# Re: How often do we identify fetal abnormalities during routine third-trimester ultrasound? A systematic review and meta-analysis. (First comment on BJOG-20-0525.R1)

Claudia Massarotti[1], Chiara Gaggero[1], Chiara Molinari[1], Diletta Marcolin[1], and Pierangela De Biasio[1]

[1]Ospedale Policlinico San Martino

October 27, 2020

Letter to the Editor, BJOG Exchange

**Re: How often do we identify fetal abnormalities during routine third-trimester ultrasound? A systematic review and meta-analysis**

Sir,

Drukker et al.[1] recently reviewed the existing literature on prevalence and types of anomalies detected in the 3rd trimester, finding that as much as 1:300 examinations led to a new diagnosis. This finding came as a reminiscence of the first steps of the prenatal diagnosis[2] and stressed that we are not ready to dismiss the 3rdtrimester routine scan yet.

While the scaffolding of the fetus is formed by the time of the mid pregnancy anatomy scan, during the last months of pregnancy, the fetus grows considerably to reach its genetic determined potential, with a process that is mostly hypertrophic, and prepares for the extrauterine life with formation of reserves, like fat tissue deposition.

As discussed by Drukker et al., the national policies on the 3rd trimester scan are heterogeneous and the utility of such an examination has been questioned. Traditionally, it was oriented to identify late FGR, preventing adverse neonatal outcomes. However, a single estimation, even with the highest achievable accuracy, is not enough to describe the complex and dynamic process of fetal growth[3].

Re-discovering the 3rd trimester scan (30-33 weeks of gestation) as a screening point, allows us to befit of it at its best. Indeed, it discloses many relevant information:

1. The detection of malformations not yet visible at 20 weeks, that become evident with fetal maturation. The prime example are the urogenital malformations, as described in the systematic review. These malformations usually have a benign prognosis, sometimes they require a corrective procedure and sometimes only follow up. Following the detection of these anomalies, the expectant parents have time to be educated on the diagnosis, to choose with the healthcare provider the better birth setting and to plan for interventions (if indicated) and/or for an adequate follow up.
2. The detection of malformations requiring medical procedures at birth, i.e. cardiac malformations not visible before, enabling a safe birth and tailored life-saving interventions.
3. The detection of abnormalities resulting from asymptomatic infections, from late-presenting neurological malformations or from other intercurrent rarer causes, such as a fetal cerebral hemorrhage. These findings frequently carry a poor prognosis with them. A 30 weeks diagnosis means starting a late

referral pathway to prepare the expectant parents for birth (or 3rd trimester abortion, where legal) at best.

4. The detection of FGR or a starting point of a reference curve to detect late FRG. The evaluation of the estimate fetal weight (EFW) is less accurate in the last weeks of gestation due to objective difficulties in performing ultrasound measurements, hence a greater discrepancy between fetal weight and neonatal birthweight. However, the most relevant information we can acquire is not the fetal weight per se but a slowed or accelerated growth curve compared to the 30 weeks screening, essential to identify higher risk pregnancies to be monitored closely.

All these findings are detectable only in the contest of an efficient routine screening program, preferably performed by highly trained individuals. One of the main purposes of the Obstetrician is to reduce as much as possible the maternal and neonatal morbidity during pregnancy and birth, but also to give to that newborn the best possible life after birth, including appropriate care when indicated, building tailored follow-up pathways in-utero and after birth. Thus, the 3rd trimester routine scan is a precious arrow in our quiver that, together with the other prenatal appointments, aims to continuously improve our maternal and infant care.

Claudia MASSAROTTI[1,2*], Chiara Roberta GAGGERO[3,4], Chiara MOLINARI[4], Diletta MARCOLIN[1,2], Pierangela DE BIASIO[3,4]

1. Department of Neurosciences, Rehabilitation, Ophthalmology, Genetics and Maternal and Child Health (DINOGMI dept.), University of Genoa, Genoa, Italy
2. Academic Unit of Obstetrics and Gynecology, IRCCS Ospedale Policlinico San Martino, Genoa, Italy
3. Prenatal Diagnosis and Perinatal Medicine Unit, IRCCS Ospedale Policlinico San Martino, Genova, Italy.
4. Maternal and Child Health Department, IRCCS Ospedale Policlinico San Martino, Genova, Italy

**References**

1. Drukker L, Bradburn E, Rodriguez GB, Roberts NW, Impey L, Papageorghiou AT. How often do we identify fetal abnormalities during routine third-trimester ultrasound? A systematic review and meta-analysis. BJOG. 2020 Aug 13. doi: 10.1111/1471-0528.16468.
2. Jauniaux E, Prefumo F. Prenatal diagnosis of fetal anomalies from the third to the first trimester and back. BJOG. 2020 Oct 16. doi: 10.1111/1471-0528.16523.
3. Caradeux J, Martinez-Portilla RJ, Peguero A, Sotiriadis A, Figueras F. Diagnostic performance of third-trimester ultrasound for the prediction of late-onset fetal growth restriction: a systematic review and meta-analysis. Am J Obstet Gynecol. 2019 May;220(5):449-459.e19. doi: 10.1016/j.ajog.2018.09.043.