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## **METFORMIN AS POTENTIAL REGULATOR OF P-GP EXPRESSION IN SLE**

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**Objectives:** P-glycoprotein expression is linked to drug resistance and has been shown to be associated with higher disease activity in SLE. Metformin inhibits expression of P- Glycoprotein (P-gp) in cancer cells. There is scarce data on effect of metformin on P-gp expression and cytokine secretion on immune cells in autoimmune diseases like lupus. To study the effect of Metformin on P-gp expression

**Methods:** PBMCs of nine lupus patients (Mean age 30 yrs, all females) were cultured using RPMI medium and then stimulated with PMA/ ionomycin, with or without increasing dose of metformin (0.01, 0.1, 1, 10 mMol/L) for 24 h. P-gp expression was measured in same samples by flow-cytometry.

**Results:** In MTT assay viability of cells was maintained across all concentrations of metformin used in this study. Metformin decreased expression of P-gp in PBMCs in dose dependent manner ( $p=0.003$ ).

**Conclusions:** Metformin has immunomodulatory activity by reducing expression of P glycoprotein. Hence it has a therapeutic potential in SLE. Also due to its effect on P glycoprotein, it can be especially useful in drug resistant disease. Further studies are required in this direction