The Utilization of Prenatal Microarray: A Survey of Current Genetic Counseling Practices and Barriers

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Chromosomal microarray (CMA) assesses chromosome copy number variants (CNVs) missed by standard karyotyping. The American College of Obstetricians and Gynecologists (ACOG) recommends CMA for all patients with fetuses with an ultrasound anomaly and suggests that it be made available to all women undergoing invasive testing. In order to assess prenatal genetic counselors’ (GCs) practices regarding the utilization of CMA we conducted a survey of their current practices, attitudes, and perceived barriers. Of the 192 respondents, 183 (95%) have incorporated CMA into clinical practice with the majority (64%) believing that the benefits of CMA outweigh the harms. However, only half (52%) of the respondents agreed that CMA should be offered to all women regardless of indication. The respondents who reported feeling that they were experts/comfortable in their knowledge of CMA (85%) and were familiar with current clinical guidelines (86%) were significantly more likely to offer CMA to all patients undergoing invasive testing, patients with fetuses with anomalies, and those referred for advanced maternal age. Genetic counselors report not offering CMA to patients due to patient specific concerns (51%), such as anxiety or health literacy, financial concerns (39%), difficulty of interpreting results (39%), lack of data (36%), and time constraints (22%). Patient specific concerns were the largest reported barrier when GCs chose not to offer CMA to patients which, is different than the studies which predate the ACOG guidelines that cited financial and ethical concerns as barriers. Our study demonstrates that GCs follow established guidelines for use of CMA when specific indications are involved but further guidelines are needed regarding use of CMA for other common prenatal indications. Based on this, other professional societies such as National Society of Genetic Counselors should consider publishing guidelines on prenatal CMA that are specialized to the GCs sphere of practice.

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