

Uterine fibroids size modifications during pregnancy and puerperium: evidence from the first systematic review of literature.

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CONTEXT: The influence of pregnancy on uterine-fibroids (UFs) size still remains an unsolved dilemma. Basing on current knowledge, physicians are not able to inform patients about the likelihood of uterine-fibroids to modify their size during pregnancy.

OBJECTIVE: To summarize available evidence concerning the size-modifications of UFs during each trimester of pregnancy and during puerperium.

METHODS: We performed a systematic review of literature. The review was reported following the PRISMA-guidelines and study protocol was registered in PROSPERO. All observational studies evaluating fibroids' changes during pregnancy and puerperium were included.

PATIENTS: Pregnant women with UFs as diagnosed by ultrasound (US) and/or magnetic resonance imaging (MRI) undergoing two or more following measurements of UFs.

INTERVENTION: A literature search was conducted until July-2017. Two Authors extracted data from studies about study features, population characteristics, UFs measures and timing of UFs' measurements. The same Authors assessed the methodological quality of each study with Quality Assessment Tool for Before-After (Pre-Post) Studies with no Control Group.

MAIN OUTCOME MEASURES: Modifications of UFs diameter (cm) and volume (cm³).

RESULTS: Twelve studies with a total of 807 participants were included. Concerning the first-trimester of pregnancy, all Authors reported a significant growth of uterine-fibroids. Contradictory evidence was found about uterine-fibroids modifications during the second and third trimesters, mainly supporting a slowdown during mid-pregnancy and a subsequent size-reduction during late-pregnancy. Concerning the overall modifications during pregnancy and puerperium, poor evidence quality suggest that uterine-fibroids do not modify their volume/slightly enlarge during pregnancy and subsequently reduce in size during puerperium.

CONCLUSIONS: UFs seem to be subject to a non-linear trend of modifications UFs during pregnancy and puerperium, which may vary from myoma to myoma. Approximately, UFs may undergo an intriguing "triphase trend" of changes during pregnancy, with a first phase of enlargement during the first trimester, an intermediate stage of slowdown and stabilization during the second trimester and a third phase of volume regression during late pregnancy and puerperium.

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