Prenatal Detection of Fanconi Anemia

Fanconi anemia (FA), a clinically heterogeneous disorder with incidence of 1 in 350,000 births, is characterized by bone marrow failure (aplastic anemia), developmental delay, physical abnormalities, and increased risk of solid tumors and leukemia [1,2]. Chromosomal breakage investigation using DNA interstrand cross-linking agents such as diepoxybutane (DEB), and Mitomycin C (MMC) is the gold standard for the diagnosis. Molecular studies have so far identified 15 genes that can have mutations in FA patients [3,4]. We describe prenatal diagnosis of FA by cytogenetic and molecular analysis.

A 5-year-old girl having hypoplastic anemia was referred to us for chromosomal breakage studies. Chromosomal analysis from peripheral blood cultures induced with mitomycin C (MMC) (40 ng/mL) revealed a high frequency chromosomal breakage (8.6 breaks/cell) compared to controls (0.062 breaks/cell) (***Fig.*1**). Western blot for *FANCD2* confirmed the upstream gene defects in FA pathway. Molecular analysis of proband showed heterotzygous c.1303C>T (rs148473140: R/C) mutation in *FANCA* gene. Father was found to be carrier for the mutation and the mother was normal. In the next pregnancy, chorion villus sample was aspirated at 12 weeks of gestation and mutational analysis of *FANCA* gene showed c.1303C>T mutation in genomic DNA of the fetus.

The chromosomal breakage study for the diagnosis of FA is available in few cytogenetic laboratories. However, the diagnosis of FA by chromosomal breakage study from chorionic villi or amniotic cell culture is time consuming and there are chances of getting false positives and negatives. Molecular level study by mutation analysis, on the other hand, is a rapid and accurate method for diagnosis of proband and subsequent pregnancies.

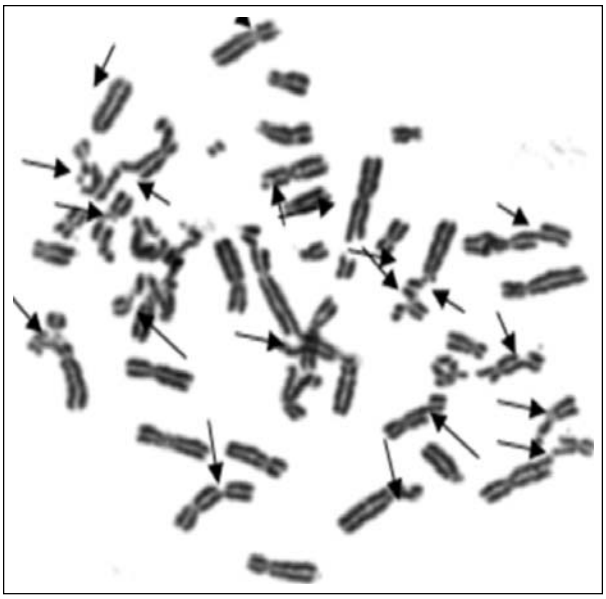

FIG. 1 *Metaphase showing chromosomal breakage and radial formation.*

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Experience of Nutrition Rehabilitation Centers in Management of SAM

Authors of the recent publication [1] need to be commended for documenting the experience of management of severe acute malnutrition (SAM) in public sector. Low mortality or high survival at discharge from Nutrition Rehabilitation Centers (NRCs) is noteworthy. Equally important is the documentation of social determinants of SAM which is considered to be a bio-psycho-social-disorder [2].

This paper reports that nearly two-third children having complicated SAM were discharged without recovery [1]. Organic causes like tuberculosis can lead to development of SAM and using IMNCI protocols (as