



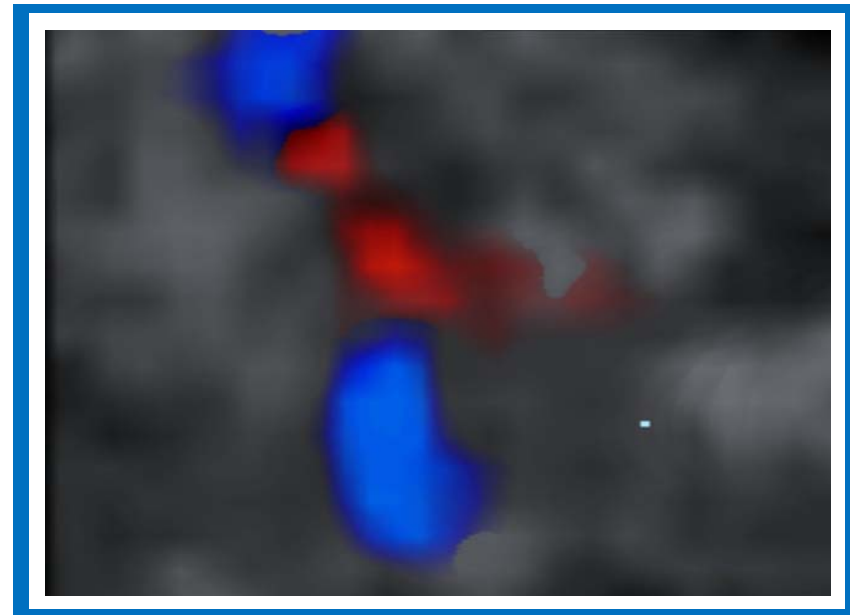
The role of first trimester ultrasound in the early diagnosis of congenital heart defects in an unselected Lebanese population



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Background

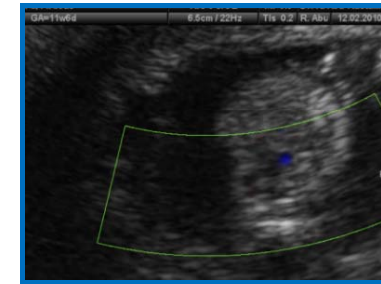
Congenital Heart Disease

- Most common major abnormality
- Incidence 8/1000 lb
- 50% major, 30% associated defects
- Contributes to >50% congenital anomaly-related deaths



Risk Factors

- Maternal or fetal risk factors: 10% detection
- >90% are without any risk factors Allan LD 1995



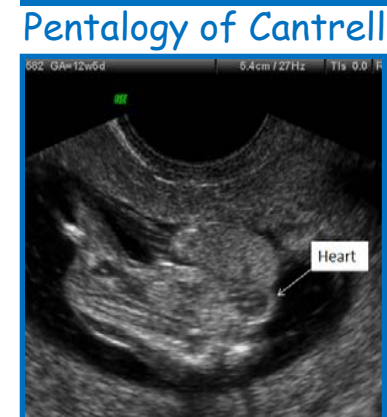
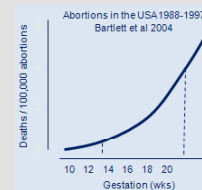
NT and CHD

<u>NT mm</u>	<u>RISK OF CHD</u>
2.5-3.4	X2
3.5-4.4	x4
4.5-6.4	x6.5
5.5-6.5	x14
> 6.5	x26

Hyett et al 1996,1997 and Allan LD 2009

Benefits of Early Detection

- Workup
- Options
- TOP Limitations
- Safety
- Psychological
- Obstetrical care
- Explain IUFD
- Natural Progression





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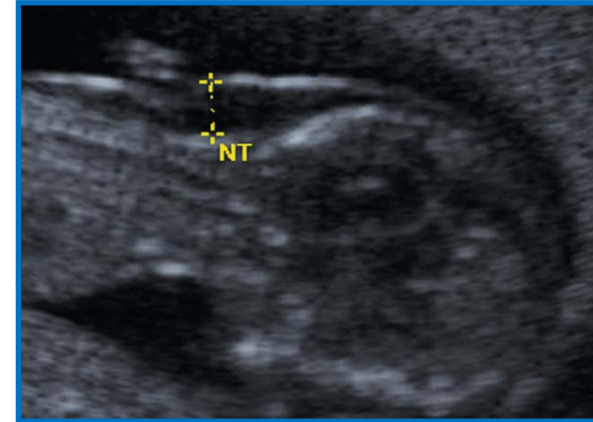


Objective

To determine the ability of the 11-13 weeks scan using NT and 4CV in the early diagnosis of CHD in an unselected population

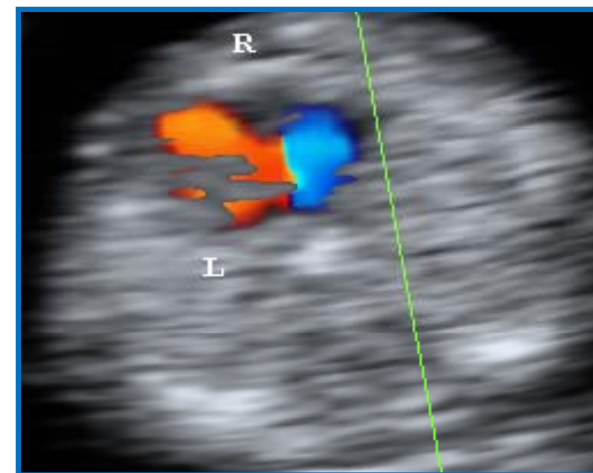
Materials and Methods

- 1370 patients 11-13 weeks
- Pediatric cardiology consulted
- Rescan: 20-23, 32-35 weeks
- Excluded: isolated EIF (10), VSD (6) not requiring surgery
- Postnatal follow-up at birth
- Echocardiography as indicated



NT

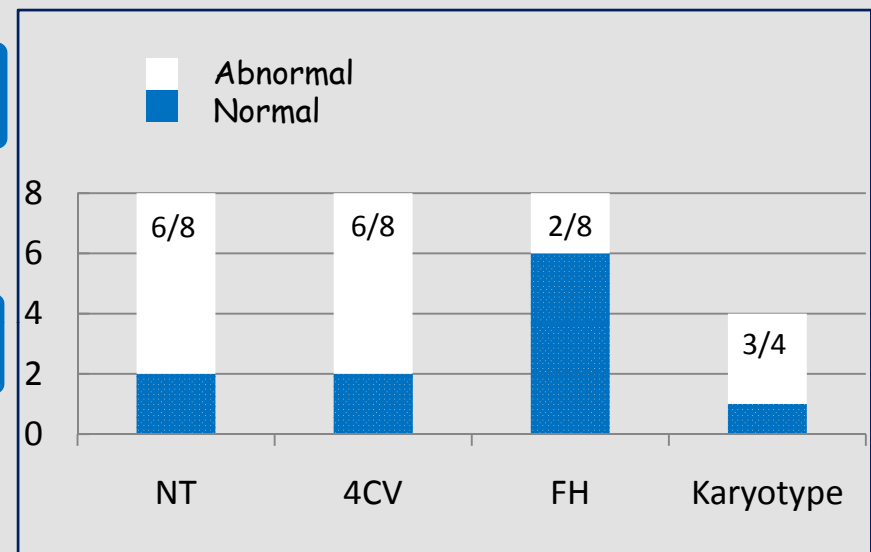
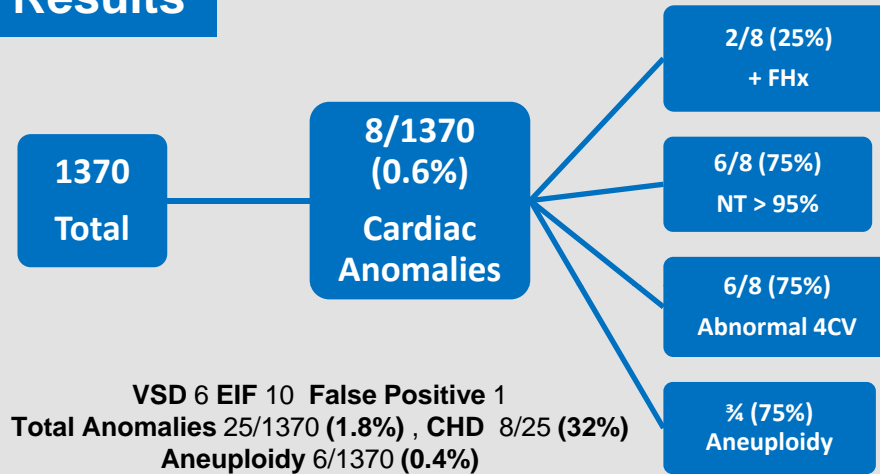
4CV



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Results



Abu-Rustums, Daou. JUM 2010; 29:817-821

Case	Age	FH	GA	NT	4CV	Findings	Workup	Karyotype	Outcome
1	37	-	12w2d	2.3	Abn	Univentricle	Cardio 15w4d	Refused	TOP
2	22	-	13w3d	8.0	Abn	HLH, VSD	Cardio 18w0d	45 XO	IUFD
3	19	-	12w6d	5.5	Abn	HRH, VSD	Cardio 15w0d	46 XY	TOP
4	33	+	12w2d	4.2	NI	VSD 21w1d	Amnio	Trisomy 21	Operated
5	43	-	13w2d	3.4	Abn	VSD 14w2d	Amnio	Trisomy 21	TOP
6	25	-	13w0d	2.2	Abn	HRH	Cardio 16w0d	Refused	TOP
7	34	+	13w1d	4.2	Abn	HLH, VSD	Cardio 16w2d	Resused	TOP
8	41	-	13w6d	3.3	NI	AV Canal 15w3d	Cardio 16wod	Refused	TOP





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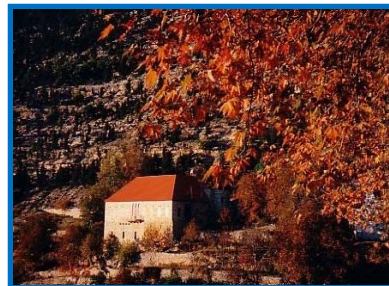


Limitations

- **Sample size**
- **Type of anomaly**

Conclusions

- 1-The 11-13 weeks scan can detect 75% of CHD**
- 2-Combining the NT and the 4CV at 11-13 weeks can select a new high risk group for targeted cardiac scan in early pregnancy**



Thank you from Lebanon...