

regulation of the uterine immune environment demonstrated a general pro-inflammatory effect of estrogen causing an influx of macrophages and neutrophils, which is antagonized by progesterone through its receptor⁽¹⁵⁻¹⁶⁾.

Previous studies showed a very faint immunohistochemistry signal of the staining of estrogen receptors⁽¹⁷⁾. In this study, we attempted to detect the expression of estrogen receptor in women with RPL and compare it with that in normal pregnancy and women with pregnancy loss for the first time using monoclonal antibodies of estrogen receptor.

Patients, materials and methods

This study was conducted from November 2003 to April 2004. Patients were collected from Al-Kadhmya and Al-Ulwiya teaching hospitals, and then divided into three groups; **Group A:** 24 pregnant ladies presented with abortion during the first trimester, all of whom gave a history of previous 3-6 consecutive first trimester abortions, with no medical diseases, nor family history of genetic diseases or uterine anatomical anomaly, also all of them were confirmed by lab. Tests to be negative for acute infection with rubella, HCMV and toxoplasmosis. **Group B:** 10 pregnant ladies presented with abortion during the first trimester 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 indications under approved consent of two senior gynecologists and a physician (as control group). Curate samples of the materno-fetal interface were taken from all these women at the end of evacuation curate operation then embedded in paraffin and confirmed by

a pathologist, and then subjected for immunohistochemistry technique using DAKO cytomation detection kit (Denmark).

Immunohistochemistry procedure: 5µm thickness tissue sections on positively charged slides were deparafinized in xylen then rehydrated in a series of ethanol concentrations. And then, 2-3 drops of peroxidase block were applied onto the tissue sections a step which is followed by application of the primary antibody (anti-estrogen receptor in a dilution of 1:30) (BioGenex-USA), then the secondary antibody was added, followed by application of the hoarse reddish peroxidase (HRP) conjugate, and then its substrate DAB chromogen. Sections were counterstained with hematoxyline, dehydrated and mounted to be finally examined under the microscope. For more details refer to the immunohistochemistry procedure in reference⁽¹⁸⁾.

Evaluation of the immunohistochemistry signal: The expression of estrogen receptors was measured by counting the number of positive decidual and trophoblastic cells, which gave a dark-brown nuclear staining under the light microscope. The extent of the immunohistochemistry signal in the villi was determined in 10 fields (X100 magnification). In each field the total number of villi were counted and the extent of nuclear staining of the cytotrophoblast and syncytiotrophoblast in a given villous was graded as 3, (75–100%); 2, (25–75%); or 1, (<25%). The total staining score was divided by the number of whole villi per field in 10 fields. These scores (between 1 and 3) were added for each field, and a score between 10 and 30 was gained for each sample⁽¹⁹⁾, and to be simplified as percent, the