level. There is insufficient evidence about the effect of vitamin D on mediators of angiogenesis in general in patients with CKD. We investigated the effect of cholecalciferol supplementation on serum angiopoietin-2 levels in non-diabetic patients with CKD stage 3-4.

**Methods:** In this secondary analysis of our previously published randomized, double-blind, placebo-controlled trial (https://jasn.asnjournals.org/content/28/10/3100), stable patients of either sex, aged 18-70 years, with non-diabetic CKD stage 3-4 and vitamin D deficiency (serum 25-hydroxyvitamin D ≤20 ng/ml) were randomized to receive either two directly observed oral doses of cholecalciferol (300,000 IU) or matching placebo at baseline and 8 weeks. The primary outcome was change in brachial artery flow-mediated dilatation at 16 weeks. Changes in serum angiogenesis markers (angiopoietin-1, angiopoietin-2, VEGF-A, VEGF-R and tie-2) levels between groups over 16 weeks were compared.

**Results:** A total 120 patients were enrolled. Baseline characteristics showed no differences between groups. Supplementation with cholecalciferol led to significant improvement in FMD. Serum 25(OH)D levels were similar in both groups at baseline (13.21±4.78 ng/ml and 13.40±4.42 ng/ml; p=0.88). At 16 weeks, the serum 25(OH)D levels increased in the cholecalciferol group but not in the placebo group (between-group difference in mean change:23.40 ng/ml; 95% CI, -2.35 to 5.05, p=0.032). Serum level of angiogenic markers were similar at baseline. At 16 weeks, angiopoietin-2 level decreased in cholecalciferol group (mean difference: -0.73 ng/ml, 95% CI, -1.25 to -0.20, p=0.008) but not in placebo group (mean difference -0.46 ng/ml, 95% CI, -1.09 to 0.17, p=0.154), however there was no between group difference at 16 weeks (between-group difference in mean change: -0.27 ng/ml, 95% CI, -0.93 to 0.39, p=0.57) in placebo group but did not show any change in cholecalciferol group. No significant change were noted in VEGF and Tie2 in either group.

**Conclusions:** High dose oral cholecalciferol reduced angiopoietin-2 level in cholecalciferol group but not in the placebo. Further the results suggest that high dose oral cholecalciferol has no effect on serum level angiogenesis marker in subjects with non-diabetic CKD stage 3-4.

**No conflict of interest**

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**POS-401**

**MICROMANAGING LUPUS NEPHRITIS: MI-R17 MODULATES TFH DEVELOPMENT AND REGULATORY T CELL ACTIVITY**

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**Introduction:** T follicular helper (T\(^{FH}\)) cell provide crucial growth signals to germinial center (GC) B cells supporting antibody production. Tight control of T\(^{FH}\) numbers maintains self-tolerance. Regulatory T (Treg) cells play a critical role in maintaining self-tolerance and controlling the magnitude of physiologic immune response. The Treg transcription factor forkhead box P3 (Foxp3) works in concert with other co-regulator molecules to determine suppressive phenotype of Treg. Compelling evidence show that aberrant T\(^{FH}\), GC responses and deficiencies of Treg are associated with systemic lupus erythematosus and autoantibody production.

**Methods:** We generated T cell specific miR-17-92 knockout (miR-17-92/-) mice, followed by induction of pristane nephropathy in miR-17-92 --/- and wild type littermates. By bioinformatics study, possible targets of miR-17-92, related to Treg function was evaluated. Luciferase reporter assay was utilized for verification. Forced expression and knockdown of miRNA in Treg was performed by lentivirus. T\(^{FH}\)and geminal center activation we're induced by alumn.

**Results:** miR17-92 knockdown can mitigate pristane nephropathy in mice. Here, we showed for the first time that one miRNA of the miR-17-92 cluster, miR-17, regulates the suppression function of Tregs. We identify a gene target of miR-17, Eos, which regulates Tregs through Foxp3-mediated gene suppression. Ectopic expression of miR-17 downmodulates the suppression functions of Tregs and provides Tregs with partial effector activity via de-repression of cytokine genes. In addition, miR17 knockout improve colitis by enhancing the suppressive function of Treg. miR-17-92 knockout mitigate T\(^{FH}\) development and geminal center activation. PTEN over expression rescue the geminal center activation.

**Conclusions:** Our studies suggest that miR-17 modulates Treg cell function and T\(^{FH}\) development, revealing the future therapeutic potential of miR-17-92 manipulation in lupus nephritis or other autoimmune diseases.

**No conflict of interest**