

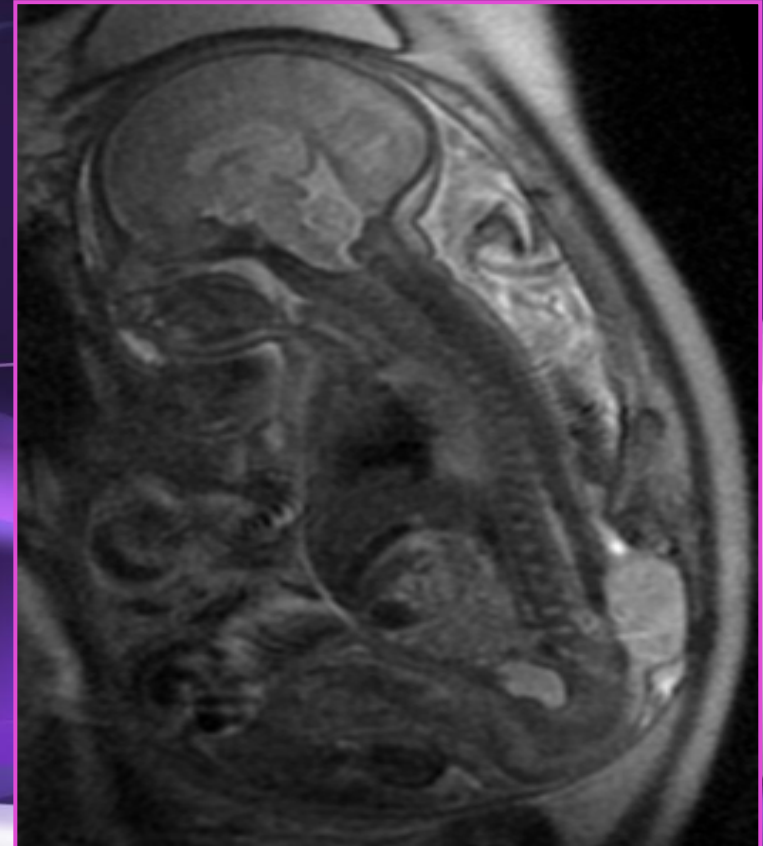
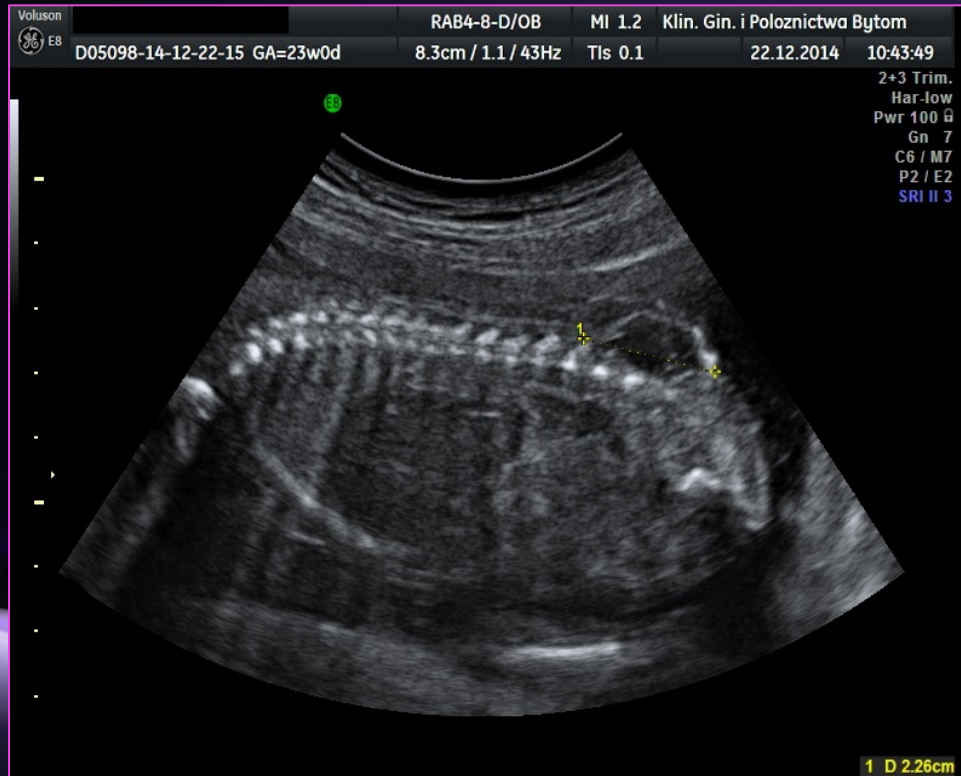
# „Pre-selection and qualification of the patients for prenatal myelomeningocele closure – Polish experience”

**Gynecology Clinical Care Unit, Obstetrics and Oncological  
Gynecology of Silesian Medical University Bytom, Poland**

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# Introduction

Before the year 2005 diagnosis of fMMC in Poland tended most of the patients to pregnancy termination. Only a very few of them decided to continue their pregnancy and repair MMC postnatally. For both patients and doctors possibility to repair fMMC in utero was more like a vision of a distant future...



# Introduction

Polish Registry Of Congenital Inborn Defect claims that frequency of MMC is around **2/1000** newborns.

There are around **200** new cases of MMC per year.

**PRWWR**  
POLSKI REJESTR WRODZONYCH  
WAD ROZWOJOWYCH

eurocat ZGŁOSZENIE ELEKTRONICZNE DLA RODZICÓW ZADAJ PYTANIE

**132 555 zgłoszeń**  
na dzień 26.03.2014

STRONA GŁÓWNA AKTUALNOŚCI WRODZONE WADY ROZWOJOWE O REJESTRZE DLA LEKARZY KWAS FOLIOWY LINKI KONTAKT

**AKTUALNOŚCI**

**UWAGA ZMIANA ADRESU PRWWR**  
Uprzejmie informujemy, że nastąpiła zmiana danych adresowych PRWWR. Aktualny adres: Polski Rejestr Wrodzonych Wad Rozwojowych ul. Rokietnicka 8 60-806 Poznań

**Europejska Konferencja „Safety of Medication Use in Pregnancy”**  
Z wielką przyjemnością zapraszamy do uczestnictwa w Europejskiej Konferencji „Safety of Medication Use in Pregnancy”.

**NEWSLETTER**  
Zapisz się na newsletter  
wpisz e-mail i kliknij ok

**WRODZONE WADY ROZWOJOWE**  
Wrodzone wady rozwojowe występują u 2-4% noworodków, będąc zasadniczą przyczyną zgonów niemowląt

**O REJESTRZE**  
Polski Rejestr Wrodzonych Wad Rozwojowych prowadzony od 1. kwietnia 1997 roku, od 1. czerwca 2001 członek EUROCAT

**DLA LEKARZY**  
Zgłaszanie wrodzonych wad rozwojowych u dzieci na formularzach zgłoszeń oraz drogą elektroniczną





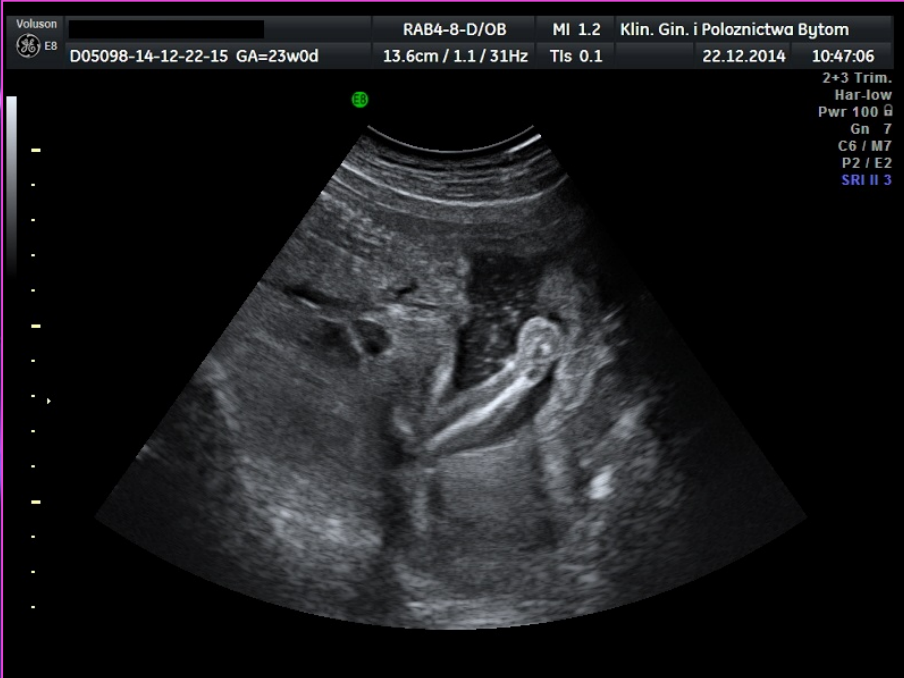
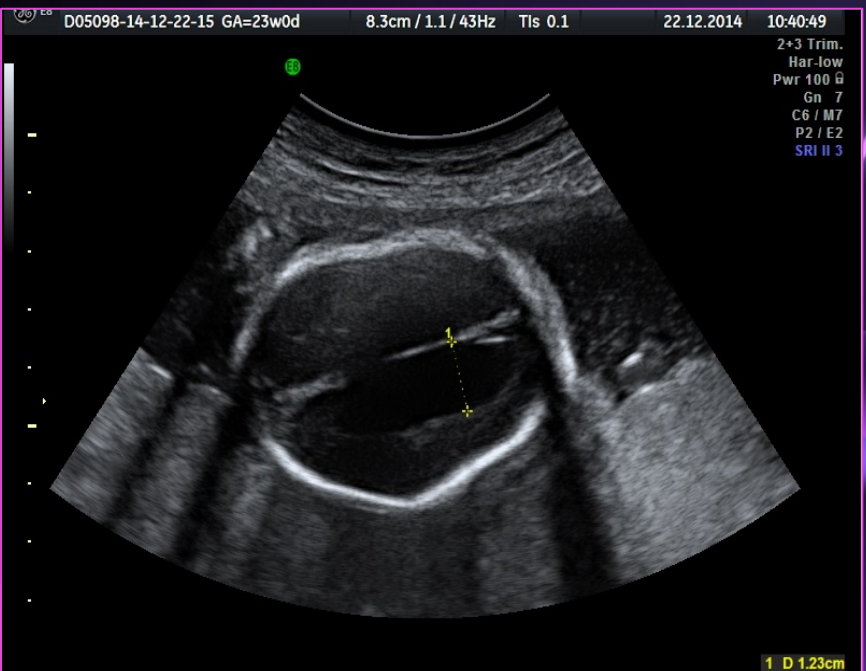
# Introduction

In the year 2005 the first performed IUMR in Department of Gynecology, Obstetrics and Oncological Gynecology of Silesian Medical University in Bytom has contributed to an increase of the inflow of native and foreign patients with fMMC.



# Patients and Methods

Since the year 2005 Perinatal Centers of the 3rd degree of reference and FMF certified USG diagnostic centers in Poland conducted 1<sup>st</sup> and 2<sup>nd</sup> trimester screening for early fMMC detection.



# Patients and Methods

## fMMC detection

Patient informed about  
IUMR

\*or ter

Patient informed only  
repair

- 1 out of 7 search results in polish google mentions possibility of in utero fMMC repair...
- Polish wiki doesn't mention about IUMR in MMC section
- Some „qualified” specialist such as gynecologists, surgeons, neonatologists claims that IUMR is an experimental method...

Patient  
depart  
inform

The pr

Final qualification

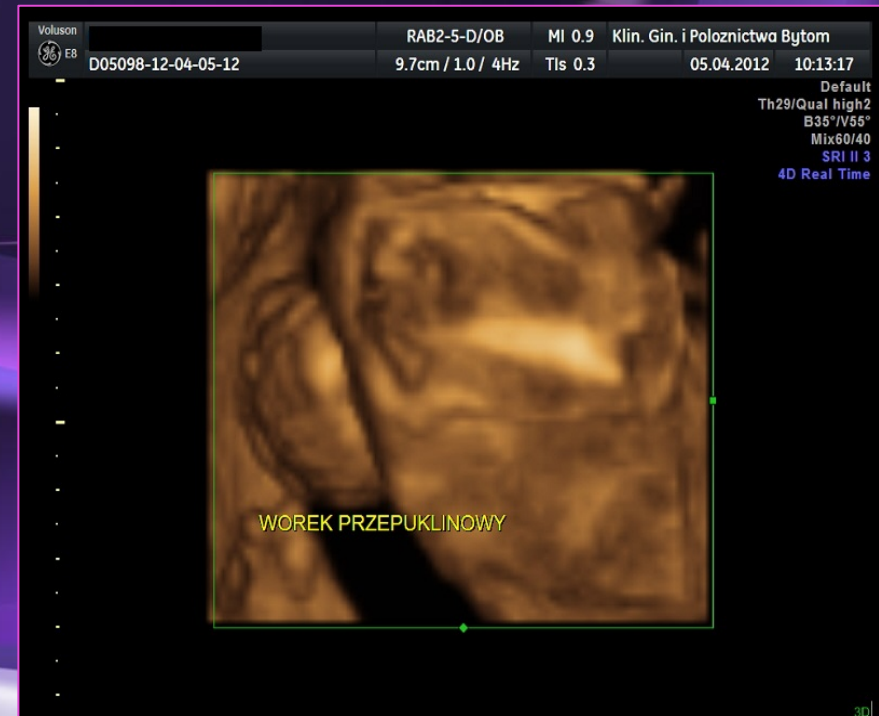
IUMR



# The preliminary qualification

**Was performed by the Team of doctors who analyzed on-line patient documentation, gynecological history and USG prints or scans delivered by patients.**

**Patients who choose to undergo IUMR were directed to our department so we could perform further examination and final qualification.**



## **Final qualification**

**Was based under following inclusion criteria:**

- **gestational age between 20w0d and 25w6d confirmed by USG 1<sup>st</sup> trimester scan**
- **signleton pregnancy**
- **mothers age  $\geq 18$  years,**
- **Hindbrain hernia of 1<sup>st</sup> or 2<sup>nd</sup> degree confirmed by MRI and USG**
- **lateral ventricle diameter  $\leq 17$  mm**
- **normal karyotype confirmed by amniocentesis or FISH**
- **lack of other inborn defects**
- **MMC localization between L1-S1.**



# Final qualification – exclusion criteria

## Utero-placental-fetal unit

Kyphosis  $> 30^\circ$ , oligohydramnios, placenta praevia, single umbilical artery, myomas, previous hysterotomies, classical cesarean section, uterine malformation, short cervix  $\leq 20\text{mm}$

## Maternal

Burdened obstetric history	Premature deliveries in anamnesis, cesarean section $>1$ , multipara $>3$ , eclampsia in previous pregnancy
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Internists	Diabetes mellitus, arterial hypertension, BMI $>35\text{ kg/m}^2$ , thrombophilia, chronic uterine tract infections
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Active infectious agents	HBV, HCV, HIV, TORCH infection, pathological bacterial flora in cervical canal, upper respiratory tract infection
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Anesthesiological	Contraindications to anesthesia- spinal deformities
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## Other

# Final qualification

During patients stay at our department we performed:

- **USG, MRI for proper MMC and Hindbrain hernia localization**
- **Ultrasound, Doppler, Fetal ECHO – cardiological anomalies and fetus well-beign, cervical lenght**
- **Amniocentesis for karyotype check up.**
- **Blood samples – TORCH examination and standard lab tests for surgery**
- **Specialist consultation: Gynecologist, Children Surgeon, Neonatologist, Anesthesiologist, Internist, Psychologist other if needed.**





Klin. Gin. i Poloznictwa Bytom

Date of Exam: 13.10.2014

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Name:

Perf. Phys.

Pat. ID: D05098-14-10-13-9

DOB:

Ref. Phys.

Indication:

Sex:

Sonogr.

LMP: 30.04.2014

GA(LMP): 23w5d

EDD(LMP): 04.02.2015

G  Ab

DOC:

GA(AUA): 23w5d

EDD(AUA): 04.02.2015

P  Ec

EFW (Hadlock)

Value

Range

Age

Range

Growth

AC/BPD/FL/HC

664g

± 97g

24w0d

Williams: 52.3%

2D Measurements AUA

Value

m1

m2

m3

Meth.

Age

Range

Dev.

BPD (Hadlock)

✓

5.78 cm

5.78

avg.

23w5d

22w0d-25w3d

43.5%

OFD (HC)

7.24 cm

7.24

avg.

HC (Hadlock)

✓

20.30 cm

20.30

avg.

22w3d

21w0d-23w6d

3.5%

HC\* (Hadlock)

20.52 cm

20.52

22w4d

21w1d-24w1d

5.5%

AC (Hadlock)

✓

19.48 cm

19.48

avg.

24w1d

22w0d-26w2d

56.3%

FL (Hadlock)

✓

4.43 cm

4.43

avg.

24w4d

22w4d-26w5d

66.3%

2D Calculations

CI (BPD/OFD)

80% (70 - 86%)

HC/AC (Campbell)

1.04 (1.05 - 1.21)

FL/BPD

77% (71 - 87%)

FL/HC (Hadlock)

22% (19 - 21%)

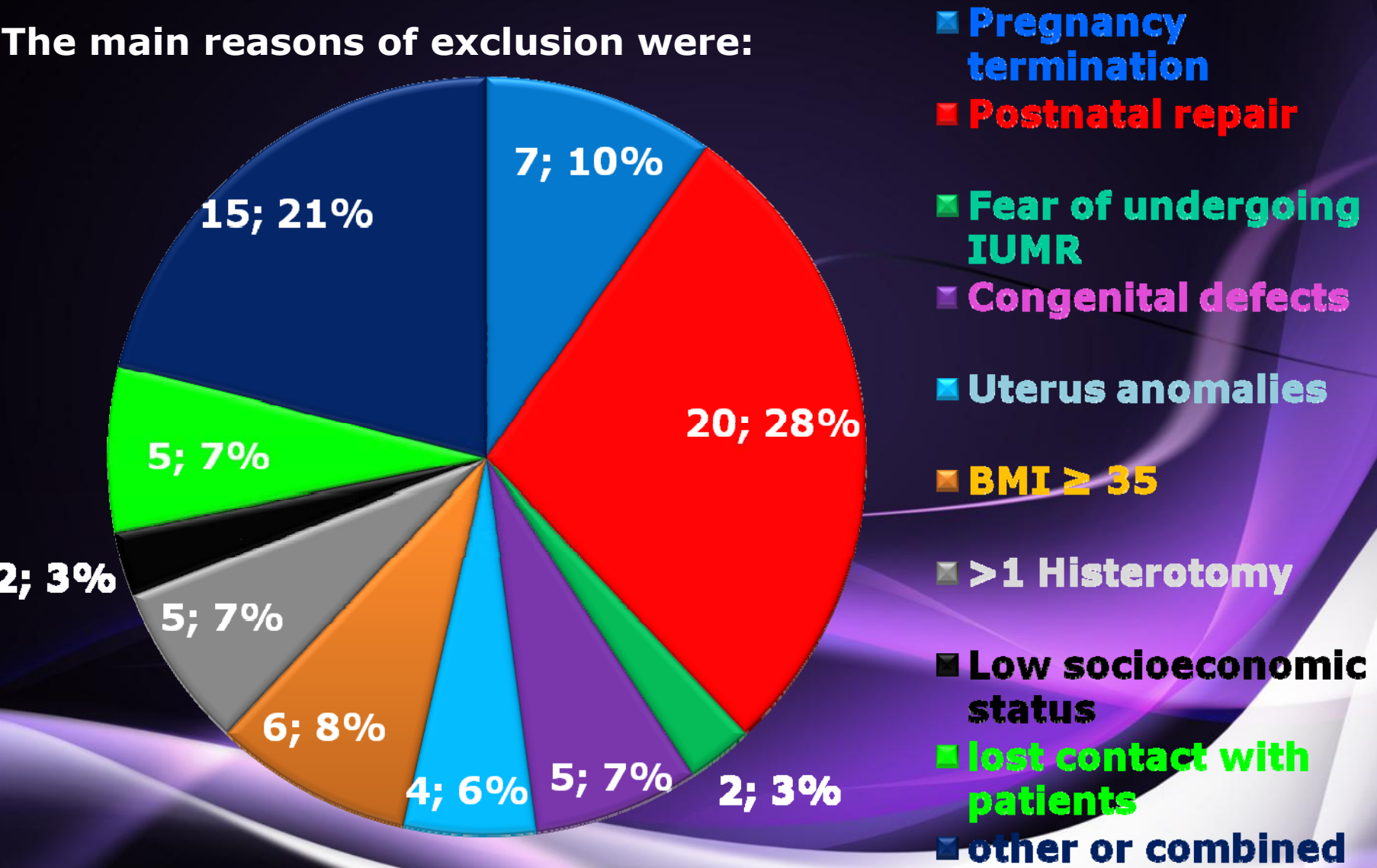
FL/AC

23% (20 - 24%)

Results of preliminary selection

Out of **185** patients that contact us we selected **114** patients that met the inclusion cryteria.

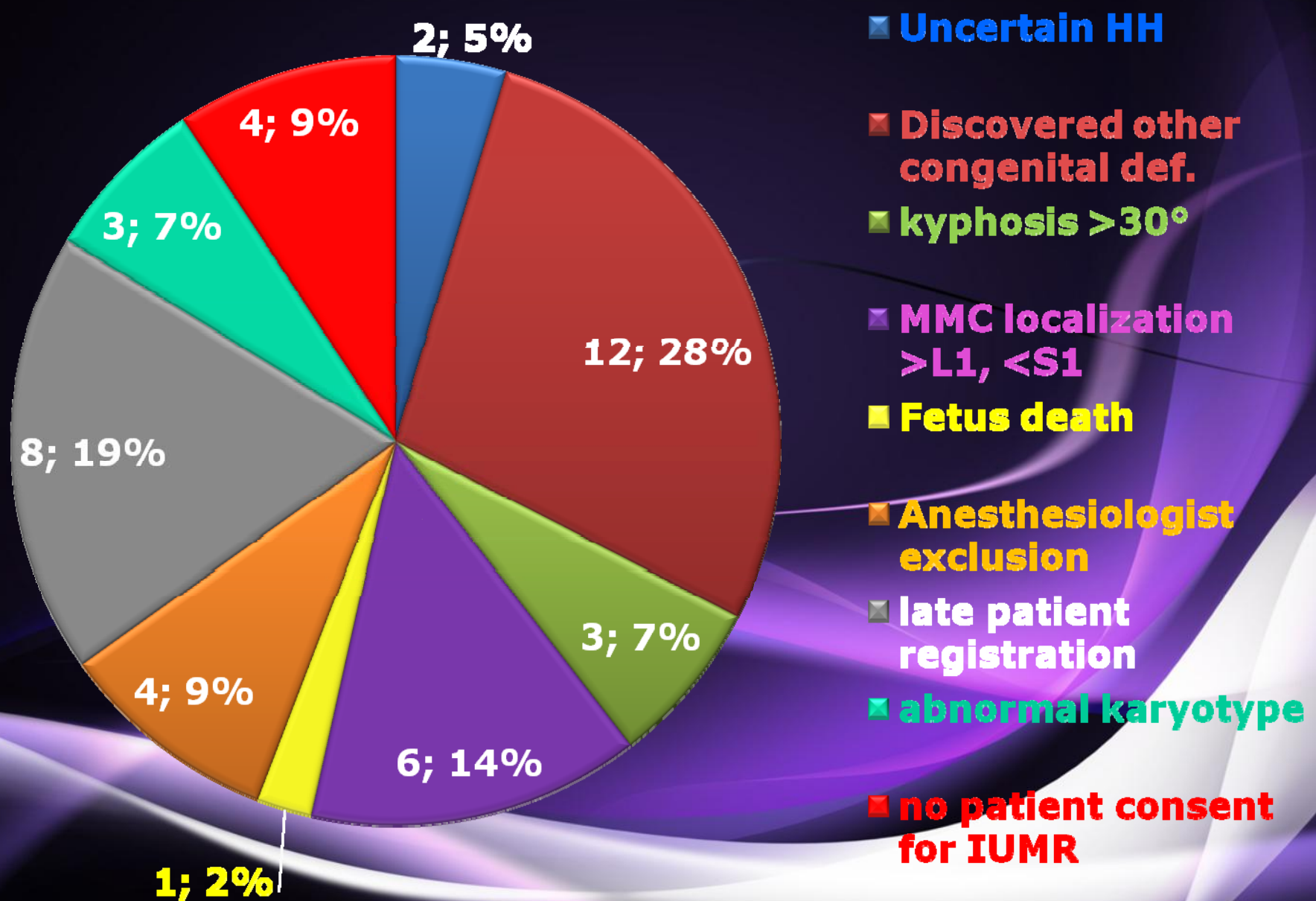
The main reasons of exclusion were:





Results of final selection

Out of 114 patients we excluded 43 patients due to:



## Two step Qualification:

- Provides better organization of a large number of patients.
- Combining USG and MRI helps to find cases which does not meet qualification criteria.
- Reliable and detailed diagnostic procedure as well as proper information corresponding to individual cases helps us to emerge a group of aware and determined patients who wish to undergo IUMR.



# Thank You for Your attention

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