

Tissues, Pathology, and Diagnostic Microscopy

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Distribution of TNF- α , TGF- β 2 and FURIN in endometrium of Missed Abortion and Voluntary First Trimester Termination Cases

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In this study, we have compared distribution of TNF- α , TGF- β 2, and a member of proprotein convertase family; FURIN molecules that have lots of cellular functions, in decidua and placenta samples of missed abortion and voluntary termination cases to investigate the effects in the etiology of missed abortion.

Desidual materials were collected from patients that are diagnosed missed abortion (n=10) and legal voluntary termination cases (n=10) under 10 gestational week. Tissue samples were collected from each group by dilatation curettage (D&C) under mask anesthesia. Materials were divided into two groups for examination. For all samples, TNF- α (Tumour Necrosis Factor-alfa), TGF- β 2 (Tumour Growth Factor-beta 2), and FURIN primary antibodies were performed by immunohistochemical staining. The number of stained cells was calculated using H-Score technique.

Missed abortion group (n=10) mean age was 28.7 (18- 41) and control group (n=10) mean age was 27.5 (21- 37). There is no significant difference between the two groups in terms of obstetric history. In histochemical examination, at missed abortion group a lower vessel formation, structuring of trophoblast and larger decidual cells with lots of vacuoles viewed. In immunohistochemical examination at decidual cells of missed abortion group; FURIN immunoreactivities was detected higher then control group (Figure 1). Between the two groups significantly (p <0.005) difference was found in terms of FURIN. Detection of placental cells, the immunoreactivities of TNF- α (Figure 2), and TGF- β 2 (Figure 3) were found higher both syncytiotrophoblast and cytotrophoblast cells of missed abortus group and significantly difference (p<0,005) were determined between two groups. Also high immunoreactivity of FURIN molecule was established only in cytotrophoblastic cells of missed abortus group and significantly difference (p<0,005) were determined between two groups.

It is considered that high levels of factors which play important roles in proliferation, invasion, migration, differentiation and survival of cells may be reason of proceeding decidualization, placentation and preventing from abortion in spite of concluding the fetal life.

Missed abortion, proprotein convertase, POMC, FOXO3A

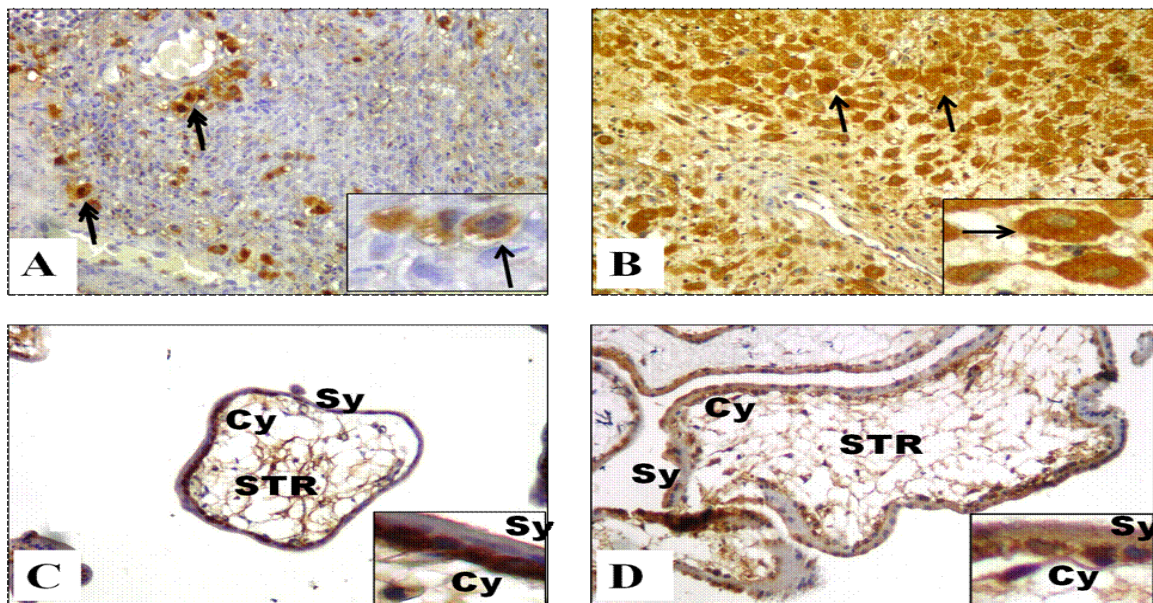


Figure1 . Immunohistochemical analysis of Furin expression were seen in the decidual (A, B) and placental chorionic villi (C, D) of normal pregnancy (A, C) and missed abortion (B, D) groups. The arrows indicate decidual cells stained with Furin which were high in number on missed abortion group (B) than normal pregnancy (A). The high Furin expression were seen in syncytiotrophoblast (Sy) and cytotrophoblast (Cy) on missed abortion group (d) than normal pregnancy group (c). STR: Stroma (Original Magnification: 200x.)

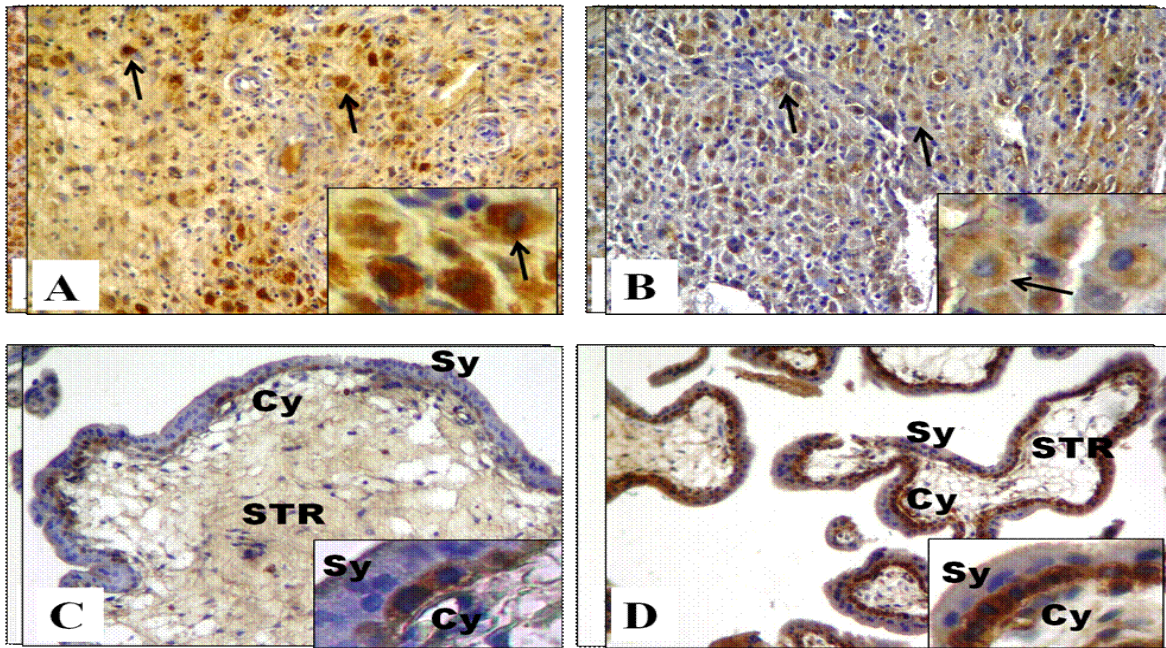


Figure 2. Immunohistochemical analysis of TNF- α expression were seen in the decidual (a, b) and placental chorionic villi (c, d) of normal pregnancy (a, c) and missed abortion (b, d) groups. The arrows indicate decidual cells stained with TNF- α which were high in number on normal pregnancy (a) than missed abortion group (b). The high TNF- α expression were seen in syncytiotrophoblast (Sy) and cytotrophoblast (Cy) on missed abortion group (d) than normal pregnancy group (c). STR: Stroma (Original Magnification: 200x.)

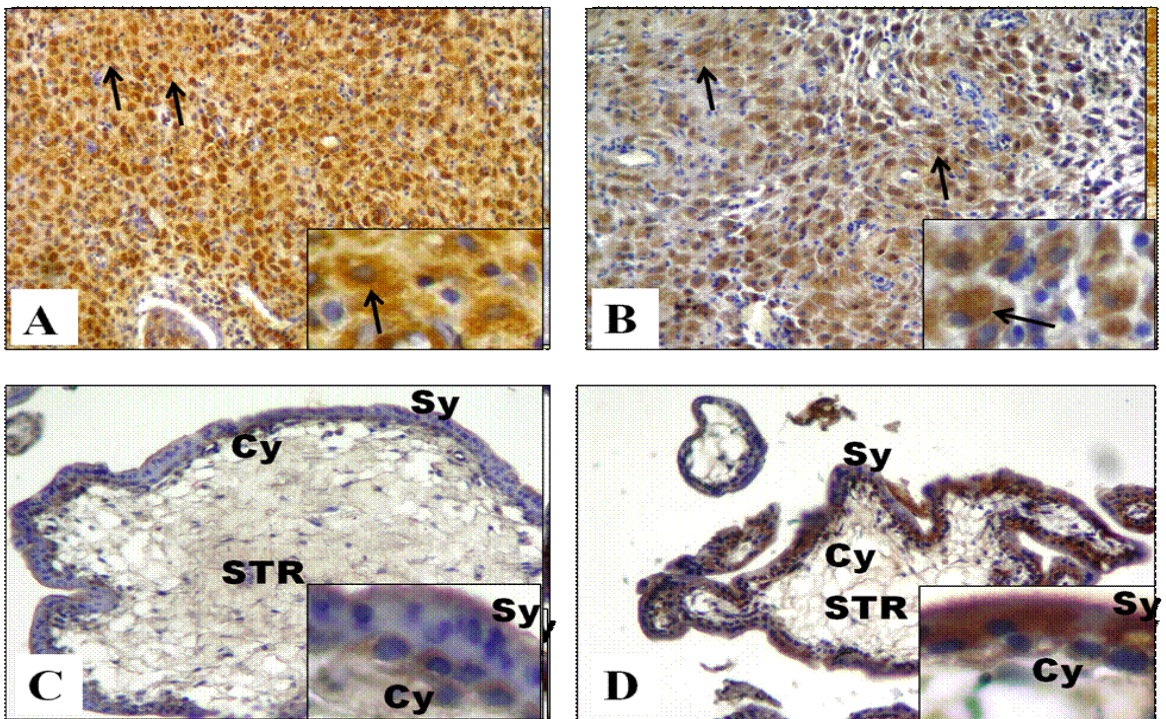


Figure 3. Immunohistochemical analysis of TGF- β 2 expression were seen in the decidual (a, b) and placental chorionic villi (c, d) of normal pregnancy (a, c) and missed abortion (b, d) groups. The arrows indicate decidual cells stained with TGF- β 2 which were high in number on normal pregnancy (a) than missed abortion group (b). The high TGF- β 2 expression were seen in syncytiotrophoblast (Sy) and cytotrophoblast (Cy) on missed abortion group (d) than normal pregnancy group (c). STR: Stroma (Original Magnification: 200x.)