Objectives - to develop a new method for assessing the degree of liver herniation in fetuses with CDH by US imaging

Methods:
- a preliminary explorative study - retrospective review of medical records and US images
- 28 cases of isolated fetal CDH with liver herniation and known outcome: 26 with left-sided and 2 with right-sided
- areas of lungs and herniated liver measured at the standard level of four-chamber view by manual tracing during live scan or off-line
- the liver-to-lung area ratio = area of liver / lung(s) area
- comparison of data in groups according to neonatal outcome by t-test

Results:
- mean GA at US evaluation 32.5±6.2 weeks (range 20 - 38)
- in 96.4% cases only contralateral lung was visualized at the 4-chamber view
- Liver-to-lung area ratio varied from 0.43 to 5.2
- 35.7% (n=10) neonates were operated and survived, 64.3% died (n=18); among neonates who died 33.3% (n=6) were operated and 66.7% (n=12) were not

Conclusions
- Liver-to-lung area ratio can be a new tool for US assessment of the degree of liver herniation into the chest in fetuses with CDH
- It can be used in complex with other US prognostic markers to predict neonatal outcome and to plan management of pregnancy, delivery and specialized help to neonate
- Further studies will be needed for external validation and cut-offs calibration for different clinical settings