Background  Free fetal DNA (fHiDNA) testing for aneuploidy has recently started being offered to all women in our institution who are high risk for trisomy 21 (aged 35 or over at estimated date of delivery). We therefore examined the uptake rate of fHiDNA for aneuploidy screening in women of advanced maternal age who had been seen by a genetic counsellor.

As this test has much higher sensitivity than other screening tests, we hypothesised that more women will have fHiDNA than other forms of screening.

Methods  We included 258 women who had singleton pregnancies and who were of advanced maternal age. We undertook a retrospective analysis of electronic chart data. Chi squared statistical analysis was performed on the data to determine statistical significance between groups based on age, nuchal thickness and parity.

Results  118 (46%) women had fHiDNA for screening for aneuploidy, the remaining 140 (54%) chose either other screening options or no screening. Statistically there was no difference in choice between groups of women dependent on their calculated risk based on their age (p = 0.15). The size of the nuchal lucency measurement (within normal range) had no statistical effect on the choice (p = 0.16). Women who were primiparous were no more likely to have fHiDNA than multiparous women (p = 0.4).

Conclusions  Although fHiDNA is a more accurate way of screening for aneuploidy, the majority of women are still using other forms of screening. We found that the uptake of fHiDNA testing was not statistically significantly affected by age, nuchal thickness or parity.

**PF.39 CLINICAL RELEVANCE OF FETAL WEIGHT ESTIMATION IN SOUTHWEST UGANDA**

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Background  There is an increasing incidence of low birth weight babies (<2500 g) in Uganda. This can cause significant perinatal morbidity and mortality and is related to intrauterine growth restriction (IUGR). Estimated fetal weight (EFW) can be established clinically or sonographically and influences obstetric management. The accuracy of clinical and sonographic formulae needs to be established in Uganda due to resource limitations and increasing burden of IUGR.

Methods  We prospectively studied term, cephalic, singleton pregnancies in Mbarara Regional Referral Hospital, Uganda. Clinical EFW was calculated using Dare’s and Johnson’s formulae, sonographic EFW used Hadlock C formula. Effects of the following variables were also examined: maternal age, body mass index, parity, gestational age, fetal sex and birth weight.

Results  Ninety women were enrolled. Birth weight was correctly estimated (±10%) in 25.6%, 47.8% and 64.4% of the cases using Johnson’s, Dare’s and Hadlock’s formulae respectively. Accuracy levels differed between the three formulae (p < 0.001). Johnson’s is significantly less accurate than other formulae, whilst Hadlock’s is significantly more accurate. Nine percent of deliveries had birth weight <2500 g, 88% had birth weight of 2500–4000 g, while 3% weighed >4000 g. The sensitivity of predicting birth weight of less than 2500 g was only 50% for ultrasound and 13% for clinical EFW, with 95% and 100% specificity respectively.

Conclusion  Sonographic EFW is more accurate than clinical formulae. It best at predicting low birth weight fetuses, however, sensitivity remains low and better methods for identification need to be developed.
Materials and Methods

Pregnancy losses.

Cies with low-PAPP-A but normal outcome, median PAPP-A MoM in pregnancies with adverse outcome was significantly lower than higher compared to some previous studies. Maternal serum PAPP-A

Conclusion

We suggest that NFM has a negative association with Trisomy 21 with high NPV and may be helpful in counselling. Furthermore UAC seems to be only associated with Trisomy 21 and no other chromosomal abnormality in this population. We suggest further prospective study of this phenomenon. Abnormalities of cell adhesion molecules (encoded on C21) are well described in Down’s (DSCAM – Down’s Cell Adhesion Molecule) and this suggests a possible aetiology.

Abstract PF.42 Table

<table>
<thead>
<tr>
<th>Down’s present</th>
<th>Down’s absent</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>UAC</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td>NFM</td>
<td>23</td>
<td>381</td>
</tr>
<tr>
<td></td>
<td>33</td>
<td>392</td>
</tr>
</tbody>
</table>

Sensitivity of UAC = 10/33 = 30.3%
Specificity of UAC = 381/392 = 97.2%
PPV = 10/21 = 47.6%
NPV = 381/404 = 94.3%

Conclusion

We suggest that NFM has a negative association with Trisomy 21 with high NPV and may be helpful in counselling. Furthermore UAC seems to be only associated with Trisomy 21 and no other chromosomal abnormality in this population. We suggest further prospective study of this phenomenon. Abnormalities of cell adhesion molecules (encoded on C21) are well described in Down’s (DSCAM – Down’s Cell Adhesion Molecule) and this suggests a possible aetiology.

Abstract PF.43 Table

<table>
<thead>
<tr>
<th>Cases</th>
<th>N</th>
<th>PAPP-A MoM (Median)</th>
<th>p</th>
<th>PPV %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal outcome</td>
<td>146</td>
<td>0.255</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Adverse outcome</td>
<td>95</td>
<td>0.225</td>
<td>0.004*</td>
<td>39.4</td>
</tr>
<tr>
<td>PET</td>
<td>25</td>
<td>0.234</td>
<td>0.184</td>
<td>10.8</td>
</tr>
<tr>
<td>PIH</td>
<td>10</td>
<td>0.243</td>
<td>0.769</td>
<td>4.1</td>
</tr>
<tr>
<td>SGA</td>
<td>44</td>
<td>0.220</td>
<td>0.004*</td>
<td>21.4</td>
</tr>
<tr>
<td>Late pregnancy losses</td>
<td>15</td>
<td>0.191</td>
<td>0.024*</td>
<td>6.6</td>
</tr>
</tbody>
</table>

* Adjusted significance level P < 0.0125 - post hoc Bonferroni correction

Conclusion

In our screening population, median PAPP-A MoM was higher compared to some previous studies. Maternal serum PAPP-A in pregnancies with adverse outcome was significantly lower than those that resulted in a normal outcome. Compared to the pregnancies with low-PAPP-A but normal outcome, median PAPP-A MoM was significantly lower in pregnancies ending in delivery of small-for-gestational age neonate (customised BW < 10th-centile), and showed a trend towards a decrease in those ending in late-pregnancy losses (>24 weeks).

Abstract PF.44 WITHDRAWN BY AUTHOR

Abstract PF.45 COMPARISON OF ANTENATAL DETECTION RATES OF FETAL ANOMALIES BETWEEN EIGHT TRUSTS IN THE EAST MIDLANDS AND SOUTH YORKSHIRE. ARE THE FETAL ANOMALY SCREENING PROGRAMME TARGETS ACHIEVABLE?

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Background

In 2010, the UK Fetal Anomaly Screening Programme (FASP) introduced targets varying between 50% and 98% for the antenatal detection of eleven congenital anomalies*. Auditing these standards is complex, requiring an understanding of trust size, case mix, the rarity of anomalies, screening uptake and the local obstetric population.

Aim

To compare antenatal detection rates achieved by eight trusts within the region covered by the East Midlands and South Yorkshire Congenital Anomaly Register (EMSYCAR) between 2010 and 2011.

Methods

Data were obtained for 651 cases, identified by relevant ICD-10 codes, delivered between 1/1/10 and 31/12/11. Bilateral renal agenesis and ’lethal skeletal dysplasias’ were excluded, as the number of reported cases was not large enough. The EURO- CAT® definition of thirteen ‘serious’ cardiac conditions was adopted. For those cases detected antenatally, gestational age at diagnosis was recorded, and the booking hospital anonymised. Eight trusts of varying size were analysed.

Results

Although the vast majority of FASP cases were identified before delivery, only the anencephaly target was met by all eight, while Spina Bifida and Trisomy 18 targets were missed by five. One trust reached only four of nine targets, missing three of the others by a single case. However, none of the FASP targets was achieved by 20 + 6 weeks.

Conclusions

Most trusts met expected antenatal detection rates specified by FASP, but not by<20 + 6 weeks. Considerable variability exists both between trusts and anomalies. Data produced here should enable the precise training needs of each trust to be identified more accurately.

Abstract PF.46 CHILDHOOD HOSPITAL ADMISSIONS OF CHILDREN CONCEIVED FOLLOWING ASSISTED REPRODUCTIVE TECHNOLOGY

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The purpose of this project was to compare paediatric hospital admission rates of children conceived via assisted reproductive technology with that of the population as a whole.

Consent-based ART register and admission records were linked and comparisons made between admission rates in the general population and the ART cohort by calculation of standardised admission ratios (SAR’s). The project was performed in accordance with HFEA regulations and had ethical approval.

Children conceived via ART had a significantly lower rate of hospital admissions (all admissions and first hospital admissions) than