

Very high CA 125 levels during early first trimester in three cases of spontaneous abortion with chromosomal abnormalities

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Three women with very elevated, early-first-trimester CA 125 levels spontaneously aborted but not until later in the first trimester or early in the second trimester. All three products of conception showed chromosomal abnormalities. Further investigation is warranted to see if high CA 125 levels might be predictive of abnormal karyotypes. (AM J OBSTET GYNECOL 1990;162:674-5.)

Key words: CA 125, abortion, fetal viability, chromosomal abnormalities

The CA 125 level, which normally should be <65 U/ml, may be increased during the first trimester of pregnancy, possibly averaging 85 U/ml.^{1,2}

Herein are presented three cases with very high early-first-trimester CA 125 levels, in which all three pregnancies ended with spontaneous abortions after fetal viability was shown. Chromosome abnormalities were found in all three abortuses. The CA 125 levels were >2000 U/ml in two of these cases, which we believe to be the highest levels ever recorded in pregnant women without ovarian tumors. All three patients had fetal viability by pelvic sonography, but fetal death occurred toward the end of the first trimester or early in the second trimester. Chromosome analysis of the products of conception revealed abnormalities in all cases.

Case reports

Three women were seen with elevated CA 125 levels obtained 18 to 23 days after conception. All three showed fetal viability at 9, 9.5, and 8.5 weeks.

The CA 125 levels were 2110 U/ml at 23 days after conception in case 1, 2180 U/ml at 18 days after conception in case 2, and 360 U/ml at 22 days after conception in case 3. All three cases showed fetal viability,

but cases 1 and 2 had small-for-dates sac sizes and crown-rump lengths. When ultrasonography was repeated 2 weeks later, fetal death was ascertained. In case 3 fetal death occurred at 14 weeks, and ultrasonography demonstrated a cystic hygroma. Chromosome analysis for the products of conception revealed trisomy 12 and 13 in case 1, 45,X in case 2, and trisomy 21 in case 3.

In case 2 conception occurred with the aid of in vitro fertilization and embryo transfer. In cases 2 and 3 laparoscopy was negative for endometriosis. In case 1 there were no symptoms or signs of endometriosis but laparoscopy was not performed.

Comment

We recently presented data at a meeting of the American College of Obstetricians and Gynecologists (Atlanta, Georgia, May 22-25, 1989) that women with early first-trimester CA 125 levels ≥ 150 U/ml had a much higher spontaneous abortion rate (5 of 8) than women whose CA 125 levels were <150 U/ml (4 of 92). Interestingly, 4 of 5 patients with high CA 125 levels aborted after fetal viability was shown. Case 3, with abortion at 14 weeks, was not included in this series so that actually 6 of 8 (75%) aborted.

In all three cases treatment with ovulation-inducing drugs had been given. However, we do not think this explains the high CA 125 levels since we also presented data at the Sixth World Congress on In Vitro Fertilization and Assisted Reproduction (Jerusalem, 1989) that patients with patent tubes undergoing in vitro fertilization with four embryos replaced do not show elevated CA 125 levels when compared with non-in vitro fertilization pregnancies.

The only three abortuses from mothers with high CA 125 levels that we evaluated had chromosomal aneuploidy. However, all three were different.

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Hopefully, these case reports will generate interest in the performance of prospective studies to determine whether a high early-first-trimester CA 125 level is predictive of a possible increased risk of chromosomal abnormalities and increased risk of spontaneous abortion.

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