

However, endothelial, fibroblastic and epithelial cells differ in their response to ICAM-1-inducing cytokines<sup>(8, 9)</sup>. In contrast to ICAM-1; ICAM-2 expression is not normally augmented by cytokine activation<sup>(3)</sup>.

It was found that these type1 cytokines (like IFN- $\gamma$  and TNF- $\alpha$ ) are up regulated in women with RPL<sup>(10, 11)</sup>. And as the target of these pro-inflammatory cytokines was found to be mainly vascular associated with inflammatory cells infiltrate<sup>(7,12,13)</sup>. We attempted in this study to explore the expression of endothelial ICAM-1 which is inducible by these cytokines<sup>(4)</sup>, and the expression of leukocytes' ICAM-3, at the feto-maternal interface in these patients to find out whether or not these adhesion molecules play a role in the pathology of pregnancy loss.

#### **Patients and Methods**

Patients were divided into three groups; **Group A:** 24 pregnant ladies presented with incomplete first trimester abortion, all of whom gave a history of previous 3-6 consecutive first trimester abortions, with no medical diseases, family history of genetic diseases or uterine anatomical anomaly. Also all of them were negative for acute infection with rubella, HCMV or toxoplasmosis. **Group B:** 10 pregnant ladies presented with incomplete first trimester abortion and had at least three previous normal pregnancies with no previous abortion, and no history of any medical illness, and **Group C:** 6 pregnant ladies with elective termination of pregnancy in the first trimester for a maternal indication under approved consent of two senior gynecologists and a physician. Curate samples of the feto-maternal interface were taken from all these women at the end of evacuation curate operation.

Samples were embedded in paraffin and subjected for immunohistochemistry technique using DAKO cytomation detection kit (Denmark). Refer to the immunohistochemistry procedure in reference<sup>(14)</sup>, and signal evaluation using CD31 as baseline endothelial marker in blood vessel counting in reference<sup>(15)</sup>, dilution of the monoclonal antibodies was 1:50 for both ICAM-1 and ICAM-3 (DAKO cytomation-Denmark). Negative controls were obtained by omitting the monoclonal antibody and using antibody diluent alone to verify the signal specificity.

#### **Statistical analysis**

ANOVA test was used to determine the difference in the expression of ICAM-1 and ICAM-3 among the three groups, and the relationship between these two parameters was measured using the correlation coefficient ( $r$ ). Values of  $p < 0.05$  were considered as statistically significant.

#### **Results**

Figures 1 and 2 shows the percentages of ICAM-1 and ICAM-3 expression respectively in terms of mean  $\pm$  SE. As shown in figure 1 that the mean percentage of ICAM-1 expression in the first group, which is significantly higher ( $P=0.001$ ) than that of the second and third groups (using ANOVA analysis), as demonstrated in (Figure 1), and the same was found for ICAM-3 ( $P=0.001$ ) (Figure2). Additionally, the study showed a highly significant positive correlation between the expression of ICAM-1 and ICAM-3 ( $r=0.927$ ,  $p \leq 0.01$ ) in the investigated groups.