Indicators of prolonged hospital stay in hyperemesis gravidarum

P.C. Tan a,*, R. Jacob a, K.F. Quek b, S.Z. Omar a

a Department of Obstetrics and Gynecology, University of Malaya, Kuala Lumpur, Malaysia
b Department of Social and Preventative Medicine, University of Malaya, Kuala Lumpur, Malaysia

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Hyperemesis gravidarum (HG) occurs in 0.3% to 2% of all pregnancies and was found to be the second most common indication for admission in pregnant women who later gave birth to a live infant [1]. The present study aimed to determine the ability of the main laboratory indicators of hyperemesis gravidarum severity to predict hospital stay at first hospitalization.

Records taken in 2004 of the first hospitalization of 192 pregnant women with confirmed HG were reviewed. Routine laboratory work on admission included performing full blood cell count, pelvic ultrasonography, and urine microscopy; checking for ketonuria; and assessing renal function, thyroid function, and often liver function, depending on clinician preference. Only the first laboratory results were used in this study, before treatment. All study women received intravenous rehydration and parenteral metoclopramide. The decision to discharge women was based upon successful correction of dehydration, along with improvements in their vomiting, ketonuria, and nutritional intake.

A hospital stay of 4 days or longer was considered prolonged. Moreover, as the following values were identified as the upper limits of the top quartile for our subjects, ketonuria readings of 4+ (100 mg/ml) on a urine dipstick, as well as hematocrits of 0.41 or greater, serum urea levels of 3.6 mmol/l or greater, and serum creatinine levels of 63 µmol/l or greater were considered high. Because these values are normally lowered during pregnancy [2], no woman had a high hematocrit, and only 1 woman had a high creatinine level and 2 women had high urea levels according to the ranges considered normal by the hospital laboratory. For all other values, the hospital laboratory’s ranges were used to delineate normal from abnormal (Table 1).

The data collected were analyzed by the Fisher exact test and multivariable logistic regression analysis using the SPSS software package, version 13.0 (SPSS Inc., Chicago, IL, USA). \( P<0.05 \) (2-tailed) was considered significant.
Following adjusted analysis, hematocrit values of 0.41 or greater were significantly associated with prolonged hospital stay (odds ratio, 2.3; 95% confidence interval, 1.0—5.2; \( P = 0.038 \)), whereas severe ketonuria showed no significant association (odds ratio 2.1; 95% confidence interval, 1.0—4.6; \( P = 0.062 \)).

Previous studies reporting on the effects of severe HG using laboratory and clinical markers have focused on fetal outcome [3,4] and pregnancy outcome [3]. An increased hematocrit in early pregnancy has been found to be associated with miscarriage [2]; and the results of the present study suggest that a high hematocrit is independently associated with prolonged initial hospital stay.

The identification of a group at high risk for prolonged hospitalization for HG based on an initially high hematocrit warrants confirmation by prospective studies. This high-risk group may benefit from more aggressive initial management to reduce hospital stay.

References


