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Prenatal diagnosis means diagnoses before birth. It's a way for your doctor to see if your child has a developing problem. The two main methods are amniocentesis and coreonico villus sampling (CVS). These tests help find genetic disorders before birth. Some parents have increased the risk of having a baby with a genetic disorder or other problem. They might want to consider one of these tests. Knowing the problems before the baby is born may help parents. They may be able to make better health decisions for their child. Some problems can be treated before the baby is born. Other problems may need special treatment immediately after delivery. In some cases, parents can also decide not to continue the pregnancy. Parents are not required to have amniocentesis and chorionic villus sampling. Discuss your options with your doctor. Path to improve the amniocentesis or CVS Health is done when there is an increased risk that the child may have genetic disorders or birth defects. It is often done if: you are 35 years of age or older as the baby is due. You have an increased risk of having a baby with a chromosome abnormality. This could include Down syndrome. You had a screening test which showed that there might be a problem. You had a baby with Down syndrome, spina bifida, or other disorder. You or your partner are a known carrier of a genetic disorder, such as cystic fibrosis. Before a procedure, you can have counseling with a genetic expert. This allows you to know the conditions that the test can find. You'll have a better idea of what they mean for you and your baby. As amniocentesis performed? In this procedure, a sample of amniotic fluid (fluid around the baby) is removed from your uterus. A doctor inserts a long, thin needle through the abdomen into your uterus. He or she withdraws a small amount of liquid. The fluid is sent to a laboratory for evaluation. In the laboratory, the fluid can be tested for: genetic abnormalities signs of developing lung infection Your body will make more fluid to replace fluid that is extracted. The child will not be injured during the procedure. Some women feel mild cramping during or after the procedure. The doctor may tell you to rest on the test day. Usually you can resume normal activities the next day. How is CVS performed? CVS removes a small tissue sample from the uterus placenta. The sample is sent to the laboratory for testing. The sample can be taken 2 ways: a catheter (thin tube) through the vagina. The catheter is inserted into the vagina. It passed through the cervix and uterus. The doctor uses an ultrasound images to guide the catheter to the better for sampling. a needle through the abdomen. the sample can also be obtained by inserting a needle into the abdomen. the needle then withdraws the placenta fabric. Once again, the ultrasound is oata to drive the needle. Local anesthesia is used for this test to reduce pain and discomfort. Most women feel well afterTrial. Some may have mild bleeding (spotting) afterward. When you are performing the test? Amniocentesis is usually performed during the 15th week of pregnancy or later. The CVS is usually performed between 10 am and 13 weeks of pregnancy. A test is better than the other? The main advantage of CVS is that it can be done earlier in pregnancy. It is very accurate in detecting genetic abnormalities. But it does not detect a few things that amniocentesis does. These include amniocentesis might be the best option if: Previously had a baby with a neural tube defect. You or your partner have a neural tube defect. The results of other tests during pregnancy have been abnormal. This could include a blood screening test done in early pregnancy. CVS might be best if you and your doctor want to know the test results during your first trimester. Things to consider amniocentesis and CVS carry some small risk. These include miscarriage. Infection or injury to the child. Leaking of amniotic fluid. Vaginal haemorrhage. The CVS risks are slightly higher than those of amniocentesis. Your doctor will talk about the risks and benefits of amniocentesis and CVS. Questions for your doctor are at greater risk of having a baby with birth defects or genetic abnormalities? I need an amniocentesis or CVS? What it would be best for me? What is the risk of miscarriage for each procedure? What are the complications? The procedure will do evil? Bleeding and 'normal after the procedure? March of Dime: amniocentesis March of Dime: Chorionic Villus Sampling National Institutes of Health, MedlinePlus: Prenatal Testing Copyright © American Academy of Family Physicians This information provides a general overview and may not apply to everyone. Talk to your family doctor to find out if this information apply to you and to get more information about this topic. In amniocentesis, doctors take a sample of the amniotic fluid surrounding a child to control signs of problems such as chromosomal disorders, genetic problems and neural tube defects. © Why is amniocentesis done? Examine a sample of amniotic fluid allows physicians to test things in the liquid, such as cappate cells from the fetus that contain genetic information. Amniocentesis the second quarter is more often used to identify: Down syndrome and other chromosomal abnormalities such as spina bifida structural defects inherited metabolic disorders such as PKU (phenylketonuria) Doctors could use this test later in pregnancy (the third quarter) to verify the infection and Rh incompatibility. This test can also reveal whether a baby's lungs are strong enough to allow the child to breathe normally after birth. This can help doctors make decisions about inducing labor or to prevent work, depending on the situation. For example, if a mother's water breaks early, the health care provider may try to delay delivery of the child to allow the lungs to mature. Should I have Amniocentesis? Your healthThe supplier can recommend this test if: has had an abnormal screening test for genetic or chromosomal disorders or neural tube defects are more old than ages 35 have a family history of genetic disorders (or a partner that does it) have had a child Previous with a birth defect or had a previous pregnancy with a chromosomal or defect of the amniocentesis neural tube can be very accurate â € "close to 100% â €" but only some disturbances can be detected. The abortion rate with this test is between 1 in 300 and 1 in 500. also brings a low risk of uterine infection, which can also cause spontaneous abortion, loss of amniotic liquid, and fetus injuries. Talk to your doctor to find out why this test is recommended for you, and to weigh the pros and cons of having it. What happens during amniocentesi? While watching with an ultrasound, the doctor inserts a needle through the abdominal wall into the uterus to remove some (about 1 oz) of the amniotic fluid. Some women report cramps when the needle enters the uterus or pressure while the doctor takes the sample. The doctor can check the fetus heartbeat after the procedure to make sure it is normal. Most doctors recommend resting for several hours after the test. Fluid sample cells are cultivated in a special culture and then analyzed (the specific tests carried out on the fluid depend on personal and family medical history). When was Amniocentesis done? Amniocentesis is usually done between 15 and 20 weeks, but can be done later in pregnancy if necessary. When are the results available? The timing varies according to what is tested, but the results are usually available within 1 to 2 weeks. Pulmonary maturity tests are often available in a few hours. People who use assistive technology may not be able to fully access information in this file. For assistance, please send e-mail to: mmwrq@cdc.gov. Type 508 Accommodation and the title of the report in the thematic line of e-mail. The following members of CDC staff prepared this report: Richard S. Olney, M.D., M.P.H. Cynthia A. Moore, M.D. Muin J. Khoury, M.D., Ph.j. David Erickson, D.D.S., Ph.D. Larry D. Edmonds, M.S.P.H. Lorenzo D. Botto, Division M.D. of birth defects and development disabilities National Center for Environmental Health Hani K. Atrash, M.D., M.P.H. Division of reproductive health National Center for the prevention and promotion of the health of chronic diseases summary summary of the Villus Corionica (CVS) and amniocentesis are prenatal diagnostic procedures that are performed to detect fetal anomalies. In 1991 concerns were concerned about the relative safety of these procedures after reports have been published that described a possible association between CVS and birth defects in newborns. The later argue that CVS may cause transversal deficiencies of the limbs. Following CVS, the rates of these defects, estimated to be 0.03%-0.10% (1/3,000-1/1,000), were generally increased on the background rates. Taxes and severity of limb deficiencies arewith CV times; Most of the birth defects reported after the procedures that were performed at greater or equal to a 70-day gestation were limited to fingers or toes. The risk for digital deficiency or limb after the CVS is only one of the different important factors that must be considered in the production of complex and personal decisions on prenatal tests. For example, CVS is generally executed before pregnancy than amniocentesis and is particularly advantageous to detect certain genetic conditions. Another important factor is the risk of spontaneous abortion, which was attributed to 0.5% -1.0% of CVS procedures and 0.25% -0.50% of amnioocentesis procedures. Future parents considering the use of CV or Amniocentesi should be recommended on the benefits and risks of these procedures. The consultant should also discuss both the risk (i) risk (i) that the father's to transmit genetic fetus abnormalities. Introduction The sampling of Chorionale Villus (CVS) and amniocentesis are prenatal diagnostic procedures used to detect certain fetal genetic abnormalities. Both procedures increase the risk of spontaneous abortion (1). Furthermore, concern has increased among health care providers and public health officials on the potential occurrence of birth defects deriving from CVS (2). This report describes CVS and amniocentesis, provides information on the indications for their use, revision of the safety of the procedures, compares the advantages and risks of the two procedures (focusing in particular on the risk of limb deficiency after the CVS) and provides recommendations for advice On these problems. A public meeting was summoned on 11 March 1994, to discuss the results of the shortcomings of the arts associated with CVS and the preliminary counseling recommendations that had been drawn up to CDC (3). Participants included geneticists, obstetricians, pediatricians, epidemiologists, telatologists, disomorphologists and genetic consultants who had a particular interest in CVS studies or who represented professional organizations and government agencies. The participants provided several opinions on advice recommendations both at the meeting and in the subsequent written correspondence; The participants input was incorporated into this document. The use of CVS and Amniocenesis CVS use a catheter or a needle to the positional cells of the biopsy that derive from the same feceded egg of the fetus. During the amniocentesis, a small fluid sample surrounding the fetus is removed. This fluid contains cells that are slopbers mainly from fetal skin, bladder, gastrointestinal tract and amnion. Generally, CVS is performed at a gestation of 10-12 weeks and the amniocentesis is performed at one of 15-18 weeks. In the United States, the current care standards in obstetric practice is to offer cvs or amniocentesis to women who will be greater or equal to 35 when they start, because these women have increased increased to give birth to infants with down syndrome and some other types of aneuploidy. karyotyping of cells obtained from amniocentesis or cvs is the standard and definitive means for the diagnosis of aneuploidy in fetuses. the risk that a woman gives birth to a child with down syndrome increases with age. For example, for women 35 years of age, the risk is 1 for 385 births (0.3%), while for women 45 years of age, the risk is 1 for 30 births (3)% (1.) the background risk for serious birth defects (with or without chromosomal abnormalities) for women of all ages is about 3.% before the widespread oo of amniocentesis, they have been assessed several studies checked. the main result of these studies was that amniocentesis increases the rate of miscarriage (i.e., spontaneous abortions) of about 0.5%. After these studies, amniocentesis became a standard of treatment accepted in the 1970s. In 1990, more than 200,000 amniocentesis procedures were carried out in the United States (4.) in the 1960s and 1970s, exploratory studies were conducted revealing that placenta (i.e., cohoric villi) could be biopsied through a catheter and that sufficient placentary cells could be obtained to allow some genetic analysis before pregnancy than through amniocentesis. In the United States, this procedure was initially evaluated in a controlled trial designed to determine the rate of abortion (5.) the difference in the rate of fetal-loss was estimated to be higher than 0.8% after cvs than amniocentesis, although this difference is not statistically significant. Since this study was designed to determine the rates of miscarriage, it had a limited statistical ability to detect small risk increases for individual birth defects. cvs had become widely used worldwide since the early 1980s. the world health organization (oms) sponsors an international register of cvs procedures; the data of the international register is probably less than half of all the procedures carried out worldwide (6.) More than 80.000 procedures have been reported to the international register from 1983 to 1992 (6;) about 200,000 procedures have been recorded from 1983 to 1995 (l. jackson, personal communication.) the cvs is performed in hospitals, clinics, selected obstetric offices and university settings; These structures are often collectively referred to as prenatal diagnostic centers. some researchers reported that the availability of cvs increased the general use of prenatal diagnostic procedures between women older or equal to 35 years of age, suggesting that access to first-quarter tests can do chromosome prenatal analysis appeal to a greater number of women (7.) another group of obstetricists did not see an increaseGeneral When CVS was introduced (8). The increase in CVS procedures has been offset by a decrease in amniocentesis, suggesting that the effect of availability CVS on the of prenatal diagnostic tests depends on local factors. In the United States, an estimated 40% of pregnant women higher than or equal to 35 years of age was subjected to amniocentesis or CVS in 1990 (9). Although the risk relative to the maternal age for fetal aneuploidia is the usual indication for CVS or amniocentesis, future mothers or fathers of any age may wish to fetal tests when they are at risk of moving to certain Mendelian conditions (single- gene). In a randomized process conducted in the United States, 19% of women who have suffered CVS were when the tests for chromosomal anomalies deriving from advanced maternal age, CVS can be more acceptable than amniocentesis to some women due to the psychological and doctors provided From CVS through the early diagnosis of anomalies. The fetal movement is usually heard and uterine growth is visible to the gestation of 17-19 weeks, the time in which the anomalies are detected by amniocentesis; So decide which action to take if an anomaly is detected at the moment can be more difficult to psychologically (12). Using CVS to diagnose chromosomal abnormalities during the first quarter allows a prospective parent to make this decision before Amniocentesis. Maternal morbility and mortality associated with induced abortion increased significantly with the increase in gestational eth; So, the diagnosis timing of chromosomal abnormalities is important. The results of studies on abortion complications conducted by CDC since 1970 to 1978 indicated that the risk of serious complications of abortion (for example, prolonged fever, hemorrhage that require blood transfusion and injury to pelvic organs) increases with the Advance gestational eth. For example, from 1971 to 1974, the greater complication rate was 0.8% to the gestation of 11-12 weeks, compared to 2.2% to the gestation of 17-20 weeks (13). However, the risk for the development of serious complications from abortion in any gestational ages has decreased during the 1970s. No more contemporary national morbilization data based on current abortion practices are not yet available. The CDC surveillance data also indicate an increase in the risk of maternal death with increasing gestation. From 1972 to 1987, the risk of death linked to abortion was 1.1 deaths per 100,000 abortions performed at 11-12 weeks of gestation compared to 6.9 deaths per 100,000 abortions for procedures carried out at 16-20 weeks of gestation (14). The lowest risk associated with the abortions of the first quarter can be an important factor for future parents who decide between CVS and amniocentesis. Amniocentesis is usually performed at 15-18 weeks of gestation, but more amniocente procedures are now running at 11-14 weeks of gestation. Amniocentesi "Earth" (defined as risk estimates for spontaneous abortion caused by CVS or Midtrimestre were adjusted to take into account the spontaneous fetal losses that occur early in pregnancy and are not linked to the procedure. Although a random random process that the rate of abortion related to amniocentesis can be as high as 1.% consultants usually cite the risks to miscarriage from other amniocentesis studies ranging from 0.25%-0.50 (1/400-1/200) (1,15). Abortion rates after CVS vary widely from the center where CVS was executed (16.) Adjustment for confoundation factors such as gestational age, the CVS correlated abortion rate is about 0.5%-1.0 (1/200-1/100) (1.) Although uterine infection (i.e. chorioamnionitis) is a possible reason for abortion after both CVS or amniocentesis, both infection is rarely occurring. In a study, no episode of septic shock was reported after 4,200 CVS procedures, although less severe infections may have been associated with 12 of the 89 observed fetal losses (5.) Overall infection rates have been cytogeneically ambiguous results due to factors such as contamination of maternal cells or mosaicism related to culture are reported more often after CVS than after amniocentesis (2.) In these cases, follow-up amniocentesis may be required to clarify the results, increasing both the total cost of testing and the risk of miscarriage. However, ambiguous CVS results may also indicate a condition (e.g., confined placental mosaic) that has been associated with negative results for the fetus (11.) Thus, in these situations, CVS can be more informative than amniocentesis alone. _ HERE MADRE CV Some congenital defects of the ends, known as lacks of the limbs or defects of reduction of the limbs, have been reported among the infants whose mothers have undergone CVS. 1) the expected frequency and classification of these birth defects, 2) the physical characteristics of infants reported in relation to the timing of the associated CVS procedures, and 3) the studies of cohort and case-control that were made to systematically examine if CVS increases the risk for the deficiencies of the limbs. Population-based rates and classification of limbriche deficiencies Population-based studies indicate that the risk for all limb deficiencies is 5-6 per 10,000 live births (17.) limbric deficiencies are usually classified in distinct anatomical and pathogenic categories. The most common subtypes are transverse terminal defects, which involve the absence of distal structures with proximal intact segments, with the axis of perpendicular deficiency at the end. About 50% of all limb deficiencies are transversal, and 50% of these defects are digital, which involve the absence of parts of one or more fingers or toes. Cross deficiencies occur as isolated defects or with other major defects. The rare combination of deficiencies of transversal limbs with the absence or hypoplasia of the tongue and lower jaw -- usually referred to as oromandibulaare-limb or- It occurs at a rate of about 1 for 200,000 births. Although the cause of many deficiencies of the arts isolated and more This includes transversal deficiencies is unknown, researchers have speculated that such deficiencies are caused by vascular interruptions during the formation of embryonic arts or in fetal arts already formed (17,18). The shortcomings of the limbs reported in infants exposed to the CVS reports of newborns born with limb deficiencies after CVs were first published in 1991 (19). Three studies illustrate the spectrum of defects associated with CVS (19-21). The data of these studies suggest that the severity of the result is associated with the specific time of the CVS exposure. Exposure to a gestation greater than or equal to 70 days has been associated with more limited defects, isolated at the distance ends, while the previous exposures have been associated with more deficiencies of the proximal limbs and orofacial defects. For example, in a study involving 14 newborns exposed to CV at a 63-79-day gestation and examined by a single pediatrician, 13 have isolated digital transversal deficiencies (20). In another study in Oxford of five newborns exposed to CVS at 56-66 days of gestation, four had transversal shortcomings with oromandibular hypogenesis (19). In a review of data worldwide published, associated defects of the language or lower jaw were reported for 19 out of 75 cases of limb deficiencies associated with CVS (21). Of those 19 infants with oromandibular-limbro hypogenesis, 17 were exposed to CV before the gestation of 68 days. In this review, 74% of newborns exposed to CVS at greater than or equal to 70 days of gestation had digital shortcomings without proximal involvement. Cohorts of pregnancies exposed CVS cohort studies usually measure the rates of a specified result in an exposed group compared to an unexposed group. Ideally, both groups should be selected randomly by the same study population. The three major collaborative tests of CVS in Europe, Canada and the United States were originally designed in this way; However, in these studies, the outcome of interest was fetal death. The report of the first collaborative process U.S. has included no mention of any structural defect; These results were reported below (5). After initial reports in 1991, the newborn results of collaborative studies were analysed more intensively (22). However, instead of comparing the rates for the defects of the limbs in the exposed cohorts of the CVS with those of the cohorts of amnacentesis-exposed by the same study population, the tariffs of the CVS groups were compared with the population-based rates. Consequently, these comparisons must be interpreted with caution because population-based rates are different (i.e., usually from the registers of the defect at birth). The risk associated with CVS for limb deficiencies could be underestimated by these comparisons if theof pregnancies in the exposed cohort is incomplete. Other epidemiological issues should also be considered during the interpretation of comparisons of crude oil rates. Unless a formal meta-analysis is performed, these comparisons neither represent the heterogeneity betweenneither assign individual "weights" to studies. Comparisons of crude oil rates do not also adapt to potential confusing variables, such as maternal age. Anatomical subclassification methods also vary between registers and may differ from methods applied to CVS exposure coordinates. In addition, comparing the overall rates of lack of limbs in groups exposed to CVS with groups not exposed to CVS could neglect an association with a specific phenotype, as a transversal deficiency. CVS studies published by > 1,000 CVS procedures include data from 65 CVS centres (Table_1). These rates include studies that describe the interested arts in enough detail to exclude unrestricted defects. Rates calculated for smaller cohorts (I.e., performing centers table_2). The rate range for these two populations (1.5-2.3 per 10,000 births) is representative of the rates reported for other populations. The triple increase in the overall rate of the total rate for the 65 centers compared to the Victoria or Boston rates is statistically significant (Chi-Square: the P investigators participating in the international register also combined birth defect data from multiple CVS centers, including some of the 65 CVS centers (16.35). An abstract published in 1994 includes information on the 138,000 procedures reported in the international register. The rate of transversal deficiencies in reporting centers was 1.4 per 10,000 procedures, lower than most population-based rates; The distribution of limb shortcomings was similar to the results of a study of the deficiencies of the arts in British Columbia. The variability of limb shortage rates could be related to three possible explanations: different methods of classification. The method of classification of the deficiencies of the arts for The International Register has led to a lower proportion of transversal deficiencies (compared to all the weapons of Ficiencies) than some population-based studies (17,32,36,37). The reason for this lower proportion is that the definition of "deficiencies of transversal terminals" is more restrictive and includes only defects that extend through the full width of an arto and excludes shortcomings of terminals of less than five digits. Assessment of results. The assessment of the results can be incomplete in CVS registers because deliveries can occur in a hospital remote control from which the CVS was performed and may not be reported in the CVS center. The effect of this incomplete investigation would be to underestimate the risk for adverse results. Differences between centres in the execution of CVS. Investigators compared abortion rates and limb deficiencies in individual structures. This comparison is based on the assumption that the causes of wrong defects and defects of the limbs can be related to particularssampling by individual obstetricians. The association between high abortion and lack of limbs in a single center of U.S. CVS was cited as potential evidence of theof surgical inexperience (24). A group of limb deficiencies in another US teaching hospital (five after 507 CVS procedures) was not associated with high abortion rates; The dimensions of the coreonic Villus samples were larger in this hospital than in another affiliate hospital with the same university that has not reported newborns with limb defects (38). Cases control approaches with a minimum of 100 cases and 100 patients with control have a greater statistical power than 10,000 or minus birth studies to detect a four-time risk increase for transverse deficiencies (the relevant level of risk suggested From the data of the 65 CVS centers) (36). Investigators participating in multicenter studies of birth defects have used this case control approach both to measure the strength of the association between CVS and limb deficiency and to determine if there is a response effect dose (or gradient). This last effect would be indicated by an increase in relative risk for the lack of limbs after previous procedures, suggested if the limb deficiency reports associated with CVS from the high frequency of initial exposures to CVS. Three case-control studies have used newborns with limb deficits recorded in the surveillance and control systems of newborns with other birth defects to examine and compare exposure rates to CVS (36,37,39). Probability reports for CVS exposure (an estimate of relative risk for the deficiency of the limbs after CVS) are summarized in table_3. The multistate case-control study and the study of the Italian register of birth defects of birth have both indicated a significant association between CVS exhibition and subtypes of deficiencies of transversal limbs (36.37). The Eurocat study did not analyze the risk of deficiencies of transversal limbs (39); The risk for all the deficiencies of the limbs (odds ratio {or} = 1.8, 95% trusted interval {ci} = 0.7-5.0) was similar to that measured in the multi-farm studio of the American case-control for all deficiencies of the Arts (OR = 1.7, 95% CI = 0.4-6.3) (36). The analysis of subtypes in the United States study indicated a six-time-rate increase for transversal digital deficiencies (36). No association between the deficiencies of the limbs and amniocentesis was observed in the US study. In the study of the Italian register of multicentric birth defects, the association between the CVS exposure and the shortcomings of the transversal limbs was stronger (Table_3) (37). Age Gestational CV The lowest risk observed in the United States can be connected to the next gestational age. The increase in risk was associated with the gestational idea decreased at the time of exhibition (Table_4). The risk of transversal deficiencies has been greater at less than or equal to 9 weeks of An analysis of cohort studies related to the CVS timing has indicated a similar gradient with a relative risk for the transverse deficiencies of 6.2 to possible Mechanisms of CVS-Associate Limb Deficiency Different biological events have been proposed to explain the occurrence of limb deficiency after CVS, IL IL In gravity and risk associated with the time of the procedure. These mechanisms, which include thromboembolization or fetal hypoperfusion through hypovolemia or vasoconstriction, are based on the assumption that the defects associated with CVS were caused by some form of vascular interruption. The limbs and mandible are susceptible to this interruption before the 10-week gestation (17); However, the isolated transversal deficiencies relating to fetal hypoperfusion were reported at 11 weeks of gestation (18). The rich vascular supply of chorionic villi can be potentially interrupted by the instrumentation. The data from a study of embryopic procedures have demonstrated fetal hemorrhagic lesions of the ends that follow the placenta trauma, which produced subchoronic hematomas (41). The positive hemorrhage that follows the CVS could lead to substantial fetal hypovolemia with subsequent hypoperfusion of the ends. Because animal models show that limb deficiencies were produced by vasocostractive agents or occlusions of uterine vessels, some researchers have hypothesized that the defects associated with CVS could be caused by Uteroplacental insufficiency (42). Although the period of maximum embryonic susceptibility seems to be when CVS is executed before 9 weeks gestation (ie I.E., early CVS), these mechanisms can also interrupt the structures of the movies in advanced ages. Absolute risk for subtypes of limb deficiencies of limb deficiencies rarely occur in the population of newborns not exposed to CVS. Therefore, even an increase in sexfolt in risks for such types as digital defects (the discovery of the United States multi-farm case control) is comparable to a small absolute risk (ie 3.46 cases for 10,000 CVS procedures {0.03 %}) (36). The 95% higher confidence limit for this absolute risk estimate is about 0.1%. A range of absolute risks from 1 for 3,000 to 1 per 1,000 CVS procedures (0.03% -0.10%) for all transverse deficiencies is consistent with the overall increase in the risk of 65 centers (Table_1). In cohort studies that have reported CVS times, the absolute risk for the shortcomings of transversal limbs was 0.20% to less than or equal to 9 weeks, 0.10% to 10 weeks and 0.05 % at higher than or equal to 11 weeks (0.07% to greater than or equal to 10 weeks of gestation) (40). The absolute risk of Christmas defects related to CVS is lower than the risk relating to the spontaneous abortion procedure that consultants usually mention prospective parents (ie 0.5% to 1.0%) and is also less than risk of Down syndrome at age of 35 (0.3%). The data of a study of the analysis of the decision supported the conclusion which, with a series of possible risks associated with prenatal tests, amniocentesis was preferred to CVS This study was published in 1991 and did not consider the risk of limb deficiency. The data indicate that the publication of the initial reports of the initial housing of the limb deficiency decreased the subsequent use of CVS (44.45). However, a study has shown that potential parents who provided with formal genetic advice, including information on the lack of limbs and other risks and benefits, he chose CVS at a rate similar to a group of prospective parents who were recommended before published reports of limb deficiencies associated with CVS (44). RECOMMENDATIONS An analysis of all aspects of CVS and amniocentesis indicates that the occasional occurrence of CVS defects is only one of the different factors that must be considered in the advice of future parents on prenatal tests. Factors that can affect potential parents' choices about prenatal tests include the risk of transmitting genetic abnormalities to the fetus and their perception of potential complications and benefits of CVS and amniocentesis. Perspective parents who are considering the use of a procedure must be provided with current data for informed decision-making. Individualized counselling should address the following: Indications for procedures and limits of prenatal tests Consultants should discuss the degree of risk of potential parents to transmit genetic abnormalities based on factors such as maternal age, race and family history. Perspective parents should be aware of the limits and usefulness of CVS or amniocentesis in detecting abnormalities. Major potential complications from CVS and amniocentesis Counsellors should discuss the risk of abortion attributable to both procedures: the risk from amniocentesis to 15-18 weeks of gestation is about 0.25%- 0.50% (1/400-1/200), and the risk of abortion from CVS is about 0.5%-1.0% (1/200-1/100). Current data indicate that the general risk for the lack of transverse limbs from CVS is 0.03%-0.10% (1/3,000-1/1,000). Current data do not indicate any risk increase for the lack of limbs after amniocentesis at 15-18 weeks of gestation. The risk and severity of the lack of limbs seem to be associated with CVS timing: the risk to Timing of procedures The time to obtain results from both CVS or amniocentesis is relevant due to the greater risks to maternal morbidity and mortality associated with ending pregnancy during the second trimester than the first trimester (13,14). Many amniocentesis procedures are now carried out at 7-14 weeks of gestation; However, further controlled studies are necessary to fully assess the safety of early amniocentesis. Verp MS references. Prenatal diagnosis of genetic disorders. In: Gleicher N., ed. Principles and practice of pregnancy medical therapy. II ed. Norwalk, CT: Appleton and Lange, 1992:159-70. Lilford RJ. The increase and fall of villus chorionic sampling: midtrimester amniocentesis is usually preferable {Comment}. Br Med J 1991;303:936-7. CDC. A sampling meeting with Villus Chorionic. Federal Register 1994;59:8994. Meaney FJ, Riggle SM, Cunningham GC, SternDavis JG. 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