reduction of P_{PM} even in women at highest risk, namely those with multiple criteria aPL positivity.

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Table 1. Probabilities of P_{PM} in untreated women with or without aPL.

	P_{PM}
aPL negative	38% (29-48)
Low titer single aPL positivity	62% (52-71)
Low titer double aPL positivity	83% (75-89)
Criteria single aPL positivity	80% (71-87)
Criteria multiple aPL positivity	89% (81-94)

Data are expressed as P_{PM} (95% confidence interval).

Table 2. Probabilities of P_{PM} in treated women with aPL.

	LDASA	LDASA + HCQ	LDASA + LMWH	LDASA + LMWH + HCQ
Low titer single aPL positivity	31% (23-41)	21% (14-30)	15% (9-23)	10% (6-17)
Low titer double aPL positivity	57% (47-66)	44% (35-54)	34% (26-44)	24% (17-33)
Criteria single aPL positivity	52% (42-62)	40% (31-50)	30% (22-40)	21% (14-30)
Criteria multiple aPL positivity	69% (59-77)	57% (47-66)	47% (38-57)	35% (26-45)

Data are expressed as P_{PM} (95% confidence interval).

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PRELIMINARY EXPLORATION OF NEW METHODS TREAT TO PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS: REGULATING TH17/TREG CELL BALANCE BY RAPAMYCIN AND ALL-TRANS RETINOIC ACID

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Background: Helper T cells 17 (Th17) and regulatory T cells (Treg) are two important immunoregulatory cells that act in opposite directions¹. Previous study² has shown that Th17/Treg cell balance is one of the important pathogenesis of systemic lupus erythematosus (SLE). Further researches³⁻⁵ believed that rapamycin (RAPA) alone or in combination with all-trans retinoic acid (ATRA) can regulate Th17/Treg cell balance, and then alleviate the condition of SLE.

Objectives: To investigate effect of the use of RAPA alone or combined ATRA on Th17/Treg cell balance in patients with SLE.

Methods: Seventy patients with SLE (64 females and 6 males, mean age 31.91 ± 10.12 years, mean duration 61.14 ± 53.64 months) in our hospital from March 2016 to June 2018 were enrolled. All of them were in line with the standard of ACR in 1997. The patients were randomly divided into RAPA group (RAPA 0.5 mg/time, twice a week) and RAPA+ATRA group (RAPA and ATRA 10 mg/time, twice a week), 35 cases in each group. All were treated continuously for 24 weeks. The number of Th17

and Treg cells in peripheral blood before treatment and 6, 12, 24 weeks after treatment were measured. The SLEDAI scores and glucocorticoid dosage before and after the treatment were also observed to evaluate the differences of efficacy between the two groups.

Results: At different time in each group, the number of peripheral blood Th17 cells in SLE patients was decreased ($P < 0.05$), the number of Treg cells was increased ($P > 0.05$), the ratio of Th17/Treg cells induced ($P < 0.05$), indicating a restored balance of them. The SLEDAI scores and the dosage of glucocorticoid were decreased significantly ($P < 0.001$). There were no significant differences in the number of Th17 cells, Treg cells, SLEDAI scores and the dosage of glucocorticoid between two groups ($P > 0.05$). Compared with pretreatment, the number of Th17 cells, the ratio of Th17/Treg cells and SLEDAI scores after 24 weeks treatment in SLE patients was decreased in RAPA group ($P < 0.05$). Compared with pretreatment, the SLEDAI scores and the dosage of glucocorticoid after 24 weeks treatment in SLE patients was significantly reduced in RAPA+ATRA group ($P < 0.001$).

Conclusion: Using RAPA or combined with ATRA could improve the condition of SLE patients by regulating Th17/Treg cells balance and reduce glucocorticoid dosage, which provided new directions for the pathogenesis and treatment of SLE.

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(a)

(b)

Figure 1. Changes in the number of Th17 cells (number/ μ l) before and after treatment in the two groups.

Figure 2. Changes in the number of Treg cells (number/ μ l) before and after treatment in the two groups.

Figure 3. Changes in the ratio of Th17/Treg cells before and after treatment in both groups.

Figure 4. Changes in SLEDAI scores (minutes) before and after treatment in both groups.

Figure 5. Changes in prednisone dosage (mg/d) before and after treatment in both groups

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