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A rare case of decidualisation of endometrium in a non pregnant uterus: A case study

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Abstract

Decidua is modified mucosal lining of the uterus that forms preparation for pregnancy. It forms under the process of decidualisation under the influence of progesterone.[1] We present a case of 36 year old multipara (Para 3, live 3) complaining of heavy and irregular menstrual bleeding for one and half years associated with cramping lower abdominal pain with severe anemia. Her urine pregnancy test was negative and her serum beta hcg (human chorionic gonadotrophin) was less than 5 U/L. We did diagnostic curettage which was diagnosed as decidualized endometrium without any sign of chorionic villi and fetal tissue. And Hysterectomy was performed in view of excessive vaginal bleeding not responding on medical treatment.

Keywords: Desidualisation, endometrium, human chorionic gonadotrophin, ectopic pregnancy, Progesterone and decidual cast,

Introduction

Decidua is modified mucosal or inner lining of the uterus under the influence of hormones either natural or artificial like progesterone, HMG, Hcg.[2] Normally it occurs in gravid uterus but it may also occurs in case of

ectopic pregnancy, incomplete abortion or external hormonal therapy.[3]

Endometrium is very sensitive to steroid sex hormones and able to modify its structure according to influence of hormones. Oral contraceptives exert predominantly progesterone effect on endometrium, introducing arrest of glandular proliferation pseudo secretion, and stromal edema followed by decidualized stroma with granulocyte and thin sinusoidal blood vessels. Ovulation induction, progesterone therapy for endometrial hyperplasia and HRT with estrogen and progesterone causes similar effect on endometrium and may result into endometrium decidualisation without pregnancy.[4]

During pregnancy, Its thickness progressively increases to maximum of 8–10 mm at the end of the first trimester and thereafter regression occurs with advancing pregnancy so that beyond 20th week, it measures not more than 1 mm. sometimes the decidua develops all the characteristics of intrauterine pregnancy except that it contains no evidence of chorionic villi. When progesterone level falls due to fall in the level of hCG, endometrial growth is no longer maintained. Endometrium sloughs out causing uterine bleeding. Sometimes entire decidua is expelled as a single piece through the cervix. This is known as decidual cast that often may be confused with a spontaneous abortion. [5,6]

Decidual caste has been reported in non-pregnant women as a side effect with the use of human menopausal gonadotrophin (HMG), human chorionic gonadotrophin (HCG) and progestogens.[2] Decidual cells are not restricted to the endometrium of the body of the uterus. Decidual reaction has been demonstrated in various ectopic situations like cervix, peritoneum, and genital tract.[7]

Decidualisation of endometrium is not diagnostic for intrauterine pregnancy it may occurs in ectopic pregnancy or exogenous hormones intake and this condition is called pseudodecidualisation.[7] Deferential diagnosis are Incomplete abortion, ectopic pregnancy, endometrial hyperplasia, decidual caste, endometrial polyp, pseudodecidualisation.

The Case

A36 year old multipara patient with three live issues, last child 3year old, came with complain of heavy irregular menstrual bleeding for one and half years for which she was taking some unknown medication from quacks which might be some hormonal therapy. Her urine pregnancy test was negative and serum beta hcg was less than 5U/L. On general physical examination she was severally anemic with average build and her vitals was stable, on per abdominal examination uterus felt which was corresponding of 16 week of period of gestation and per speculum examination external os was closed but bleeding through os seen and on per vaginum examination her uterus was enlarged which was freely mobile with negative internal ballottement. On Ultrasonography, thickness of endometrium was found abnormally increased to about 37mm. So diagnostic endometrial curettage was done and the tissue sent for histopathology which clearly reported it as having decidual changes without sign of chorionic villi.

We started her on high dose antifibrinolytic agent and norethestreone, four unit blood and four unit FFP were transfused despite of above treatment for 1 wk she did not responded and abdominal hysterectomy without salpingoophrectomy was done in view of heavy menstrual bleeding with severe anemia not responding to medical treatment and uterus with cervix sent for histopathology examination

On gross examination uterus was 18*14cm and on cut section uterine wall thickened about 5cm and uterus was filled with fleshy tissue which was not adhere to endometrium. On histopathological examination decidualisation of endometrium and intrauterine content was confirmed without any signs of chorionic villi and fetal tissue. Post-operative period was uneventful and patient general condition was improved.

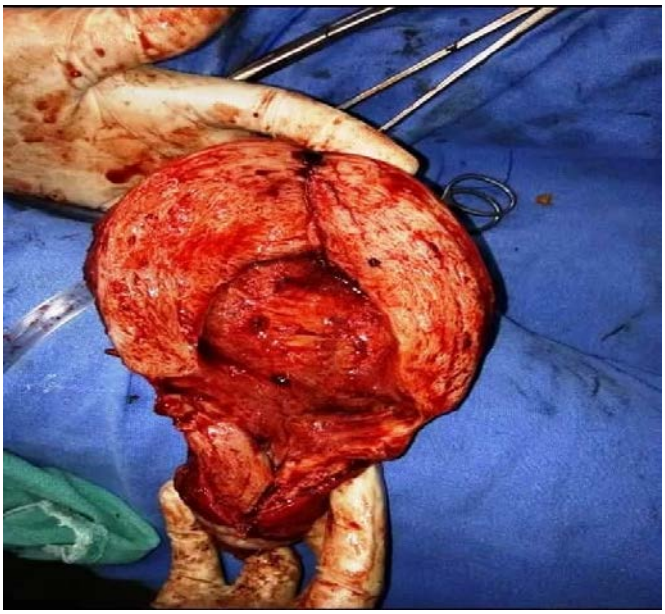

Figure 1: Abnormally enlarged endometrial thickness; 36mm

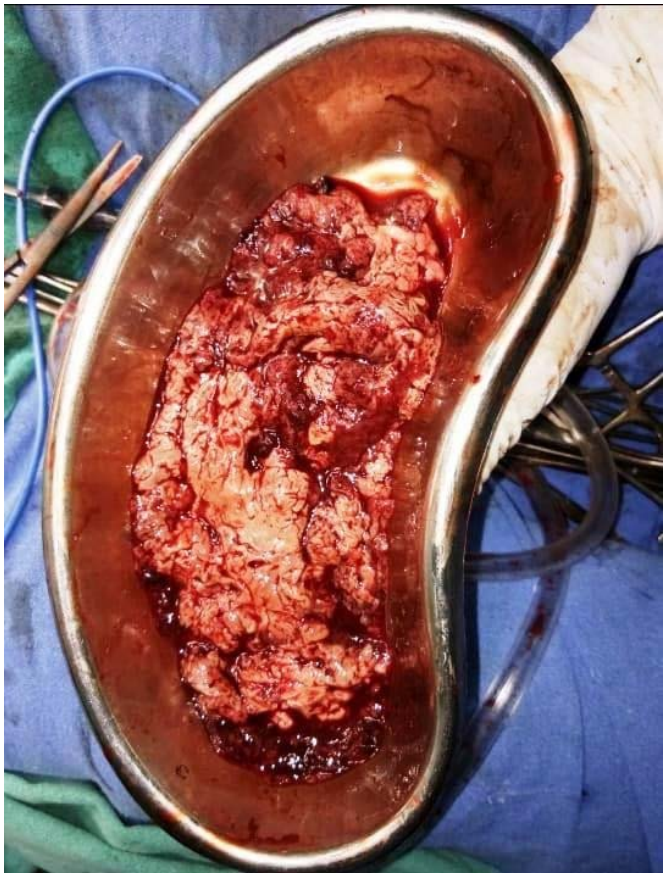

Figure 2: Fleshy intrauterine content on gross examination after hysterectomy

Discussion

Decidualisation of endometrium is a rare finding in non pregnant women. Some studies suggest the association with long time use of progesterone hormone therapy affecting uterine endometrium. Hormonal therapy especially progestogens may cause abnormal thickening and decidualization of endometrium which may either shed in the form of bleeding per vaginum or may be expelled in form of decidual cast.

R Pingli & WJakson[2] in his case report on 16-year female having moderate vaginal bleeding and severe lower abdominal pain for which she was taking combined oral contraceptive pills for three months found the decidual cast in a nonpregnant uterus.

Hyun-Soo Kim et al[8] reported in his case report on a post-menopausal women with history of severe lower

abdominal pain and bleeding per vaginum. On ultrasonography right ovarian mass with ascitic fluid was found. Total hysterectomy with bilateral salpingoophrectomy and pelvic lymphadenectomy was done as it was diagnosed as stage 1A ovarian carcinoma and multiple nodules of decidua were confirmed on histopathological report of the pelvic lymph node.

Acharya R & Upadhyay K[9] reported decidualization of the endometrium without chorionic villi in a 13-year-old girl with history of Menorrhagia and lower abdominal pain since her menarche for which she was on medroxyprogesterone acetate.

Stephen M. Scott[10] reported four cases all presented with cramping lower abdominal pain and vaginal bleeding with tissue passing through vagina, using DMPA as treatment and after expulsion of the cast all four cases improved. The decidualization of the endometrium without chorionic villi was confirmed on histopathology report.

Some other conditions associated with membranous dysmenorrhea[11] with expulsion of mass along with cramping pain abdomen and bleeding per vaginum includes ectopic pregnancies, benign polyp and spontaneous abortion. An ectopic pregnancy with a decidual cast is often mistaken for an intrauterine pregnancy in ultrasonography.[12]Nonpregnant women who are taking human menopausal gonadotropin, human chorionic gonadotropin, and progesterone for various reasons have also been reported to have decidual casts.

Decidualisation of the nonpregnant uterine endometrium is very rare condition and is documented in very few studies or case reports in India. It should be suspected if a nonpregnant woman is giving history of irregular excessive bleeding per vaginum for long time along with history of hormonal therapy (oral contraceptives, progesterone, hcg or HMG). It may be mistaken for an intrauterine gestational sac, incomplete abortion, endometrium hyperplasia or endometrial polyp on a sonogram hence careful evaluation is indicated.

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