CUB – RISK ASSESSMENT FOR CHROMOSOME ABNORMALITIES

CUB is short for Combined Ultrasound and Biochemical Screening. CUB is a risk assessment for certain chromosome abnormalities, the most common being Down's syndrome. As with other types of antenatal screening, this risk assessment is voluntary and is offered at the same time as the first ultrasound.

Background
Around 1 in 800 children in Sweden are born with Down's syndrome, which is 0.12 % of all babies born. The risk of a baby being born with Down's syndrome increases with the age of the mother, and the same applies to trisomies 13 and 18, which are rare and extremely serious genetic abnormalities.
Since the risk of chromosome abnormalities increases with maternal age, we have in the past offered an amniocentesis test to women over the age of 35. Using age as the sole criterion for amniocentesis tests enables us to detect around 30% of all foetuses with Down's syndrome. However, the amniocentesis test involves a 0.5-1% risk of miscarriage. CUB means that we can reduce the number of amniocentesis tests carried out and thus also any miscarriages caused by the test. CUB increases the chance of detecting foetuses with Down's syndrome to 90%.

When and how are the tests carried out?
A blood sample is taken from the pregnant woman around week 10 to analyse two hormones; PAPP-A and free β-hCG. At least one week later, an ultrasound examination is done to measure the amount of fluid behind the neck of the foetus; a nuchal translucency scan, or NUPP. The ultrasound examination is carried out during week 11-13+6.

Risk calculation
The risk of chromosome abnormalities is calculated using a computer programme, which takes several factors into account, including the results of the nuchal translucency scan and blood test, and the mother's age. After the examination you will be told whether the baby has a low or high risk of having Down's syndrome (trisomy 21). If the likelihood is low, you will **not be offered** an amniocentesis test, regardless of your age. If there is a higher risk of Down's syndrome, you will be offered an amniocentesis test.

What happens if the nuchal translucency scan is abnormal but the chromosomes are normal?
An abnormal nuchal translucency scan may mean that there is an increased risk of other abnormalities (deformities) in the foetus, and the woman will be offered a more detailed ultrasound scan, which is done after week 18.

You can read more about CUB at:

www.fetalmedicine.com
www.gensvar.se
www.svenskadownforeningen.se
www.vardalinstitutet.net
www.sbu.se