

# Uterine myoma in pregnancy: report of 19 patients

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## Summary

**Purpose of investigation:** To evaluate the effect of pregnancy on uterine myoma and the effect of uterine myoma on the pregnancy prospectively. **Methods:** Prospective evaluation of 19 pregnant women with uterine myomas was done between January 2005 and February 2008 at the Gynecology and Obstetrics Department Gaziantep University. The number and changes in size of the uterine myomas during pregnancy, and perinatal complications were documented. **Results:** Totally 37 fibroids in 19 pregnant women were observed. Neither enlargement of myomas nor serious perinatal complications were observed. **Conclusion:** We suggest that in contrast with the general opinion there is not much effect of pregnancy on uterine myoma size, and most cases are not affected by the presence of uterine fibroids resulting in severe perinatal complications. Expectant management may be an option for uterine myomas determined before gestation.

**Key words:** Uterine myoma; Pregnancy.

## Introduction

Uterine leiomyomas are the most common gynecologic neoplasm, occurring in 30%-70% of reproductive age women. The general sentiment about enlargement of myomas with estrogens in pregnancy has not been supported recently [2-6]. In this study we evaluated the effect of pregnancy on uterine myoma and the effect of uterine myoma on pregnancy prospectively.

## Materials and Methods

A prospective evaluation of 19 pregnant women with uterine myomas was done between January 2005 and February 2008 at the Gynecology and Obstetrics Department of Gaziantep University. Nine uterine myoma cases were diagnosed before gestation while the other ten were diagnosed in the first trimester of the pregnancy. Measurements are done at least twice during pregnancy with HDI (high definition imaging; A 3.5 MHz convex transducer, Aplio 50, Toshiba®, Otamara, Japan) by the same two observers. In this study, 37 uterine myomas were observed and documented ultrasonographically in four to eight week periods. Each pregnant woman was examined two to five times (3.6 average) during pregnancy and a final examination was performed at the third month postpartum. Observed alterations in size and number of leiomyomas throughout gestation and the third month postpartum were documented. In the cases with multiple myomas the largest myomas were considered and then recorded. Perinatal complications such as pain, antepartum hemorrhage, preterm labor, and postpartum hemorrhage were evaluated and recorded.

## Results

**Patient characteristics (Table 1):** Mean age of the population was  $29.38 \pm 3.49$  years and mean body mass indices of these cases was  $28.1 \pm 2.2$  kg/m<sup>2</sup>.

Table 1. — Patient characteristics.

Average age	$29.38 \pm 3.49$
Average birth weight (g)	$2,900 \pm 310.56$
Average gestation time (weeks)	$36.72 \pm 1.14$
Body mass index kg/m <sup>2</sup>	$28.1 \pm 2.2$

**Uterine myoma number and size:** Totally 37 fibroids in 19 pregnant women were examined with the largest size 10 cm in diameter and at most a number of four multiples in one case. In pre-gestational diagnosed cases the size of the myomas were distributed between 4 cm and 10 cm., while it was between 3 cm and 9 cm in post-gestationally diagnosed cases. The number of myomas determined per case were between one and four in pregestationally diagnosed cases and one and three in postgestationally diagnosed cases.

**Changes in size of uterine myomas during pregnancy:** No enlargement was observed either in pre-gestational diagnosed myomas or post-gestational diagnosed myomas. Uterine myoma sizes were unchanged in most of the cases, however in five the fibroid sizes decreased. Postpartum rescanning also revealed that two-thirds of fibroids had decreased in size.

**Complications:** All patients suffered from pain with irregular contractions other than Braxton Hicks contraction without cervical effacement and dilation. Hydration and single dose 500 mg hydroxyprogesterone caproate IM (Proluton depot®) injection was applied to patients with preterm contractions diagnosed between the 28<sup>th</sup> and 37<sup>th</sup> week. Abortus imminence was observed in six cases with an average of 14.5 week's gestation and 800 mg progesterone was applied intravaginally. In three cases extended postpartum hemorrhage was observed. No transfusion was needed. All of the pregnancies were terminated by cesarean section. Average delivery time was  $37.46 \pm 1.14$  weeks; mean birth weight was  $3,226.92 \pm 310.56$  g.

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## Discussion

The effect of pregnancy on size of the myoma is not clear and reported results of the effects of myomas on the gestational period also differed in similar studies. Although, some studies have indicated the probability of serious implications in pregnant women with uterine myomas [7, 8], others put forward that most pregnant women with myomas were not affected by uterine fibroids resulting in perinatal complications [9, 10]. Conversely the general opinion about enlargement of myomas in gestation due to increased estrogen levels is not supported by recent studies [2-6]. Our results are consistent with the previous aforementioned studies. There was no enlargement in uterine myoma size in any case. Only in five pregnant women (26%) were decreases in myoma sizes observed while the other 14 (74%) showed no significant changes in size of uterine myomas. Rosati *et al.* examined 36 pregnant women with a single uterine myoma by US in two- to four-week intervals in pregnancy and 34 of them were also examined four weeks after delivery. An increase in volume during pregnancy, particularly the first trimester was observed in 31.6% of cases. In the puerperium a reduction in myoma size was noted, which may indicate a return to its initial volume [11]. We also found a decrease in the size of uterine myomas in 12 cases (63%) at the third month postpartum. This result is also supported with epidemiological data. Epidemiological observations show that pregnancies reduce the risk of fibroids [12]. Baird and Dunson attempted to explain the protective effects of parity on uterine fibroids through uterus involution. The protective effects of pregnancy were also shown with studies on female Eker rats [13]. In this study, it was shown that tumor development was 71% in female rats with singleton delivery and 10% with multiple parity. In our study we observed premature delivery risk in all pregnant cases. This situation may be due to having less durability of the uterus with a myoma stretching the myometrium [14] or lower oxytocinase activity of the uterus due to a myoma in a pregnant woman [15].

## Conclusion

We suggest that in contrast with the general opinion that there is not too much effect of pregnancy on uterine myoma size, and most cases are not affected by the presence of uterine fibroids with an extended result as severe perinatal complications. However, further multicenter randomized controlled prospective studies are needed in this field for a more evidence-based approach.

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