

Fibroid Calcified, Prognosis for Childbirth

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Abstract

If aseptic necrobiosis by vascularization disorder and calcification of fibroids during pregnancy are indisputable scientific realities.

In this case we reported an observation that was at the origin of a certain number of questions to which we had to answer during all the follow-up of the patient, dominated by a central question: That it would be the prognosis of deliveries of a pregnant woman with a history of calcific fibrosis? As well as: the Calcified Degeneration of the fibroid during the pregnancy has specificities ?, Is there an inter-reproductive space to be respected?, Is there a specific protocol for monitoring pregnancy?

The research done in literature finds few writings on this subject, still less in the axis that interests us: the prognosis of deliveries, after a study of the different aspects of the subject through this clinical case we could conclude hypothetically that A calcified myoma on a healthy gravid uterus may be considered a predisposing condition for uterine rupture.

Keywords: *Fibroma; Pregnancy; Calcified Degeneration; Uterine Rupture; Healthy Uterus Gravide*

Introduction

Necrobiosis of fibroids represents a rather frequent evolution during pregnancy (ranging from 1.5% for Stoblet [15] to 28% for Dilucca [16]), the evolution towards calcification has also been described at a distance from pregnancy to postpartum, but who has the prognosis of the follow-up of pregnancy and childbirth of a patient with these antecedents; an agonizing and very frustrating situation; it is necessary to add the rarity of the publications on this aspect of the question: fibroma and pregnancy.

The interest of this clinical case is to identify this aspect of the question, with the aim of launching a debate; which will undoubtedly bring answers and a consensual approach to this aspect.

Clinical Case

This is a 28-year-old pregnant woman (2nd Gesture, 1 Abt), GS O, Rh Positive, 28 years old, who is treated for a pain syndrome Abdominal pregnancy 30 SA + 02d with antecedent of interstitial uterine fibroid discovered on first trimester ultrasound.

The clinical examination on admission finds:

Patient conscious, cooperating, well colored and a Good General State.

T.A: 110/65 mm hg, F.C: 98 beats/min, T°: 37.2°C, F.R: 20 mvt/min, HU: 26 cm, CU: Absent, MAF: Well Perceived, BCF: Present.

No micturition, No hematuria, No lumbar contact, Negative shock test on both sides, palpation found a mass of the left flank solid, mobile non-adherent to the deep plane, solid to the uterus, with a hyperalgesic zone and a localized defense, without contracture.

Vaginal touch; quite difficult to achieve found a long neck close, no blood, no hydorrhea, no amniotic fluid with a left lateral uterine mass with the same characteristics mentioned above.

The Ex urine test strip found: PH: 07, G: Neg, A: Neg, Sg: traces, P: Neg.

An ultrasound made in emergency finds:

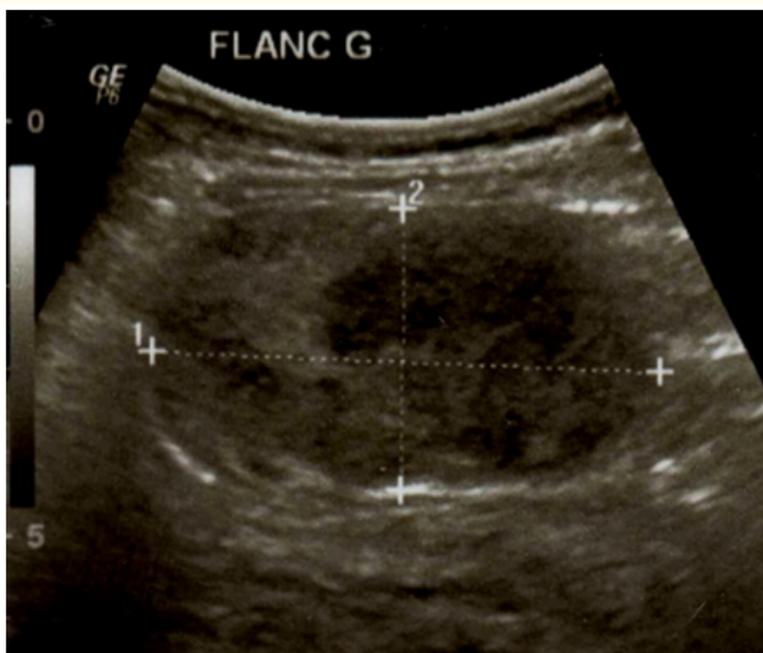
An active mono-fetal pregnancy with biometrics of 31-32 S.A.

The Morphogram is without peculiarities.

We find a heterogeneous left lateral uterine image, globally hypoechogenic of 67 mm on 35 mm, Having a COCARDE appearance, located at 5 cm from the inferior border of the placenta, evoking a fibroma in necrobiosis (Figure 1).



(a)



(b)

Figure 1 (a-b): Necrobiosis Fibroma Appearance in cocarda.

The patient was put on antibiotic treatment (third-generation cephalosporins) for 10 days, anti-inflammatory for 3 days.

The patient has very well evolve, there is a disappearance of pain on the third day of treatment.

The evolution of pregnancy has been normal and without peculiarities. At 39S + 04j of A, the pregnant woman delivered vaginally with a good sequence of diapers.

Review at eight months postpartum we found no symptomatology, and ultrasound found a calcified fibroma measuring 34 mm by 21 mm (Figure 2), the ASP confirms the calcification and dimensions.



Figure 2: Calcified fibroma (Endovaginal Ultrasound).

The patient was seen six months later, or fourteen months after delivery, for desire to become pregnant.

Literature research on the prognosis of deliveries of patients with a history of fibroma evolved into calcified degeneration; was very poor out of the little one was found to agree that these patients who are likely to have dynamic dystocia during work [2-8].

Probably the calcification of the fibroid will constitute a screen (isolation zone) that can prevent the correct transmission of uterine contractions, except for the management of this particular obstetric situation nothing has been found.

So we kept and considered this troubling concepts of transmitting uterine contractions.

The patient returns in consultation with a beginning pregnancy, with an inter-reproductive space of eighteen months.

The progress of the pregnancy was without particularities the echographic surveillance of (calcified fibroma) showed no anomalies or modification in its aspect and its dimensions.

This pregnancy was considered a GHR, which required special attention to follow up with monthly consultations.

The patient returned spontaneously to 38S + 05jr of A workflow was marked by dynamic dystocia type: Stationary Dilation at 06cm, by Hypokinesia Frequency and Intensity.

The prognosis of childbirth reviewed, it reveals no mechanical abnormalities, so we tried to correct the uterine dynamics to oxytocin with strict and particular monitoring.

The uterine dynamics corrected, the patient did a harmonious job with normal childbirth; of a newborn female weighed 3200g, Clear Amniotic Liquid, no fungal abnormalities, the APGAR score: 7/10, 8/10/10/10 without incidents or complications.

The postpartum surveillance and examination are unspecific, the patient was discharged 48 hours after hospitalization.

Thirty days after the birth, the clinical and ultrasound control was without any particularity, without any modification of the aspect and the dimensions of calcified fibroma.

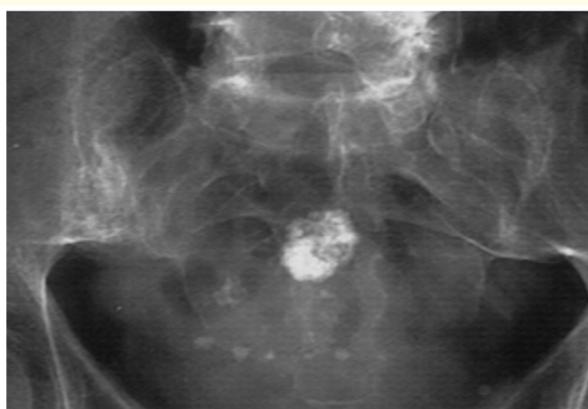


Figure 3: Calcified fibroma (A.S.P).

Discussions

Leiomyoma or uterine fibroid as it is commonly called is the most common benign tumor in women of childbearing age found in 20 to 25% of women [5,6] of which 1% have a clinical expression and requires a load (6) consequently the association fibroid and pregnancy is often met, whose frequency is 1 to 4% (Table 1) [2,15-17].

Authors	Frequency (%)
Dilucca (1981)	1,99
Exacoustos and Rosati (1993)	3,87
Hasan., et al. (1990)	0,1
Katz., et al. (1989)	2
Dim., et al. (1980)	0,8
Rice., et al. (1989)	1,4
Strobelt., et al. (1994)	1,6
McCann., et al. (1986)	0,34 (myomes More than 3 cm)
Lopes., et al. (1999)	0,2
Lolis., et al. (2003)	3,9

Table 1: Frequency of Fibroma and Pregnancy Association [17].

Pregnancy is sometimes a circumstance of discovery of the fibroid following hyperestrogenic pregnancy and this in 4% of cases [2] expressed by an increase in the volume of myomatous nuclei that were not detectable on ultrasound or those small become bigger [1-3].

Aseptic necrobiosis of fibroma during pregnancy is secondary to vascular disease: it is a circulatory ischaemia of a territory or all fibroma [1,5-9]; whose rate varies between 1.5 and 28% only the authors [17] (Table 2).

Authors	Frequency of the aseptic necrobiosis
Dilucca (1981)	28%
Hasan., <i>et al.</i> (1990)	10%
Rice., <i>et al.</i> (1989)	15%
Strobelt., <i>et al.</i> (1994)	1,5%
McCann., <i>et al.</i> (1986)	27,5%
Lopes., <i>et al.</i> (1999)	14%
Phelan (1995)	5 to 8%
Lolis., <i>et al.</i> (2003)	2,6%

Table 2: Frequency of aseptic necrobiosis of Fibroids during pregnancy [17].

The diagnosis of aseptic fibrosis necrobiosis during pregnancy is clinical and ultrasound with localized pains (wall tensions by inflammatory phenomena) [7] and hyperthermia at 38.5.

Ultrasound shows the fibroid with a typical appearance of necrobiosis which is: cockade or target image [1-5,7,17,20]. Doppler can demonstrate ischemia of the myoma [17].

The treatment is based on rest, analgesic, nonsteroidal anti-inflammatory drugs (NSAIDs) for a short time [17-19], some advocates a probabilistic antibiotherapy which is not consensual.

Surgery of fibroids during pregnancy has no indication [5-18], it is even legitimate to leave the fibroid in place in case of cesarean section seen the risk of preoperative hemorrhage due to pregnancy [5].

Although the complications are rare [2], the delivery of a patient with a history of a fibroma in necrobiosis requires special attention in view of the complications described: the obstacle previa, the prematurity the hemorrhages of the delivery by uterine atony or Incomplete placental abruption and disturbances of uterine dynamics during labor [2,3,6-8].

The natural evolution of necrobiosis is calcification [1,3,6] whose diagnosis is echographic and radiological [1,3,6,7,20,21] as in our case.

The second gesture of our patient posed us a problem of follow-up of pregnancies and prognosis of deliveries.

Pregnancy on a uterus with calcified fibroma, an issue on which publications are rare and references; the difficulty was:

- As for the follow-up of pregnancy: the question was to know if the calcification of the myoma can you support the pregnancy with an inter-reproductive space of eighteen months? are there any precautions to be taken in relation to the term?
- Does the prognosis for childbirth have any particularities?
- Are there any particular complications that require anticipation?

Situation that A Chevyud [17] summarized by a question, to which we adhering; I quote: Is surveillance of Pregnancy and Childbirth Particular? [17].

Fibroids are formed of organized smooth muscle cells, fusiform with a low mitosis rate [1-5], necrobiosis being an ischemia manifested by dissociation of muscle fibers by edema and haemorrhagic phenomena [1-7].

The swollen muscle fibers surrounded by an edematous interstitium where the vessels appear dilated and engorged with blood, responsible for the hydrangea color of the fibroma, altered nuclei and vesicular. Without inflammatory leukocyte infiltration.

If the necrobiosis is total, one finds only a vaguely fasciculate tissue, with some granular point in place, which are the vestiges of the nuclei.

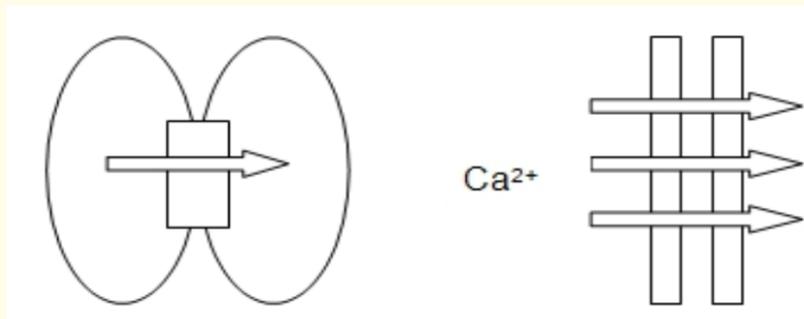
Hyaline collagen spans separate the smooth muscle bundles that stretch within the fundamental substance gradually smooth muscle cells are dissociated turns and disappear, this hyaline sclerosis can remove almost all the leiomyoma, in some cases the remodeling done in regular ways often in the form of elongated cells in palisades separated from bands of hyaline sclerosis, sometimes the appearance is undulating deposits of limestones are formed in this hyalinosclerotic substance [32].

Hyaline sclerosis results from the power of the muscular fiber to produce a protein substance rich in acidic mucopolysaccharides, an anhistic metamorphism transforms this sequel of infarction into a starry or rounded beach which infiltrates calcareous limestone [32].

If the uterine contraction results from the activity of the myometrium which corresponds to the simultaneous activation of all the smooth muscle cells of the myometrium, this simultaneous activation is possible thanks to the appearance at the end of pregnancy of communicating junctions (Gap Junction).

These junctions allow the simultaneous contraction of the fibers of the myometrium and allow the ions to pass almost instantly from one cytoplasm to another.

Communicating Junctions (Gap Junction)



Figure

The myometrium undergoes histological and biochemical changes during parturition by: The increase of contractile proteins (actin and myosin) leading to hyperplasia and hypertrophy of the myometrium.

Intercellular relations are modified through communicating junctions that allow the coordination of uterine contraction. The receptivity to oxytocin is increased by multiplying the number of receptors.

According to these histophysiological consensual concepts, the calcification zone constitutes a zone that does not allow the total or partial transmission of uterine contractions, due to its histological nature which cannot even appear in communicating junctions (Gap Junction), therefore the simultaneous activation of Smooth muscle cells of the myometrium cannot be done in the calcified area, thus becoming theoretically a zone of uterine fragility by physical and mechanical phenomena?

This histophysiological concept was the source of our anxiety during 38 weeks of pregnancy of the patient, with regard to the prognosis of delivery with questions as to: what would be the prognosis of delivery of the patient?

In the case of possible dystocia [2,3,6-8], what will be the place of conventional treatment? Or is there indication of the high way? If yes when? In first intention? Or after emergence of disorders of uterine dynamics? So many other questions to which the answer was not obvious, simple and easy.

Although the notion of occurrence of dynamic dystocia is not supported by scientific arguments [29], it has been cited in the association of fibroma in necrobiosis and pregnancy [2,3,6-8]; This association may be the origin of dynamic dystocia sometimes associated with cervical dystocia, because of the poor quality of uterine contractions, and the poor diffusion of the contractile wave to the entire uterine body [29,30]. Coronado and these colleagues reported a 1.85 risk of dynamic dystocia occurring on a myxomatous uterus in general; Excluding calcification, nothing was found.

As to the care; there is no record of a primary Caesarean section for fibroma, except in certain situations, mainly represented by: Prevents obstacles preventing the accommodation of the presentation and also hinders the amplification of the lower segment [2,3]. Possibly common obstetric emergencies whose etiology is or is not related to fibroma. For some authors they can go back to the end of pregnancy or even at the beginning of work [31].

Fibroma alone is not an indication for caesarean section, on the contrary all authors agree that it is preferable to favor the low path and of course postponed myomectomies outside the context of pregnancy or pregnancy. hemorrhagic risk is increased, even if a caesarean section is made [5-18]; here there is no indication of a first-intention caesarean section, but a question arises as to whether dynamic dystocia sets up in your past by medical or first-line treatment?

The calcification-bearing uterus may tolerate the use of oxytocic in clearer terms the zone of necrobiosis or calcification does not constitute a zone of uterine fragility analogous to a uterine cicatrization which must be treated with certain considerations, according to its seat, its measurements etc....? Question that deserves reflection and answers.

Considering that calcification can be a zone of uterine fragility, in order to verify this, an analogy has been made with uterine healing (hyalinization phenomena), the study of uterine rupture on healthy uterus gravidum (uterine rupture without definite or apparent cause).

This analogous approach to a uterine scar prompted us to explore the histological aspect of uterine healing and quality criteria for good healing. If tissue healing leads to a proliferation of connective tissue with fibroblastic infiltration and fibrin deposition, thus consisting of fibrous tissue, traversed by neovessels and smooth muscle bundles, short, in varying amounts defining the quality of healing. Whatever the strength of healing, it will never equal the extensibility and contractility properties of the uterine muscle due to its depletion of muscle fibers [22].

With increasing numbers (scarring), the proportion of fibrosis increases. As much as, the phenomena of inflammation, hyalinization, fibroblastic proliferation and muscle fragmentation are important, healing becomes poor quality [22].

From another angle the occurrence of uterine rupture on healthy uterus gravid according to Ahmadi [23] is 1 for 2581 deliveries, with two ruptures with no apparent cause on his series of 28 cases of uterine rupture, as Schrinksky [24] found 10 ruptures without favorable

factors in his series of 40 ruptures, Iloki [25] reported in his series of 59 ruptures 5 ruptures without definite cause; Parry, *et al.* [26] suggests arteriovenous malformations of endometriosis; Liu, *et al.* [27] analyzing a series of 26 cases he discovers irreversible cell damage in the muscle fibers of the lower segments in case of rupture during labor, explaining this by the excessive and prolonged pressure of the fetal presentation during labor; it is a hypothesis that has been widely discussed because it does not explain the uterine rupture outside of work, which was retained from the study of Liu, *et al.* [27]; that uterine rupture is secondary to lesions of muscle cells.

Necrobiosis and calcification of the myoma implicitly puts us in the context of the lesions of the muscular cells; hence our belief in the existence of correlations between the evolution of fibroids and uterine rupture in the healthy uterus gravidus, so that necrobiosis and calcification are predisposing factors for uterine rupture in the healthy gravid uterus.

As for the use of oxytocics; in all the literature no contraindications have been found. In none the calcification of a myoma has been cited as risk factors for uterine rupture.

Although no author in our research reported any particular risks, we had firm firmness that this use had a special risk, our concern was the occurrence of uterine rupture for this; the use of oxytocin was made with great care.

The management of the patient was frustrating mainly regarding the prognosis of delivery. What worried us was the possibility of the occurrence of uterine rupture.

Following the study of this clinical case and our bibliographic research especially on the uterine rupture on healthy uterus gravid, we think that it is necessary to verify the hypothesis that the calcified degeneration could constitute a predisposing factor of rupture on uterus healthy gravid.

Conclusions

The publication of this clinical case allowed us to see the theoretical elements of the evolution of fibroids during pregnancy: (hyperosteoegeny, aseptic necrobiosis and calcification) in another aspect which is mainly the prognosis of childbirth, although the question of fibroma and pregnancy has often been treated.

Our research has allowed us to establish a highly relevant correlation between the histological changes experienced by smooth muscle cells during pregnancy necrobiosis and calcification as well as uterine ruptures on healthy uterus in accordance with the work of Liu, *et al* [27].

The interest of this aspect of the subject is that calcified fibroma does not represent a risk during pregnancy and childbirth? Above all, is it not a predisposing factor for uterine rupture?

The aim of the debate that we hope to launch through this observation is to reach a consensus or a protocol for taking care of pregnant and parturient children at a later date.

Whose impact will be a great comfort to any obstetrician faced with such a situation; in his diagnostic process as well as an ease in the care.

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