FREQUENCY OF NEW SILENT MRI LESIONS IN MOGAD AND AQP4-NMOSD

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BACKGROUND

- In multiple sclerosis (MS) MRI silent lesions activity is a diagnostic hallmark and is used as surrogate biomarker for treatment efficacy[1].
- In aquaporin-4 antibody neuromyelitis optica spectrum disorder (AQP4-NMOSD) brain silent lesions outside of relapses are rare[2].
- However, their frequency and relevance in adult[3] with myelin oligodendrocyte glycoprotein antibody disease (MOGAD) have not been investigated yet.

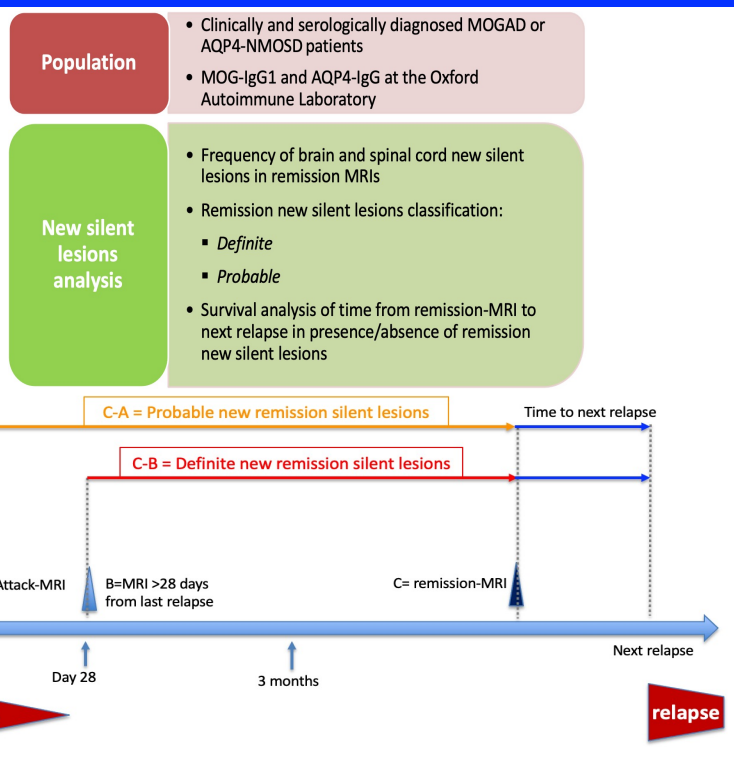
AIM

In MOGAD and AQP4-NMOSD patients

Assess the frequency of new remission silent lesions in clinical practice

Assess their association with relapses

METHODS

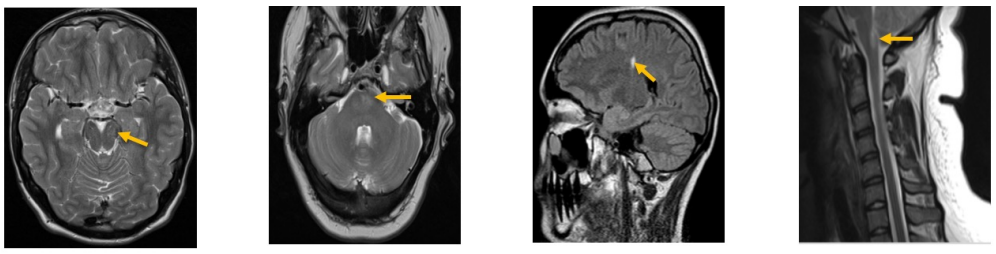


RESULTS

DESCRIPTIVE COHORTS RESULTS

	MOGAD	AQP4-NMOSD
Number of patients	182	222
Age at onset years, median (range)	28 (2-75)	43 (3-84)
% <18 years old whole cohort	27%	12.6%
% < 18 years old at remission MRI	30.5%	7.8%
Female %	62%	85%
Number of attacks per patient, median (range)	2 (1-15)	2.5 (1-23)
Follow-up duration, median (range)	52 (11-253)	87.5 (11-260)
Number of remission-MRIs:		
Total (sessions)	247 (167)	379 (269)
Brain	137	179
Spinal Cord	110	200
Therapy at remission-MRI scan:		
Yes %	53%	90.4%
No %	47%	9.6%

FREQUENCY OF NEW REMISSION SILENT LESIONS



MOGAD cohort

- Median time from last attack to remission-MRIs was 9 months (range 3-25)
- New remission lesions were found in:
  - 3% (5/167) remission-MRI sessions
  - 3.7 % (4/107) patients
- 2 classified as probable and 3 as definite

AQP4-NMOSD cohort

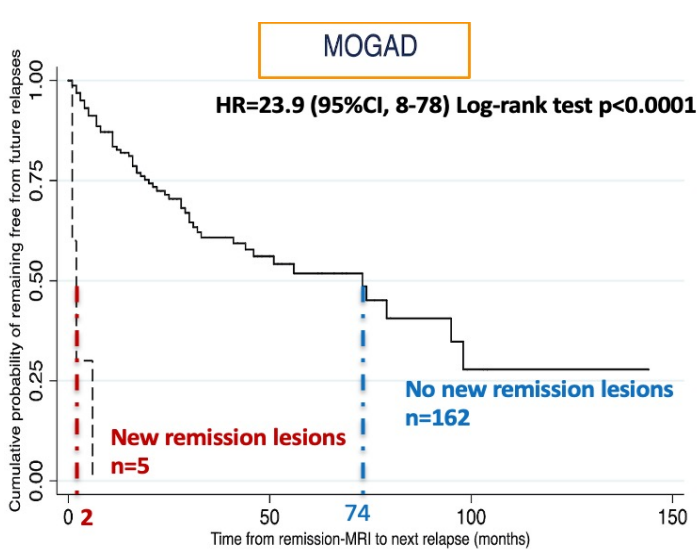
- Median time from last attack to remission-MRIs was 19 months (range 3-154)
- New remission lesions were found in:
  - 2.6% (7/269) remission-MRIs
  - 4.4% (6/136) patients
- 4 classified as probable and 3 as definite

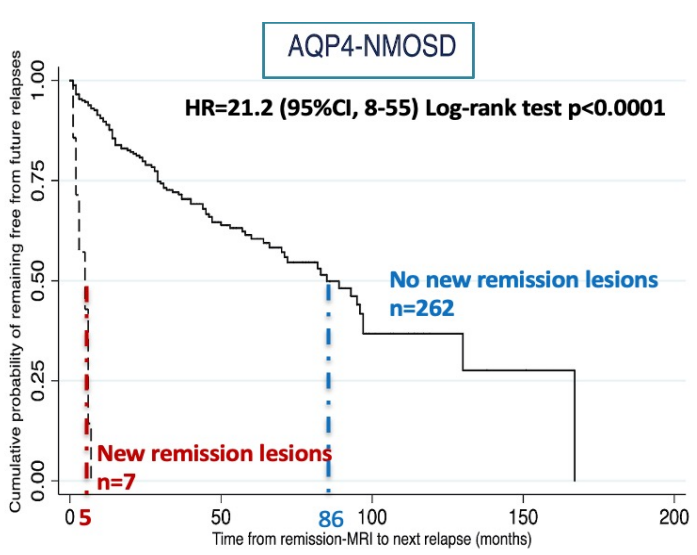
ASSOCIATION WITH FOLLOWING RELAPSES

MOGAD

4/5 relapsed

50% of the new lesions that preceded the relapses were the symptomatic ones in the relapse





AQP4-NMOSD

7/7 relapsed

71% of the new lesions that preceded the relapses were the symptomatic ones in the relapse

CONCLUSIONS

- New remission silent lesions are rare
- May be associated with imminent relapses in MOGAD and AQP4-NMOSD
- However, some remission silent lesions may have been missed because of irregular intervals of scanning, MOGAD lesions are more likely to self-resolve, MOGAD had shorter time from attack to remission-MRI and more AQP4-NMOSDs were under immunotherapy than MOGAD patients
- Appropriate disease activity biomarker neither in clinical practice nor clinical trials for MOGAD and AQP4-NMOSD
- In patients with low MOG-antibody titres, follow-up scans maybe useful to distinguish MOGAD from early MS off treatment

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