

# Decidualized Scar Endometriosis in a Non Pregnant Woman: Case Report

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**Abstract:** *Cutaneous endometriosis is a rare condition affecting about 1.6 % of proven endometriosis in scars. It may undergo any metaplastic, hyperplastic or even atypical changes, making the histological diagnosis from very clear and simple with the presence of endometrial glands and stroma, to difficult and sometimes even challenging. The literature has describe the case reports of many metaplastic changes, one of them decidualization of endometriosis, occurring during pregnancy or even under the progesterone replacement therapy. Ectopic endometrial glands and stroma responds exactly as eutopic one under progesterone stimulation. Here we will represent an unusual case of a non pregnant woman, diagnosed with decidualized scar endometriosis, in the absence of progesterone stimulus. The cells alterations and other clinical features made the differential diagnosis difficult from the malignant mesothelioma and metastatic squamous carcinoma.*

**Keywords:** decidualization, scar endometriosis, progesterone stimulus

## 1. Introduction

Endometriosis is a benign disease, affecting 6-10 % of the woman of reproductive age [1]. It involves the presence of functioning endometrial glands and stroma outside the uterine cavity, the spread mechanism of which involve many different theories [2]. The most common site of endometriosis is ovarian surface, fallopian tube and round ligament, but on the literature we have find case reports of its presence everywhere through the body [4]. Cutaneous endometriosis and low abdominal wall endometriosis commonly involve surgical scars, particularly cesarean sections [4]. The incidence of scar endometriomas vary from 0,3-3,5 % [5]. It undergoes the cyclic changes of hormonal stimulation as the normal uterine tissue, but in the process of this disease are involved also the cytological biochemical alteration and the inflammatory response.[6]. On this contexts, many histopathological alterations may complicate the clinic and diagnosis and decidual metaplasia is one of them. Seven cases of decidualization of cutaneous endometriosis during pregnancy are describe on the literature [3], but only two case reports of decidualization of endometriosis in a non pregnant woman [7] [8].

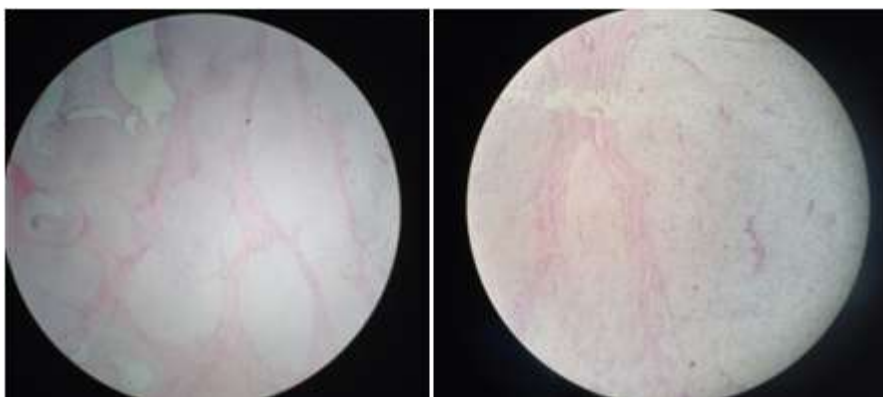
Here we will represent the case of 31 year old woman diagnosed with Decidualized endometriosis in the absence of pregnancy.

## 2. Case Report

A 31 year-old woman presented at the hospital with a mass under the previous cesarean section, becoming larger. Clinically under the cesarean scar was identified an almost nodular mass, involving the subcutaneous tissue and was undergo a surgical treatment for scar endometriosis.

The gross examination revealed 4 nodular formations, with defined borders, the bigger one 3.5x2x2 cm, dark colored with elastic consistency.

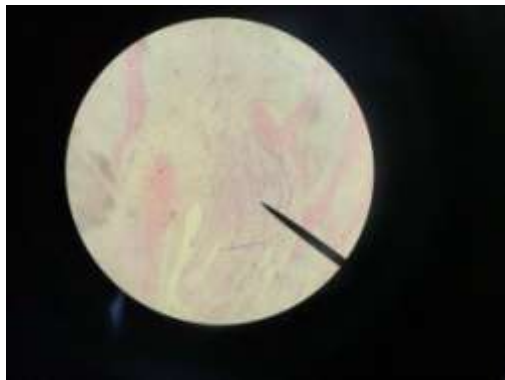
In histopathological evaluation, on hematoxylin-eosin stain, we find atrophic glands on a rich stromal tissue composed of large eosinophilic cells, organized in lobule (Fig.1+2). The stromal cells have granular cytoplasm, with well defined borders. No atypical cells or mitotic figures were found. (Fig.3+4). There were areas of fibrosis and hemorrhage (Fig.5).



**Figure 1 and 2:** HE stain: Lobular organization of atrophic endometrial glands surround by decidualized stromal cells



**Figure 3 and 4:** HE stain: large polygonal stromal cells, with eosinophilic granular cytoplasm, with no atypical cells or mitosis



**Figure 5:** HE stain: areas of hemorrhage

Based on the histopathological evidence and the patients anamnesis we conclude at the Scar endometriosis with mark decidualization, in a one year follow up the patient result well and with no singe of residual disease.

### 3. Discussion

The diagnosis of scar endometriosis is a histopathological and simple one, and it is represent with endometrial glands and stroma outside the uterine cavity. [2]. The mechanism of endometriosis in surgical scar appear to be iatrogenic, mostly on the surgical procedures with open uterus, by mechanically transferring uterine tissue outside uterine cavity [4].

During pregnancy, decidualization can occur external to the uterus, supposed by the fact that endometrium is the precursor of decidual tissue, phenomenon attributed to progesterone stimulation and his effects in the endometrial tissue [10].

When it comes to analyzing the histopathological data in this cases a useful diagnostic features of decidualized endometriosis is the presence of endometrial glands within the deciduas. They appear to inactive, atrophic, irregular shaped glands surround by decidual cells, with no atypia or mitosis[3] [11].

In our case report the histopathological view was typical of the decidualized endometriosis, as described on the literature, and with the anamnesis of previews section cesarean procedure, the diagnosis were somewhat clear. The only discussion was the absence of pregnancy, so the absence of stimulation for the decidualization.

Many previous reports, have describe the scar decidualized endometriosis during pregnancy. [3,4,8,9]. A systematic review of the literature made from 1950 till 2016 of all reported cases and studies of decidualized endometriosis during pregnancy was made by Roberti Magiore at al. (2016) [3], seven cases of cutaneous decidualized endometriosis were described, and only four of them were scar endometriosis.

In only one study we have find a case report of cutaneous endometriosis with decidualization in absence of pregnancy. Review of the literature represent us with other case reports of endometriosis with decidualization in lack of pregnancy [12], even during menopause[11].

In this case the exogenous stimulus by hormonal therapy may lead to decidual metaplasia of stromal ectopic endometrium. On rare occasion the exogenous stimulus is absent, and it's mechanism is theoretically related to an abnormal persistence of a functioning corpus luteum or a luteinized unruptured follicle becoming a source of endogenous progesterone [11].

These changes can occur in pre or post menopausal woman and in rare cases may lead to decidual metaplasia of a previous endometriosis, like we suppose that was the mechanism of decidualized endometriosis in our patient.

The importance in recognizing the decidual changes is the differentiation of other entities, morphologically similar that some times can make the differential diagnosis very difficult.

Deciduoid malignant mesotelioma is the most frequent malignant disease among young woman. It has similar histopathological features with decidual tissue and it has a poor prognosis too [13]. In most of the cases it is accompanied with polymorphism, atypia and mitosis, but in other cases this features are not visible. In all this cases we cannot find endometrial glands that can be very useful features in endometriosis and the IHC stain may be useful [14].

The presence of large polygonal eosinophilic cells, with well defined borders in myxoid stroma, particularly in frozen sections, related also to their localization, must be differed from squamous carcinoma. The presence of endometrial glands and the architectural features, accompanying the cells

characteristic help direct the diagnosis, and in the difficult cases the negative staining for CK can verify the origin of the cells [11].

#### 4. Conclusion

Although in rare cases, the decidualization of scar endometriosis must be taken into consideration by surgical pathologist, in particular of a previous anamnesis of open uterine surgery. It may represent a complex case, but the differentials of the treatment and prognosis of the similar diseases make the differential diagnosis and the recognition of these metaplastic changes by the pathologist very important.

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