

Adverse maternal outcomes with life-limiting fetal conditions managed expectantly: a cross-sectional study

Man Ho Kwok^{1,2} , Paola Quaresima^{1,3}, Fabiana Interlandi¹ , Tunay Efeturk^{1 5} , Sarah Bower¹ , Stamatina Iliodromiti² , Elena Greco^{1,2}

Introduction

A life-limiting fetal condition (LLFC) is defined as a congenital condition that poses a high likelihood of death in utero or during the neonatal period, irrespective of attempted supportive treatment. LLFCs include chromosomal and genetic syndromes, as well as sporadic defects profoundly affecting vital organs systems such as the brain, heart, lungs, kidneys, or skeleton . LLFCs are one of the leading cause of perinatal, infant, and child mortality in the UK, with over 9 in 10,000 deaths within the first year of age in 2021 attributed to congenital defects.

Objectives

This study aimed to

- (1) report adverse maternal outcomes in pregnancies complicated by life-limiting fetal conditions managed expectantly in a UK tertiary Fetal Medicine Unit;
- (2) assess whether specific life-limiting fetal conditions categories increase maternal complication risks; and
- (3) compare risks with the general population.

Methods

Retrospective, cross-sectional study conducted between 2016-2023.

Life-limiting fetal conditions were categorized by organ system or chromosomal/genetic defect. Ultrasound findings affecting maternal outcomes were recorded. Outcomes included hypertensive disorders of pregnancy, preterm birth <37 weeks, gestational diabetes mellitus (GDM), caesarean sections, and postpartum haemorrhage (PPH). Frequencies of maternal complications were compared across life-limiting fetal conditions categories and with controls delivering structurally normal, singleton infants.

Results

Of 151 life-limiting fetal conditions pregnancies, 78 underwent medical termination, 59 were managed expectantly, and 14 were lost to follow-up. Among expectantly managed pregnancies, 49 % experienced preterm birth, 24 % had PPH, 14 % developed GDM, and 5 % had hypertension. Caesarean occurred in 13.6 % of cases. Hypertension was exclusive to aneuploidy life-limiting fetal conditions, while 79 % of preterm births were associated with amniotic fluid anomalies. Preterm birth risk was significantly higher in life-limiting fetal conditions pregnancies versus controls (49 % vs. 11 %; $P < 0.0001$; aOR 8.4; 95 % CI: 4.43-15.77).

Pregnancy complications	LLFC	%	Controls	%	P-Value
Hypertensive disorders of pregnancy	3	5%	9	2%	0.193
GDM	8	14%	80	20%	0.263
Post-partum haemorrhage	14	24%	105	26%	0.733
Spontaneous preterm birth - <37 weeks	29	49%	45	11%	<0.0001
Caesarean section	12	20%	94	23%	0.637

Conclusions

Life-limiting fetal conditions pregnancies carry higher risks of preterm birth, particularly with amniotic fluid abnormalities, and hypertension is more common in aneuploidy cases. Maternal interventions for fetal reasons remain frequent despite multidisciplinary care.

Affiliation:

1. The Fetal Medicine Centre, The Royal London Hospital, Barts Health NHS Trust, London, UK
2. Women's Health Research Unit, Wolfson Institute of Population Health, Queen Mary University London
3. Unit of Obstetrics and Gynaecology, Department of Medical and Surgical Sciences, University "Magna Græcia" of Catanzaro, Viale Europa, 88100 Catanzaro, Italy