Appendix 2: Characteristics of 24 non-randomized controlled trials (non-RCTs)

Author/ Year of publica-tion	Study title	Study location	Study design and duration (mean/median)	Participants	Gender (male, %) and age (mean/median)	Treatment groups	Steroid regimen
Arends 2014	Induction therapy with short-term high-dose intravenous cyclophosphamide followed by mycophenolate mofetil in proliferative lupus nephritis	Netherlands, multi-centres	Uncontrolled cohort 3.8 years	71 patients with LN class III and IV	Male 23% Age 36.6	IV CYC 0.75g/m^2 monthly for 6 months, followed by MMF 2g/day for 18 months then AZA 2mg/kg/day	Prednisolone 1mg/kg/day for 4 weeks then tapered
Moroni 2014	Rituximab vs mycophenolate and vs cyclophosphamide pulses for induction therapy of active lupus nephritis: a clinical observational study	Italy, 2 centres	Observational, open prospective study 12 months[a]	54 patients with LN class III-V	Male 13% Age 31.4	IV RTX 1g versus MMF 2-2.5g/day versus IV CYC 0.5g fortnightly for 3 months; followed by maintenance therapies of AZA/ MMF/ CSA	IV MP 3 doses, followed by prednisolone 0.5-0.75mg/kg/day for 4 weeks then tapered
Rivera 2014	Mycophenolate in Refractory and Relapsing Lupus Nephritis	Spain, multi-centres	Retrospective 30 months	85 patients with LN class II-V	Male 20% Age 24 vs 26	MMF 1g/day (median) to treat refractory and relapsing LN (previously treated with CYC/ AZA/ CSA)	Prednisolone 20mg/day (median) then tapered
Bozzolo 2013	Efficacy and toxicity of treatments for nephritis in a series of consecutive lupus patients	Italy, single centre	Retrospective 110 months	40 patients with LN class III-V	Male 12.5% Age 35	Induction: IV CYC 750-1g/m^2 6-11mthly (95%) or MMF 2g/day Maintenance: CYP/ MMF/ AZA/ CSA/ TAC/ RTX	IV MP, followed by prednisolone 0.5-1g/kg/day 4weeks then tapered
Ayodele 2013	Long-term renal outcome and	South Africa, single centre	Retrospective	66 patients with LN class	Male 8%	Induction: oral CYC 1-2mg/kg/d (82%) or IV	IV MP, followed by prednisolone 0.5-

	complications in South Africans with proliferative lupus nephritis		56 months	III-IV	Age 30.2	0.5-1g/m^2 or AZA Maintenance: AZA/ IV CYC/ MMF	1mg/kg/day then tapered
Condon 2013	Prospective observational single-centre cohort study to evaluate the effectiveness of treating lupus nephritis with rituximab and mycophenolate mofetil but no oral steroids	United Kingdom, single centre	Prospective observational uncontrolled cohort 163 weeks	50 patients with LN class III-V	Male 22% Age 45	Rituximab 1g D1 and D15 plus MMF 1g/day	IV MP 500mg D1 and D15, without oral steroids
Moroni 2013	Progressive improvement of patient and renal survival and reduction of morbidity over time in patients with lupus nephritis (LN) followed for 20 years	Italy, single centre	Retrospective 21.9 years	89 patients with LN class II-V	Male 5.6% Age 28.8	Induction: oral CYC/ chlorambucil/ AZA Maintenance: AZA/ CSA	Prednisolone 1mg/kg/day 1-2mths then tapered or IV methylprednisolone 0.5-1g x3 followed by prednisolone 0.5-0.75mg/kg/day 1-2 months then tapered
Yap 2013	Long-term data on corticosteroids and mycophenolate mofetil treatment in lupus nephritis	Hong Kong, single centre	Retrospective 91 months	65 patients with LN class III-V	Male 13.8% Age 35	Induction: MMF 2g/day Maintenance: MMF/ AZA/ CSA	Prednisolone 0.8mg/kg/day then tapered
Rivera 2013	Mycophenolate as maintenance therapy for lupus nephritis with impaired renal function	Spain, multi-centres	Retrospective 24 months	56 patients with LN class II-V	Male 17.9% Age 30.3	Induction: IV CYC pulses 6 doses Maintenance: MMF 1g/day (median)	Prednisolone 15mg/day (mean) then tapered
Wang 2012	Tacrolimus versus cyclophosphamide as treatment for diffuse proliferative or membranous lupus	China, single centre	Controlled prospective cohort study Induction	40 patients with LN class III-V	Male 20% Age 33.9	TAC 0.04-0.08mg/kg/day versus monthly IV CYC 0.75g/m^2 for 6 months then AZA 100mg/day	Prednisolone 0.8mg/kg/day for 4 weeks and tapered

	nephritis: a non-randomized prospective cohort study		12 months[a]				
Fischer-Betz 2012	Renal outcome in patients with lupus nephritis using a steroid-free regimen of monthly intravenous cyclophosphamide: a prospective observational study	Germany, single centre	Prospective observational uncontrolled 24 months	40 patients with LN class III-V	Male 17.5% Age 29.7	IV CYC 0.5g/m^2 6 monthly 6 doses then quarterly 6 doses	Prednisolone 23.9mg/day (mean starting dose) – to control extra-renal manifestation
Dhir 2012	Long-term outcome of lupus nephritis in Asian Indians	India, single centre	Retrospective 6 years	188 patients with LN class II-V	Male 8% Age 23.6	Class III/ IV: Induction: IV CYC 7 pulses 0.75-1g/m^2 monthly Maintenance: IV CYC quarterly 6 pulses/ AZA Class II and V: steroids +/- AZA	Prednisolone 1mg/kg/day for 6-8 weeks then tapered
Rivera 2012	Mycophenolate as induction therapy in lupus nephritis with renal function impairment	Spain, multi-centres	Retrospective 24 months	90 patients with LN class II-V	Male NA Age 32.1	MMF 2g/day (median)	Prednisolone 30mg/day (median) then tapered
Bitencourt Dias 2011	Prednisone monotherapy induced remission in a group of patients with membranous lupus nephritis	Brazil, 2 centres	Retrospective 63.3 months	53 patients with LN class III+V, V	Male 0% Age 33.2 vs 29.1	Prednisolone alone versus prednisolone plus IV CYC 750mg/m2 monthly 3-12 doses or AZA 1.5mg/kg/day	Prednisolone 1mg/kg/day for 8 weeks then tapered
Laskari 2011	Long term follow up after tapering mycophenolate mofetil	Greece, single centre	Retrospective 30 months	44 patients with LN lcass III-V	Male 13.6% Age 30	MMF 2g/day, fast versus slow tapering	Prednisolone 0.5-1mg/kg/day for 4 weeks then tapered

	during maintenance treatment for proliferative lupus nephritis						
Tang 2008	Effects of mycophenolate mofetil for patients with crescentic lupus nephritis	China, single centre	Retrospective 38.5 months vs 41.1 months	52 patients with crescentic LN	Male 17.3% Age 27.3 vs 30.4	Induction: MMF 1.5-2g/day versus IV CYC 0.5-0.75g/m^2 monthly Maintenance (after remission): tripterygium wilfordii	IV MP, followed by prednisolone 0.6-0.8mg/kg/day then tapered
Lu 2008	A prospective multicentre study of mycophenolate mofetil combined with prednisolone as induction therapy in 213 patients with active lupus nephritis	China, multi-centres	Prospective uncontrolled cohort 24 weeks	213 patients with LN class III-V	Male 14.1% Age 30	MMF 1-2g/day	Prednisolone 52.8mg/day (mean) then tapered
Sun 2008	Long-term outcome of Chinese patients with membranous lupus nephropathy	China, single centre	Retrospective 77.6 months	100 patients with LN class V	Male 10% Age 32	Induction: tripterygium wilfordii/ CSA/ CYC/ FK/ MMF/ steroids alone Maintenance: tripterygium wilfordii	Prednisolone dose was not described
Moroni 2007	The long-term outcome of 93 patients with proliferative lupus nephritis	Italy, single centre	Observational 181 months	93 patients with LN class III-V	Male 8.6% Age 27.3	Induction: oral CYC/ chlorambucil/ AZA Maintenance: AZA/ CSA/ MMF/ steroids alone	Prednisolone 1-2mg/kg/day for 4 weeks then tapered or IV MP 3 doses followed by prednisolone 0.5-1mg/kg/day 1-2 months
Mok 2006	Long-term outcome of diffuse proliferative	Hong Kong, multi-centres	Retrospective	212 apteints with LN class	Male 11%	Induction: oral CYC 1-2mg/kg/day 6-9	Prednisone 0.5-1mg/kg/day or

	lupus glomerulonephritis treated with cyclophosphamide		1873 patient-years	IV/ DPGN	Age 30.9	months or IV CYC 0.5g/m^2 6 dose then 3 monthly 6 doses Maintenance: AZA/ MMF/ CSA	equivalent for 6-8 weeks
Liang 2004	Clinical predictors of recovery and complications in the management of recent-onset renal failure in lupus nephritis: a Chinese experience	China, single centre	Retrospective 6 months	162 patients with LN requiring dialysis	Male 19.1% Age 28.75	IV CYC high dose (>/=1g/m^2/month) versus low dose (<1g/m^2/month)	IV MP then prednisolone 0.5-1g/kg/day
Mok 2001	Treatment of diffuse proliferative lupus glomerulonephritis: a comparison of two cyclophosphamide-containing regimens	Hong Kong, two centres	Prospective controlled observational study Induction and maintenance 24 months	43 patients with LN class IV (WHO)	Male 3.6% Age 31.8	IV CYC0.75-1g/m^2 monthly 6 pulses then quarterly 6 pulses versus oral cyclophosphamide 50-100mg/day followed by AZA 100mg/day	Prednisolone 1mg/kg/day 8-10 weeks then tapered
Mok 2002	Outcome and prognostic indicators of diffuse proliferative lupus glomerulonephritis treated with sequential oral cyclophosphamide and azathioprine	Hong Kong, single centre	Retrospective 4 years (median)	55 patients with diffuse proliferative LN	Male 14.5% Age 31.1	Oral CYC 1-2mg/kg/day 6-9 months followed by AZA 50-100mg/day	Prednisolone 1mg/kg/day 8-10 weeks then tapered
Illei 2001	Combination therapy with pulse cyclophosphamide plus pulse methylprednisolone improves long-term renal outcome without adding toxicity in	United States of America, single centre	Retrospective (extended trial of Gourley 1996) 65 patients	65 patients with LN class III/IV	Male 17% Age NA	IV MP 1g/m^2 3 days then monthly one year versus IV CYC 0.5-1g/m^2 monthly 6 boluses then quarterly versus combination of MP and CYC	Prednisolone 0.5kg/day 4 weeks then tapered

	patients with lupus nephritis						

Abbreviations:
LN, lupus nephritis; CYC, cyclosphosphamide; MMF, mycophenolate mofetil; TAC, tacrolimus; AZA, azathioprine; RTX, rituximab; CSA, cyclosporine; IV, intravenous; MP, methylprednisolone, NA, not available.

[a]Duration refers to the time infective complications being studies