Medical termination of pregnancy (MToP) in the first trimester – the role of hCG and ultrasound in pregnancy diagnosis and MToP follow-up

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Objective:
In the Czech Republic (CRI), it is possible, to carry out Medical Termination of Pregnancy (MToP) in the 1st trimester in case the ultrasound examination confirms an intrauterine singleton pregnancy, between day 42 and 49 of gestation, crown-rump length (CRL) of the embryo 2-9 mm. The aim of the study is to analyze the importance of serum/urine human chorionic gonadotropin (hCG) assessment and ultrasound (US) examination in pregnancy diagnosis and MToP follow-up.

Methods:
Cohort (prospective) study. In 2016-2017, MToP was carried out in a total of 109 women. The diagnosis of an intrauterine singleton pregnancy was set by transvaginal ultrasound, CRL 2-9 mm. MToP was carried out by combination of mifepristone (600 mg orally) and misoprostol (400 mcg orally) within 48 hours. Serum/urine low sensitivity urine pregnancy test, LSUP test) hCG assessment and US examination was performed in pregnancy diagnosis and MToP follow-up after 2-5 weeks.

Results:
In pregnancy diagnosis, there was a medium strong positive correlation between serum hCG and gestational sac (r = 0.711; p < 0.0001) and CRL (r = 0.605; p < 0.0001). Gestational age was 42-49 days (average 45.6, median 45), the women were 16-44 years of age (average 29.4, median 29). In MToP follow-up, serum hCG > 100 IU/l was present in 13.8% of women (15/109) and positive LSUP test in 17.4% (20/119). US examination diagnosed ongoing pregnancy in five women and missed abortion in one woman (serum hCG was always > 1000 IU/l and LSUP test always positive). In 5.5% of women (6/119), a subsequent surgical intervention was carried out including ongoing pregnancy (n = 3), missed abortion (n = 1) was treated by additional misoprostol, not by surgery.

Conclusion:
In pregnancy diagnosis, there is a medium strong positive correlation between serum hCG and CRL. In MToP follow-up, a negative LSUP test enables reliable exclusion ongoing pregnancy and missed abortion. In a case of a positive LSUP test, US examination should be performed, however, surgical intervention should not be indicated solely on the basis of uterine cavity dilation.