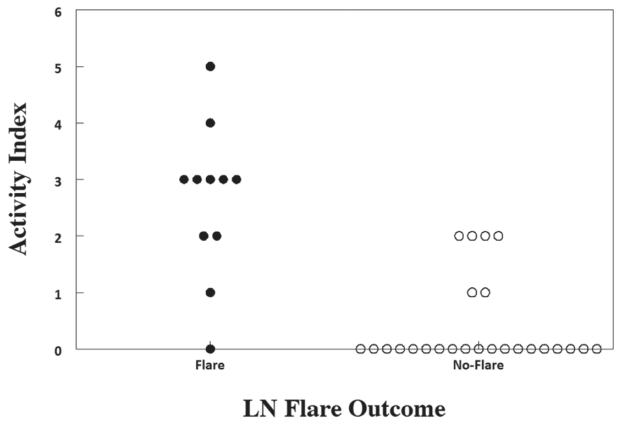
patients in histologic remission are candidates for withdrawal of therapy.
Trial registration ClinicalTrial. gov, NCT02313974



Abstract CT-02 Figure 1 Persistent histologic activity on repeat biopsy after clinical remission is associated with renal flare after withdrawal of maintenance immunosuppression

CT-03 PHASE 2 TRIAL OF INDUCTION THERAPY WITH ANTI-CD20 (RITUXIMAB) FOLLOWED BY MAINTENANCE THERAPY WITH ANTI-BAFF (BELIMUMAB) IN PATIENTS WITH ACTIVE LUPUS NEPHRITIS

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Background Despite case series suggesting efficacy, controlled trials of anti-CD20 in lupus nephritis (LN) did not confirm benefit (*Arthritis Rheum* 2012;64:1215 and 2013;65:2368).
Objectives One possible explanation for this failure stems from the fact that B cell depletion stimulates production of B cell activating factor (BAFF) which, in turn, facilitates maturation of autoreactive B cells in lymphoid organs or during B cell repopulation. The CALIBRATE study (NCT 02260934) was designed to test this hypothesis, to determine whether addition of anti-BAFF could enhance the clinical effects of anti-CD20, and to assess safety of the combination.
Methods Forty-three patients with active LN despite conventional treatment enrolled in a prospective randomized open-label trial that compared two treatment strategies. All subjects received iv rituximab (1000 mg), CTX (750 mg), and methylprednisolone (100 mg) at wks 0 and 2, followed by 40 mg/d prednisone tapered to 10 mg/d by wk 12. At wk 4, subjects received either belimumab (10 mg/kg iv at wks 4, 6, 8 and then every 4 wks) plus prednisone (n=21) or prednisone alone (n=22). Complete response (CR) was defined as: (i) urine protein:creatinine ratio (UPCR) <0.5; (ii) eGFR >120 or, if <120, eGFR >80% of screening; and (iii) prednisone tapered to 10 mg/d. The definiton of partial response (PR) differed only in the UPCR criterion (>50% reduction).
Results The clinical outcome at wk 24 was similar in both groups (table 1). The CR rate was 24% in the belimumab group (RCB) and 23% in the control group (RC). Three subjects in each group withdrew (WD) prior to wk 24 (two withdrawals in each group due either to progressive nephritis or an infusion reaction, and one in each group for reasons unrelated to SLE or its treatment). B cell depletion from blood was virtually absolute in both groups at wk 12, but the pace of recovery differed. Six subjects experienced serious adverse events between wks 0 and 24; three subjects in the RC group (pneumonia followed by LN flare; deep vein thrombosis; SLE flare); and three subjects in the RCB group (anti-CD20 infusion reaction; soft-tissue abscesses prior to anti-BAFF treatment; quadriceps tendon rupture).
Conclusions An interim analysis of data from CALIBRATE shows: (i) anti-BAFF following anti-CD20 for LN did not improve clinical outcome at week 24; (ii) anti-BAFF delayed blood B cell reconstitution following B cell depletion; and (iii) anti-BAFF following anti-CD20 was not associated with hypogammaglobulinemia or an increase in serious infections. Further analyses at 48 weeks and beyond will address how anti-BAFF therapy affects quantitative and qualitative recovery of B cells as well as long-term clinical outcome.

Abstract CT-03 Table 1

					Median B Cell Count			Median IgG Level	
	CR	PR	NR	WD	Wk0	Wk12	Wk24	Wk0	Wk24
RC Group	23%	23%	41%	14%	105	1	31	1050	1100
RCB Group	24%	24%	38%	14%	143	1	3	984	837

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Trial registration NCT02260934

CT-04 SAFETY AND EFFICACY OF ALLOGENEIC UMBILICAL CORD-DERIVED MESENCHYMAL STEM CELLS (MSCS) IN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS: RESULTS OF AN OPEN-LABEL PHASE I STUDY

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Background Mesenchymal stem cells (MSCs) are known to possess significant immunosuppressive properties, and their use in refractory SLE is supported by promising safety and efficacy in autoimmune animal models and human trials. We conducted this phase I open-label study to test the hypothesis that a single infusion of human allogeneic umbilical cord-derived MSCs (IND 16377) is safe when added to standard-of-care therapy for active SLE. The primary safety outcome is frequency of Grade 3 or higher adverse events (AEs) by Week 24. The primary efficacy outcome is change in SLE disease activity between Baseline and Week 24 measured by SLEDAI score and prednisone dose.

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