

50<sup>TH</sup>

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Abstract Session 11. Preventive Cardiology and Psychosocial

# Termination of Pregnancy Epidemiology following Fetal CHD Diagnosis

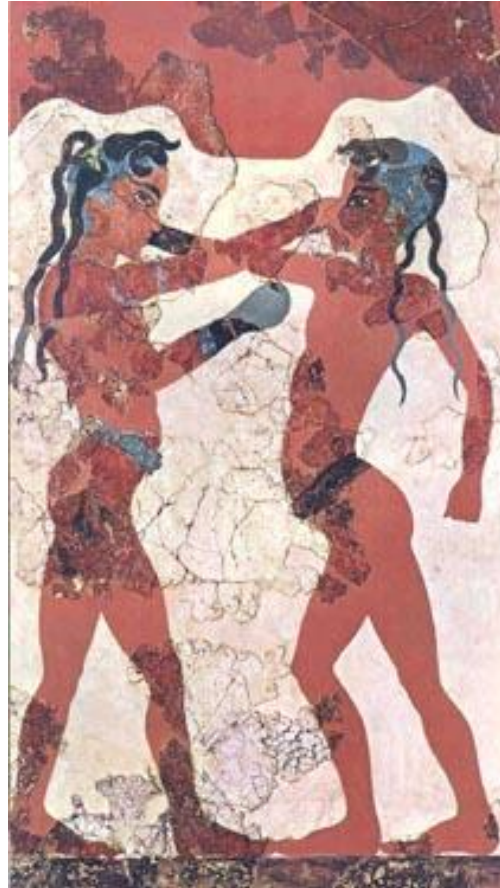
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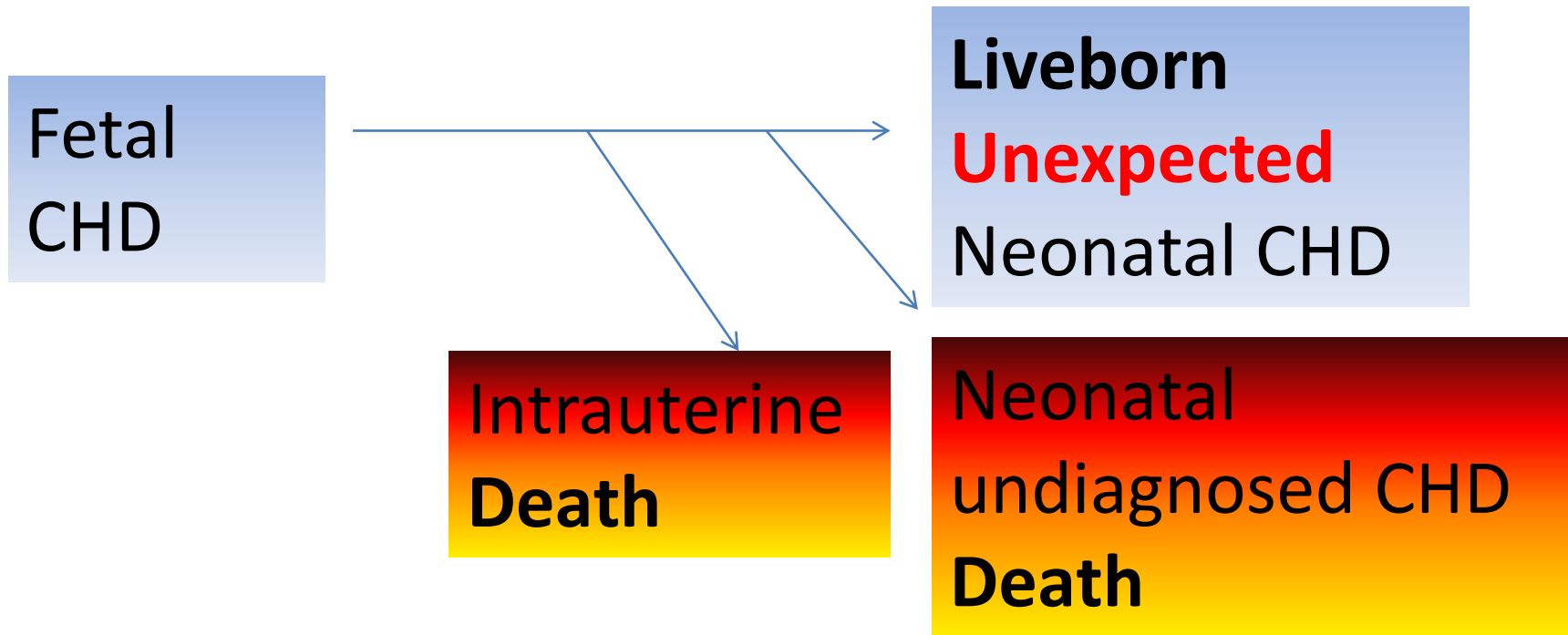


# There is no conflict of interest



# Neonates with CHD: fetal CHD survivors

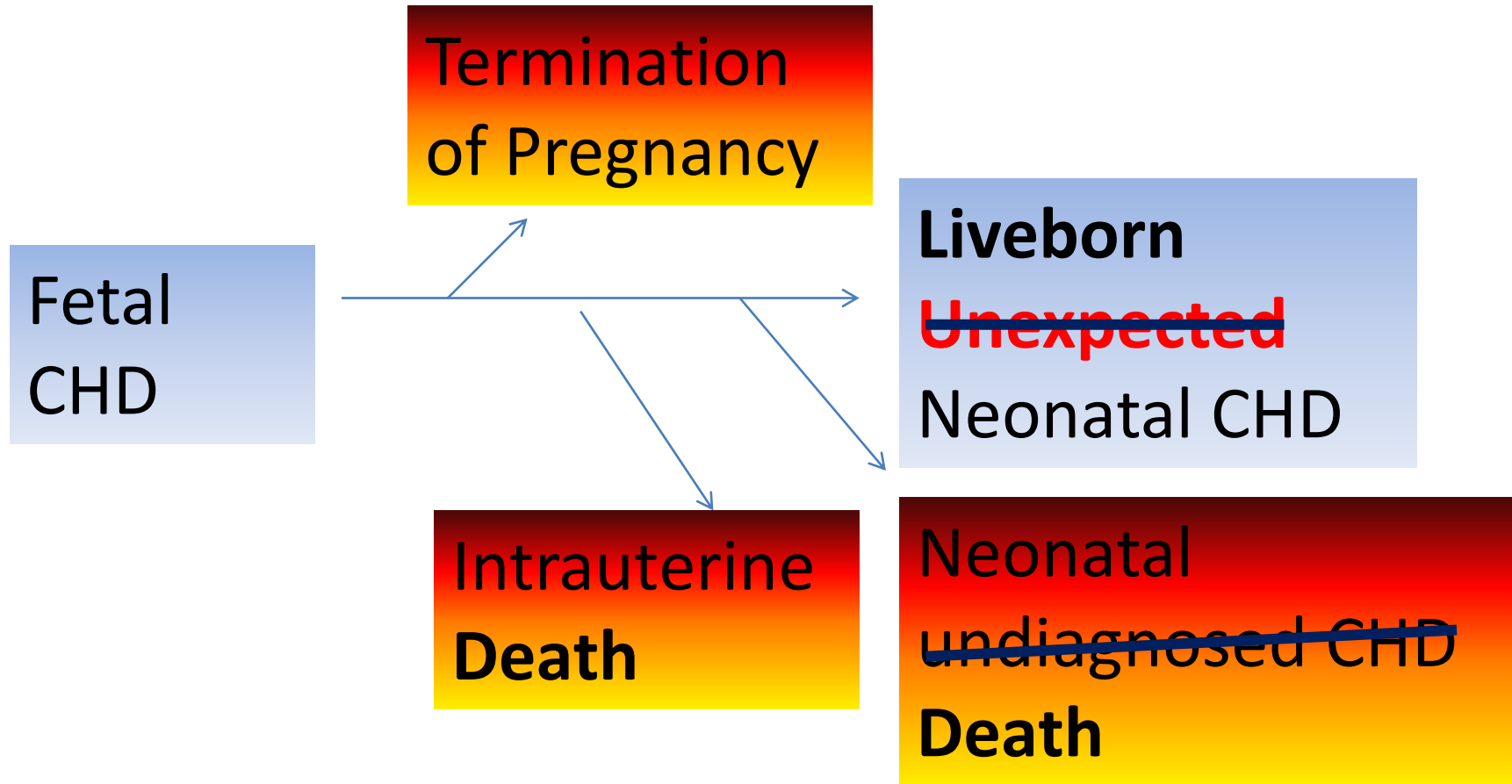
- Natural course **without** fetal diagnosis



# Neonates with CHD:

## fetal CHD **and fetal diagnosis** survivors

- Natural course **following** fetal diagnosis



# Epidemiology of liveborn CHD



# The Impact of Fetal Echocardiography on the Prevalence of Liveborn Congenital Heart Disease

Ioannis Germanakis · Stavros Sifakis

*Pediatr Cardiol* (2006) 27:465–472

- **p. TOP: p1 X p2 X p3**
- **p. Evaluation\* p. Detection \* p. Decision**

# The Impact of Fetal Echocardiography on the Prevalence of Liveborn Congenital Heart Disease

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- **p. TOP=**
- **p. Evaluation\* p. Detection \* p. Decision**

- **p. Liveborn CHD= 1 - p.TOP - p.IUD**

# The Impact of Fetal Echocardiography on the Prevalence of Liveborn Congenital Heart Disease

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- **p. TOP = p. Evaluation \* p. Detection \* p. Decision**
- **p. Liveborn CHD = 1 - p.TOP - p.IUD**
- **If sensitivity 35% and TOP 43% ..15% overall reduction of the prevalence of the most severe forms of congenital heart disease**
- **If an earlier diagnosis could be achieved .. associated with an average 1.4-fold increased probability of termination, the overall reduction of the prevalence of congenital heart disease could approach 21%**



# Aim

- To document the probability of TOP
- following fetal CHD diagnosis
- in a Mediterranean Island population
- Important information
- For Psychosocial Research Studies
- For Health Service planning



# Study Population

- Greek islands:
- **227 / 6000 inhabited**
- 78 > 100 people
  
- **CRETE**
- **621,000 people**
- 1 birth / 100 / yr
- **6,000 births / yr**
- **Expected 12 critical neonatal CHD /yr**
- **Air transfer cost 10-20,000E**



# Methods

- **Retrospective study** of medical reports and fetal echocardiogram findings performed
- over **6 years** (1997-2013)
- single academic referral center for fetal cardiology
- fCHD = any abnormality in fetal echocardiogram
- Critical fCHD : ductal dependent postnatal circulation.
- Caryotype findings and pregnancy outcome regarding TOP were obtained from families or treating physicians.
- **Odds Ratios (O.R) and 95%C.I. for TOP** following diagnosis of
  - any fCHD,
  - critical fCHD,
  - caryotype abnormalities

# Results

## Population

- 1808 out of 1847 fetuses (1804 pregnancies), with complete medical information, evaluated <24th GW, were included.

## Incidence CHD

- fCHD 27%** (n=499),
- critical fCHD 1.9%** (n=34).

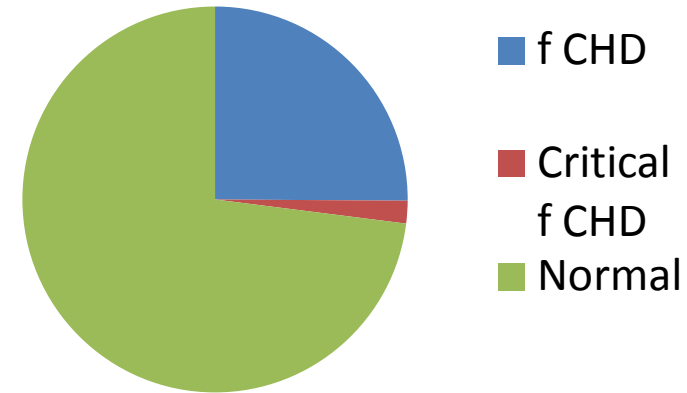
## Caryotype

- 10% of cases (n=185),
- 13% abnormal** (n=25)

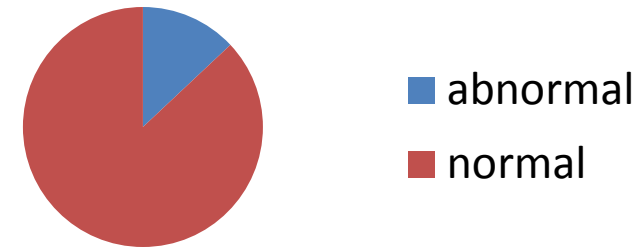
## TOP

- TOP overall **1.8%** (n=32),

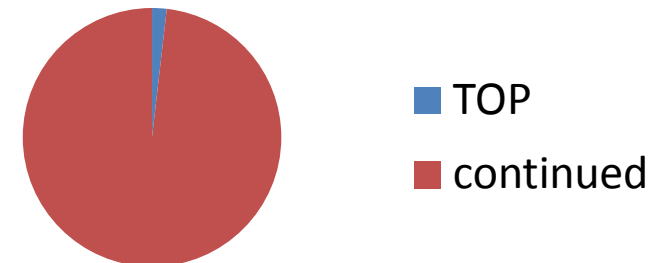
## Diagnoses



## Caryotype



## Outcome



# Results

- Terminations in fetal CHD**

- fCHD(+): 29/493 5.7%**

- fCHD(-): 3/1312 0.2%**

**O.R: 26.2 (7.9-86.8),**

**TOP following fCHD diagnosis.**

*p*<0.001

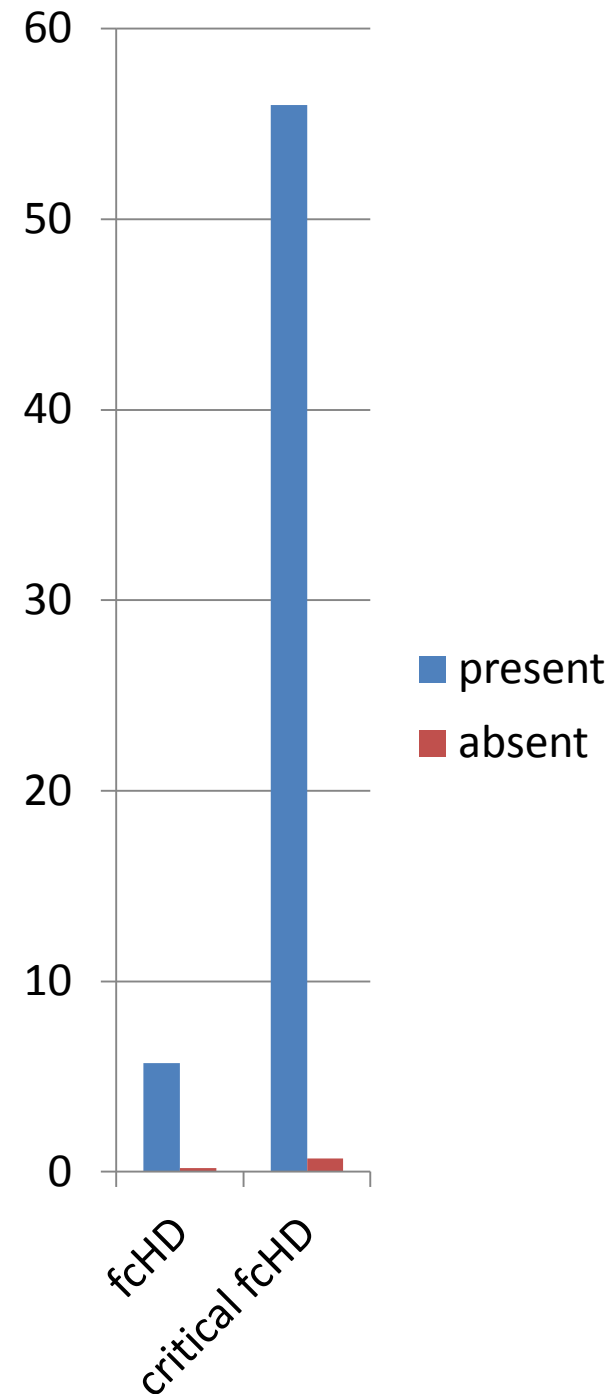
- Critical fCHD: 19/34 56%**

- No or no critical: 13/1771 0.7%**

**O.R: 185 (76-449)**

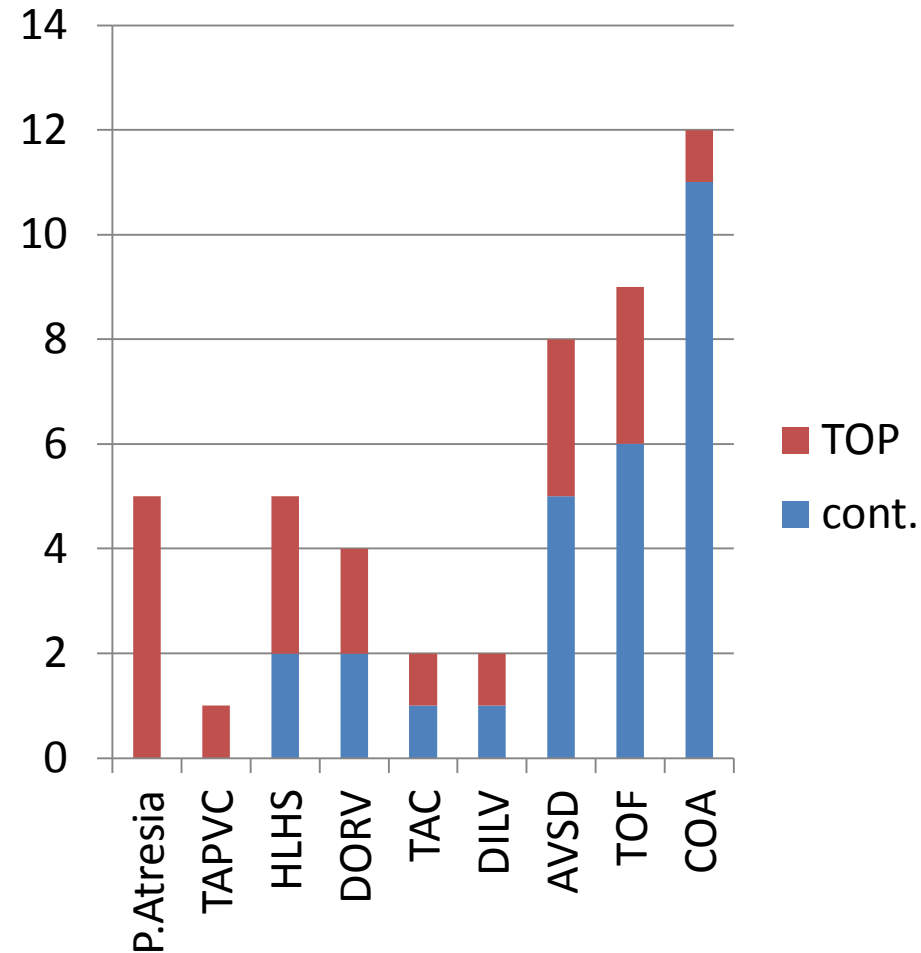
**TOP following critical fCHD diagnosis .**

*p*<0.001



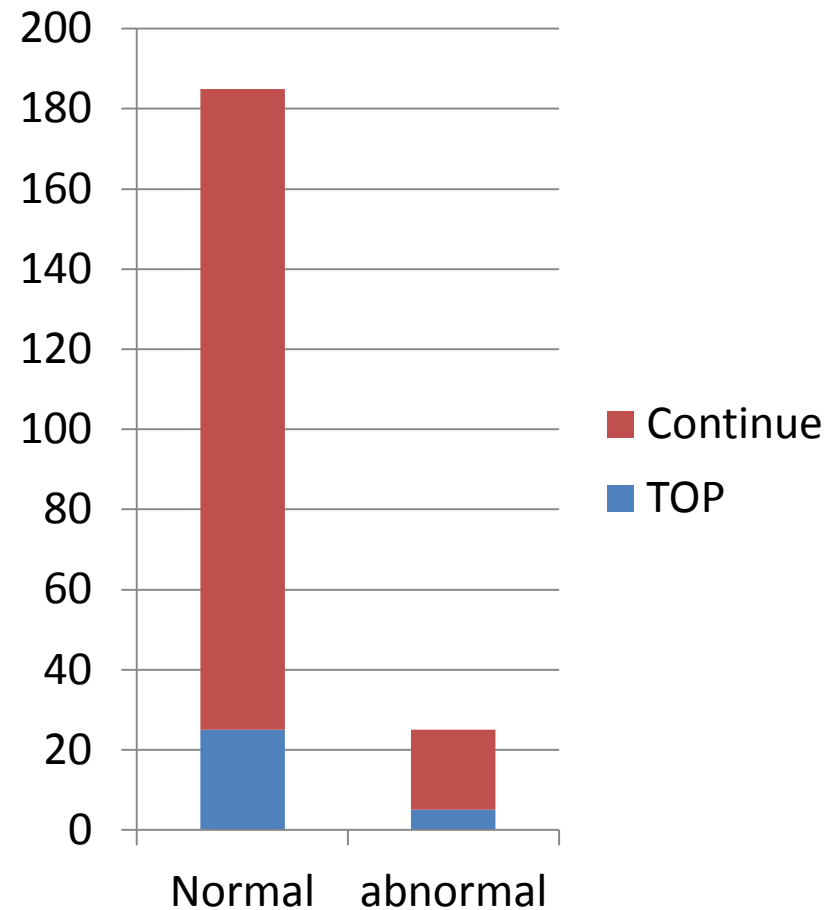
# Results

- **CHD specific TOP rates**
- VSD (2/239)
- AVSD (3/8)
- HLHS (3/5)
- P.Atresia (5/5)
- Tr.Atresia (1/2)
- DORV (2/4)
- TOF (3/9)
- Truncus Art .(1/2)
- TAPVC (1/1)
- CoA (1/12)
- DILV (1/2)



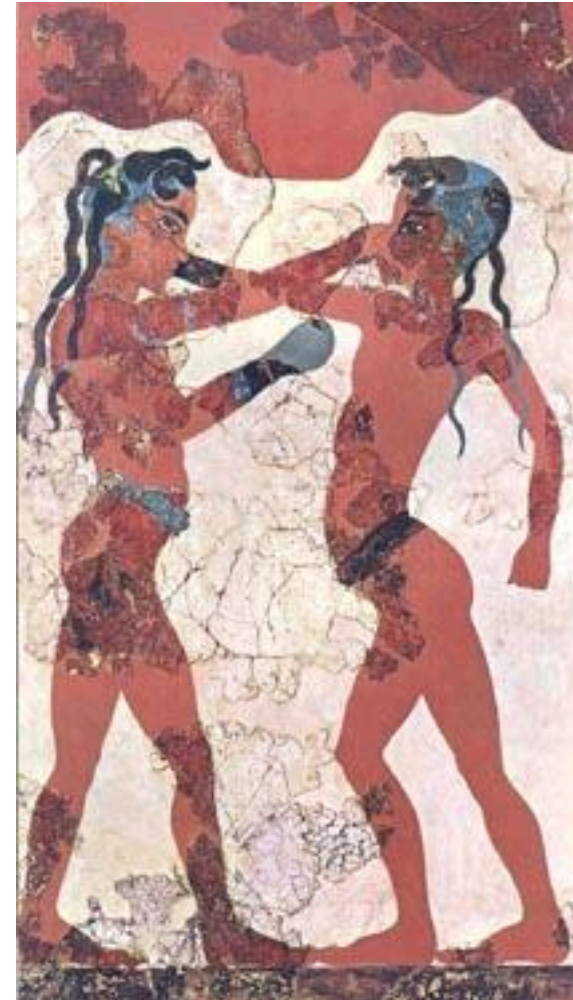
# Caryotype and TOP

- The presence of caryotype abnormalities
- borderline increased TOP probability
- O.R: 3 (0.9-9.6)
- Caryotype abnormalities in fCHD and critical fCHD groups did not differ significantly between subgroups deciding for TOP compared to those with pregnancy continuation.



# Limitations

- **CONTRA**
- Retrospective study
- Real incidence of TOP following fCHD might be higher (incomplete FUP)
- Possible higher TOP in fetal CHD with caryotype abnormalities (early TOP prior to anomaly scan)
- Failure to detect all cases of fetal CHD
- **PRO**
- Isolated geographically population
- Single fetal cardiology referral center
- Almost complete postnatal FUP of fCHD
- Free and direct access to public sector fetal cardiology service





# Conclusions

- A **high rate of TOP** following **fetal CHD** diagnosis was documented
- For **fCHD**                      **6%**
- For **Critical CHD**    **56%**
  
- **fCHD type and severity** influenced TOP probability
  
- **further study is needed**
- document factors that influence family decisions
- Address factors related to incorrect information
- Cross-cultural studies would be helpful
- support services should be established.

# Thank you for your attention!

## GRAZIE!

