

Letters-to-the-editor

Paul G. McDonough, M.D.

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A Critical Look at hCG "Doubling Time"

To the Editor:

The manuscript by Kadar et al.¹ regarding the nature of human chorionic gonadotropin (hCG) doubling time (DT) provides support for the concept that the rate of rise of hCG up to 30 days from conception is constant. This, however, is in contrast to a previous report of Pittaway et al.² that supported a progressively increasing DT with advancing pregnancy. Kadar et al., in fact, stated that there is no real disagreement with their data and Pittaway et al.'s in that the latter study showed a constant DT up to an hCG level of 10,000 IU. Kadar et al.'s data was based on 60 women with intrauterine pregnancies, 8 women with ectopic pregnancies (EPs), and 8 women with spontaneous abortions (SA). We recently evaluated the data of a larger series of pregnant women (n = 143 patients) having 681 hCG levels of which 603 were obtained no later than 30 days from conception. Our data in contrast to that of Kadar et al. found an increase in the average DT from days 21 to 30 (2.38) compared with days 10 to 20 postovulation (1.40) ($P < 0.001$ using analysis of variance). The DT in EPs was significantly prolonged (4.08 10 to 20 days; 5.14 21 to 30 days) compared with the normal pregnancies. No differences were found in the earlier time period to distinguish SA from normal pregnancy, but a prolonged DT in the SA group was found in the second time period (5.61). A significantly prolonged DT was also found in the EP group in time period 1 compared with SA but there were no differences in time 2.

Thus, in the debate over the rate of β -hCG DT, Kadar et al.'s article would at first seem to be the final word, especially because they reported that differences in DT in Pittaway et al.'s manuscript were found only when the hCG levels exceeded 10,000 IU/mL. But Pittaway et al. demonstrated a 1.8 DT with β -hCG levels from 2 to 1,000 (we had a 1.4 for the early time) and a 3.4 DT for the range of 1,000 to 5,000 (we had a 2.38 level for approximately the same time period). We therefore cannot understand why Kadar et al. considers this DT as constant. Because our data included an average of four β -hCG levels per patient within the range of 200 to 10,000 and a much larger series of patients (including 12 EPs), we feel that the debate on increasing DT of

β -hCG with advancing age should be reopened and re-evaluated.

Jerome H. Check, M.D.

Robert Weiss, M.D.

Department of Obstetrics and Gynecology

Division of Reproductive Endocrinology

and Infertility

University of Medicine and Dentistry

of New Jersey

Robert Wood Johnson Medical School at Camden

Camden, New Jersey

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REFERENCES

1. Kadar N, Freedman M, Zacher M: Further observations on the doubling time of human chorionic gonadotropin in early asymptomatic pregnancies. *Fertil Steril* 54:783, 1990
2. Pittaway DE, Reish RL, Wentz AC: Doubling times of human chorionic gonadotropin increase in early viable intrauterine pregnancies. *Am J Obstet Gynecol* 152:299, 1985