Use of a computerised system to facilitate management of autoimmune rheumatic diseases

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In 2017, NHS England introduced a Commissioning for Quality Innovation (CQUIN) programme to improve the management of patients with complex autoimmune rheumatic disease (including the vasculitides, systemic lupus erythematosus [SLE], scleroderma [SS], Sjogren's syndrome [PSS], myositis [DM/PM] and overlap syndromes [Other CTD]) which requires submission of anonymised data to demonstrate best practice, including the discussion and documentation of cases in a multidisciplinary team (MDT). We have developed and implemented a bespoke computer software program, the Rheumatology Assessment Database Innovation in Oxford (RhADIO) for this purpose. The program allows the clinician to record complex patient evaluations to measure baseline status and response to treatment, to document MDT discussions and changes.

Data from RhADIO includes over 12,500 patient encounters. We identified 1086 patients with autoimmune rheumatic diseases (including 291 with GCA, 147 with SLE, 82 with PSS, 81 with SS, 81 with other large vessel vasculitis, 69 with GPA, 21 with EGPA, 12 with Takayasu arteritis, 8 with MPA). A total of 732 patient encounters from 554 patients were reviewed in MDTs from January 2016 to October 2016 (median age 69.6, range 22-91, 31% male). Most patients (65.4%) had vasculitis, 10.3% had SLE, 8.6% had an overlap syndrome, 7.5% had scleroderma, 3.8% had myositis, 3.2% had sicca, 0.5% had other conditions. We assessed disease activity scores and discussed management as shown in Table 1. In 30 patients, data on treatment change was not available. Most patients underwent a change in therapy after the MDT meeting (in 41.4%, this was a major change; in 20.8% the change had been previously planned; in 37.7% no change was made). In 38% of cases, further investigations were requested; 9.7% were referred to other specialists.

The use of a computerised system facilitated accurate capture of data for patients with complex needs and significantly enhanced care. We were able to readily identify changes in therapy and further assessments required on an evidence based approach to the management of several autoimmune rheumatic diseases, in line with requirements for submission of evidence of good practice to NHS England for the CQUIN.

Table 1: Therapy changes following MDT assessments per diagnosis of autoimmune rheumatic disease

Diagnosis	N (encounters)	No change in treatment	Previously planned change in treatment	Major change in treatment
GCA	215	45	73	97
Other forms of GCA	93	19	26	48
GPA	50	27	7	16
Other forms of vasculitis	53	24	10	19
EGPA	18	6	3	9
Behcet's	12	5	1	6
Takayasu arteritis	7	2	1	4
Cryoglobulinaemic vasculitis	4	3	0	1
MPA	2	1	1	0
Rheumatoid vasculitis	2	2	0	0
PAN	1	0	0	1
SLE	74	39	8	27
Other overlap	62	31	9	21
Scleroderma	54	34	1	19
Myositis	28	10	5	13
Other autoimmune diseases	4	3	0	1