The Role of Race and Ethnicity in the Choice of a Vaginal Trial of Labor After Cesarean

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At a time when political protesting regarding racial injustice is commonly seen, medical professionals ought to recognize when racial and ethnic insensitivity may exist in our collective medical practice. A case in point relates to the use of prediction models for successful vaginal trials of labor after Cesarean (VTOL). [1-3]Such algorithms can include verifiable correlates to vaginal births after Cesarean (VBAC), such as prior vaginal births, estimated fetal weight (EFW), persistent cesarean indications, body mass index (BMI), and even type of labor onset. The accuracy of these algorithms used to predict successful VBAC in a patient contemplating a VTOL has been recently questioned. [4-6] The inclusion of a racial component may be of questionable value here, since the anthropomorphic indicators of pelvic dimensions are less clear cut, [7]especially when soft tissue description may offer a different correlation to the capacity for vaginal delivery. [8]

Although this last reference examined the obligate contribution of the soft tissues to the birth canal dimensions beyond its bony limitations, it related this to the prediction of soft tissue injuries. It nonetheless describes the consequential role of the pelvic soft tissues as part of the birth canal, unrelated to the possibly genetically determined bony pelvis dimensions. Pertinent to this discussion is the notion that Race, and ethnicity, have a role in determining vaginal delivery capability (e.g. in VBAC), when a sociodemographic basis may be confused with a biologically defined one.

Measurement of the bony pelvic dimensions with magnetic resonance imaging (MRI), relating to an individual's Race, has revealed the usual range as would be expected in any population, somewhat correlated with Race. Whether these described dimensions (e.g. inter-tuberous or ischial spinous diameter or pelvic inlet size) meaningfully correlates with the capacity to vaginally deliver, is open to some question, since there may be an essential role of the pelvic soft tissues (e.g. the levator muscles of the pelvic floor) with regard to vaginal delivery capability. X-Ray pelvimetry, and pelvimetry through other imaging modalities, has long been abandoned as a predictor of the capacity to vaginally deliver, due to its repeated documented failure.[9] So, the inclusion of Race or ethnicity in an algorithm used to predict VBAC success, may inappropriately be using this demographic indicator. When the use of this specific factor (i.e. race/ethnicity) in a prediction model was shown to not be successful, the interpretation was simply articulated as "not predictive of VBAC success" and "unexpected".[10] In fact though, the underestimation of the probability of a successful VBAC because of a patient's assignment of ethnicity or race, should be highlighted, as the ramifications of such counseling of a low probability of success, is significant when it can be shown to be inaccurate.

This is of considerable importance since these prediction models can influence shared decision-making. The tendency to desire having a vaginal birth has been shown to correlate with certain racial/ethnic groups, and this influence is indeed relevant.[11] The relationship of VBAC success prediction in the Latina community is particularly worthy of note, given some reported disparate findings.[11] Interestingly, whatever the complex interactions of the pelvic bony dimensions and soft tissue dynamics are, the vaginal birth statistics do not appear to show significant differences between women in different racial/ethnic groups, in the United States.

[12] The use of racial identity may not therefore be statistically relevant to any of the algorithms used for successful VTOL prediction. If encouragement of vaginal births is desirable when appropriate, then perhaps this racial categorization should be avoided. At least, we may need to properly establish and validate these algorithms within appropriately selected populations and follow described prediction model development.[13]

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