



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

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### Objective

In the Czech Republic (CR) the Medical Termination of Pregnancy (MToP) is allowed in the first trimester if the ultrasound examination confirms an intrauterine singleton viable pregnancy, between 42 and 49 days of gestation, crown-rump length (CRL) 2-9 mm. The aim of the study is to analyse the importance of serum/urine human chorionic gonadotropin (hCG) assessment and ultrasound (US) examination in pregnancy diagnosis and MToP follow-up.

### Methods

This was a cohort (prospective) study between 2016-2017. MToP was carried out in a total of 109 women after a diagnosis of intrauterine singleton viable pregnancy with CRL measurement between 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 were performed at the time of diagnosis and 2-5 weeks after MToP.

### 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). At the follow up examination serum hCG  $> 1000$  IU/l was present in 13.8% of women (15/109) and positive LSUP test in 17.4% (20/109). 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 (6/109), a subsequent surgical intervention was carried out including ongoing pregnancies ( $n=5$ ); 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 of ongoing pregnancy and missed abortion, in 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 dilatation.