REGISTERS

O30 VARIATION IN IMMUNOSUPPRESSANT IMPACT ON SEVERE COVID-19 OUTCOME: PRELIMINARY RESULTS FROM THE COVID-19 SCOTTISH REGISTRY OF AUTOIMMUNE RHEUMATIC DISEASES (SCAR-19)

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Background/Aims
The novel infectious disease COVID-19 is associated with a wide spectrum of clinical severity amongst the general population. Patients with autoimmune rheumatic diseases (ARD) are more likely to experience serious COVID-19 related events, although risk factors for such outcomes have yet to be established. In particular, the risk profiles of specific ARD therapies are unknown.
Methods
A Scottish wide registry was rapidly developed in March 2020. Clinical characteristics and outcomes of infected cases were collated across all Scottish health boards, leveraging the Scottish Systemic Vasculitis Network and Scottish Society for Rheumatology. Eligible patients included any adult ARD patients with a confirmed (clinically or PCR) diagnosis of COVID-19. Simple descriptive statistics were employed to evaluate associations between ARD therapies and a serious COVID-19 disease outcome, as defined by a requirement of invasive or non-invasive ventilation, and/or death.
Results
A total of 69 patients (59% female; mean age 65.6, SD15.5) were recruited to the registry ,92% of which required hospitalisation. Cases were most commonly diagnosed with rheumatoid arthritis (n = 32, 46.4%) followed by spondyloarthritis (n = 19, 27.5%) and systemic vasculitis (n = 9, 13.0%). Anti-TNF therapy (n = 8, 11.6%) and methotrexate (n = 31, 44.9%) were the commonest biologic and conventional disease modifying drug (bDMARD and csDMARD) used respectively. N = 20 (29%) received background corticosteroid therapy (15.9% prednisolone >5mg, 13% prednisolone ≤5mg). A severe outcome was observed in n = 25(31.9%); n = 11 required assisted ventilation and n = 19 died. With the exception of Leflunomide, conventional and biologic DMARDs did not appear to confer a higher risk for severe outcome (table 1). Of note, anti-TNF therapy was associated with a non-serious outcome (p = 0.04) and prednisolone>5mg with a serious outcome (p = 0.08).

030 TABLE 1: Demographics, clinical characteristics and outcomes

	Critical outcome* n = 25	Non-critical outcomen=44	Totaln=69	p value**
Age (years) (mean ± SD)	69.9 ± 12.9	63.4 ± 16.5	**65.6 ± 15.5**	0.09
Female, n (%)	14 (56)	27 (61.4)	**41 (59.4)**	0.66
Rheumatological Treatment, n (%)				
bDMARD/ tsDMARD, n (%)				
Anti-TNF	0 (0)	8 (18.2)	**8 (11.6)**	**0.04**
Rituximab	3 (12)	3 (6.8)	**6 (8.7)**	0.66
Secukinumab	0 (0)	2 (4.5)	**2 (2.9)**	0.53
Ixekizumab	0 (0)	1 (2.3)	**1 (1.4)**	1
JAK-inhibitors	2 (8)	1 (2.3)	**3 (4.3)**	0.30
Anakinra	0 (0)	1 (2.3)	**1 (1.4)**	1
csDMARD, n (%)				
Methotrexate	11 (44)	20 (45.5)	**31 (44.9)**	0.91
Sulfasalazine	5 (20)	7 (15.9)	**12 (17.4)**	0.66
Leflunomide	3 (12)	0 (0.0)	**3 (4.3)**	**0.04**
Mycophenolate	1 (4)	2 (4.5)	**3 (4.3)**	1
Azathioprine	0 (0)	1 (2.3)	**1 (1.4)**	1
Hydroxychloroquine	5 (20)	6 (13.6)	**11 (15.9)**	0.49
Prednisolone, n (%)	10 (40)	10 (22.7)	**20 (29)**	0.13
Prednisolone ≤ 5mg	3 (12)	6 (13.6)	**9 (13)**	1
Prednisolone > 5mg	7 (28)	4 (9.1)	**11 (15.9)**	0.08
Not on csDMARD/ bDMARD/ tsDMARD, n (%)	5 (20)	10 (22.7)	**15 (21.7)**	0.79

*Critical outcome refers to ventilation requirement and/or death.
**P-values were derived from simple descriptive statistics, t-test, fisher exact test or chi-squared test as appropriate.

Conclusion

Preliminary data from this Scotland-wide ARD COVID-19 registry evidences variation in the impact of standard ARD therapies on the severity of COVID-19 outcome. In general, background csDMARD and bDMARD use does not appear to be a risk factor for severe outcomes. However, anti-TNF therapy may confer a favourable outcome, while leflunomide and corticosteroids may have the opposite effect. Rheumatologists should be aware of these possible risk factors and continue to contribute to registries to help establish whether these putative signals are clinically relevant.

Disclosure

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