbeitsversuch mit 2x2 Std.

Fall 2: Take Home Messages

- Neuropsychiatrische Symptome häufig
- Differentialdiagnose kann schwierig sein, erfordert interdisziplinäre Betreuung
- Keine wesentlichen Updates in Diagnostik / Therapie des NPSLE seit 2019
- Keine Daten zu Anifrolumab und Belimumab
- Stellenwert des APS unklar ausserhalb von klaren cerebrovaskulären Ereignissen, wo lebenslange OAK indiziert

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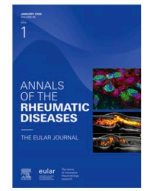

Recommendations

EULAR recommendations for the management of systemic lupus erythematosus with kidney involvement: 2025 update

Antonis Fanouriakis[1,*], Myrto Kostopoulou[2], Hans-Joachim Anders[3], Jeanette Andersen[4], Martin Aringer[5], Michael W. Beresford[6,7], Andrea Doria[8], Eleni Frangou[9,10,11], Richard Furie[12], Dafna D. Gladman[13], Frederic Houssiau[14], Alexandre Karras[15], Marios Kouloumas[16], Anastasia-Vasiliki Madenidou[17], Ana Malvar[18], Smaragdi Marinaki[19], Chi Chiu Mok[20], Gabriella Moroni[21,22], Ioannis Parodis[23,24], Simona Rednic[25], Cristiana Sieiro Santos[26,27], Carlo Alberto Scire[28], Josef S. Smolen[29], Farah Tamirou[14], Yoshiya Tanaka[30], Y. K. Onno Teng[31], Elisabet Welin[24], George Bertsias[32], Dimitrios T. Boumpas[1,33,34]

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The Swiss SLE Cohort Study

Vielen Dank für Ihre Aufmerksamkeit!