Prognostic value of CRP in Giant Cell Arteritis relapse

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BACKGROUND

Giant cell arteritis (GCA) is a vasculitis of large arterial vessels occurring in patients over 50 years-old. Its main risk is ischemic complications, particularly visual ones, requiring rapid glucocorticosteroids therapy (GCS). The high incidence of GCS related side-effects in the elderly encourage GCS sparing strategy. However, to date, there are no clearly identified factors that can predict risk of relapse and help clinicians to adapt the treatment duration. Based on our clinical experience, we wondered whether CRP value, routinely measured during the course of the disease could predict patients' outcome.

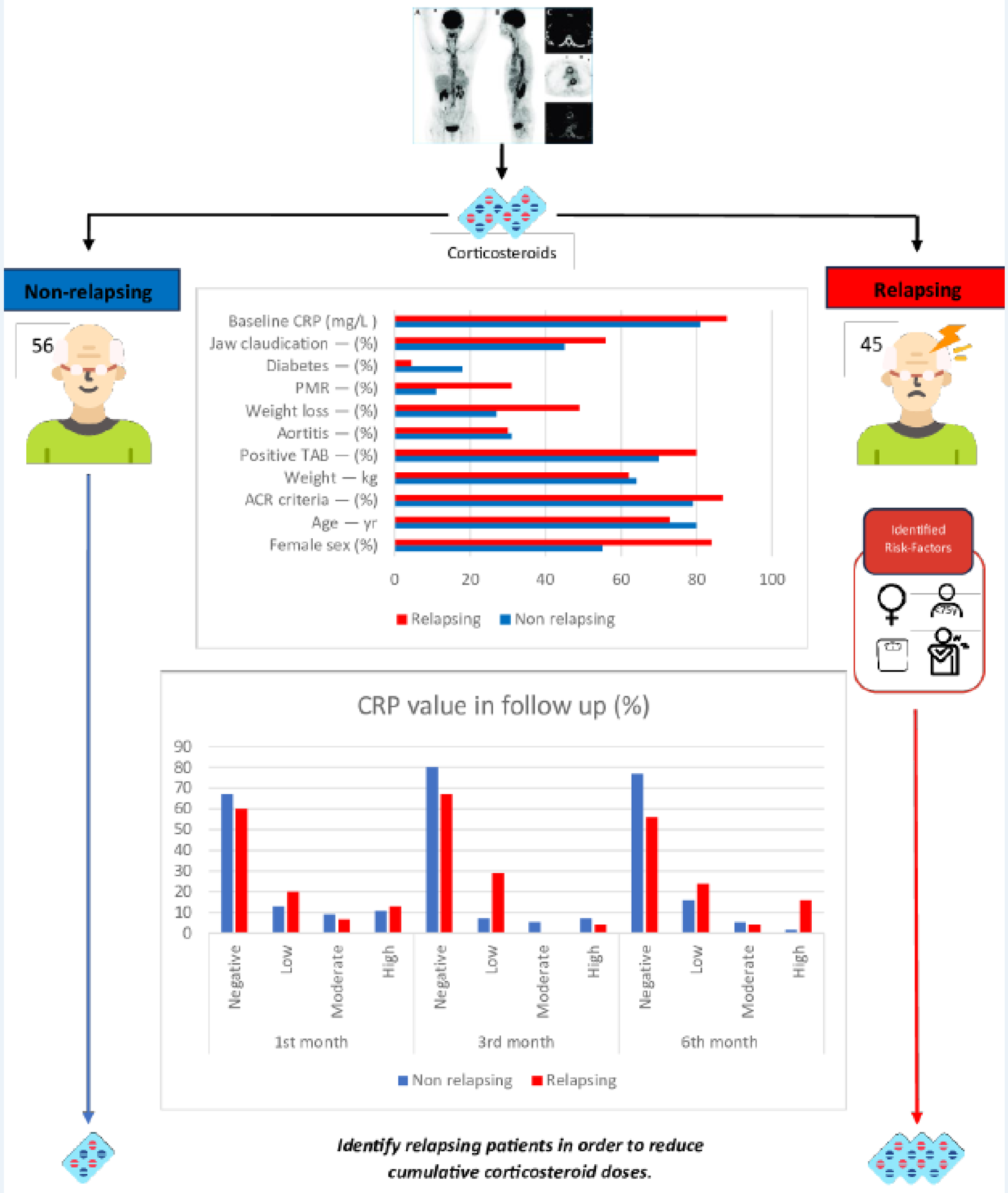
OBJECTIVES

The primary objective of this study is to determine in a cohort of patients with GCA whether the CRP value at a different end point is predictive of GCA relapse.

METHODS

We conducted a monocentric, retrospective study in a cohort of patients with GCA treated with GCS only, in the Clinical Immunology Department of the Tours University Hospital in France, included between 2007 and 2020. CRP values were collected at discharge from hospital at diagnosis (D), the end of the first (M1), third (M3) and sixth month (M6). Relapses were recorded in all patients.

RESULTS



RESULTS

137 patients were screened, 36 patients were excluded for missing data.101 patients were included in the study :45 relapsers and 56 non relapsers. 68% were women (n=69), with a median age at diagnosis of 78 years [IQR 69-81]. Patient fulfilled ACR criteria in 82% (n=83), and had a positive temporal artery biopsy in 74% (n=75). A third of them presented with aortitis (n=18), 37% (n=37), weight loss and 20% (n=20) polymyalgia rheumatica (PMR).

There was a significant difference in CRP values between in relapsing patients vs. non relapsing's one at M3 and M6 (p=0.011 and p=0.030 respectively), as described in Table 1. Relapse-free patients had more frequently negative CRP value (< 5 mg/L) at these 2 time points. They were also more susceptible to have double-negative CRP value at M3 and M6: n=38 (69%) vs. n=18 (40%), p=0.004. No difference was observed at D and M1 .

At baseline, relapsing patients were more frequently females: n=38 (84%) vs. n=31 (54%), p=0.002; younger: 73 [IQR 66-80] vs. 80 years-old [IQR 73-82], p<0. 001. They also presented with more weight loss: n=22 (49%) vs. n=15 (27%), p=0.022 and PMR at diagnosis: n=14 (31%) vs. n=6 (11%), p=0.011.

Table 2 : Comparison of CRP values at M1, M3 and M6 between relapsing and non-relapsing groups

	N	Total (N = 101)	No relapse (N=56)	Relapse (N=45)	p-value
CRP M1	100				0.8
Negative CRP [1]		64 (64%)	37 (67%)	27 (60%)	
Low CRP [2]		16 (16%)	7 (13%)	9 (20%)	
Medium CRP [3]		8 (8.0%)	5 (9.1%)	3 (6.7%)	
High CRP ****		12 (12%)	6 (11%)	6 (13%)	
CRP M3	100				0.011
Negative CRP		74 (74%)	44 (80%)	30 (67%)	
Low CRP		17 (17%)	4 (7.3%)	13 (29%)	
Medium CRP		3 (3.0%)	3 (5.5%)	0 (0%)	
High CRP		6 (6.0%)	4 (7.3%)	2 (4.4%)	
CRP M6	101				0.030
Negative CRP		68 (67%)	43 (77%)	25 (56%)	
Low CRP		20 (20%)	9 (16%)	11 (24%)	
Medium CRP		5 (5.0%)	3 (5.4%)	2 (4.4%)	
High CRP		8 (7.9%)	1 (1.8%)	7 (16%)	
CRPM3M6neg	100	56 (56%)	38 (69%)	18 (40%)	0.004

CRP M1 : value of CRP at 1st month. CRP M3 : value of CRP at 3rd month. CRP M6 : value of CRP at 6th month
[1] CRP value undetectable by the laboratory or < 5 mg/L
[2] CRP value ≥5 mg/L and <10 mg/L
[3] CRP value ≥10 mg/L and <15 mg/L
[4] CRP value ≥15 mg/L

CONCLUSION

Altogether, our findings suggest that patients with negative CRP at M3 and M6 have a better prognosis in terms of relapse. Thus, this study highlights that a routinely measured laboratory parameter could help clinicians to optimize GCS treatment duration.