

## Example 5

### Abstract

This is an application for a K23 award for Dr. Neera Gupta, a pediatric gastroenterologist at the University of California, San Francisco. Dr. Gupta is establishing herself as a young investigator in patient-oriented clinical research of pediatric inflammatory bowel disease. This K23 award will provide Dr. Gupta with the support necessary to accomplish the following goals: (1) to become expert at patient-oriented clinical research in pediatric Crohn's disease; (2) to conduct clinical investigations of endocrinologic aspects of growth in pediatric patients with IBD; (3) to implement advanced biostatistical methods in clinical studies; (4) to develop and maintain a relational database containing data from multiple sites; and (5) to develop an independent clinical research career. To achieve these goals, Dr. Gupta has assembled a mentoring team comprised of a primary mentor, Dr. Melvin Heyman, Director of the Training Program in Pediatric Gastroenterology at UCSF, who conducts clinical investigations in pediatric IBD, and three co-mentors: Dr. Robert Lustig, an endocrinologist who focuses on hypothalamic function and its regulation of growth and energy balance; Dr. Eric Vittinghoff, an expert in study design and current state-of-the-art biostatistical analysis; and Dr. Michael Kohn, who has expertise in database development and management.

Growth impairment is a well-recognized complication of Crohn's disease. Dr. Gupta's research will focus on the relative influence of gender and age at disease presentation and diagnosis on height and growth velocity z scores in newly diagnosed pediatric patients with Crohn's disease (**Aim 1**) and the relative effects of gender, pubertal development (Tanner stage) and disease activity on growth hormone/insulin-like growth factor I levels and height z scores in pediatric patients with Crohn's disease (**Aim 2**). In Aim 1, Dr. Gupta will use the existing infrastructure of the Pediatric IBD Consortium (composed of centers in 6 geographically distinct US regions) to enroll and follow 200 newly-diagnosed pediatric patients with Crohn's disease to determine the independent effects of gender and age at disease presentation and diagnosis on growth. In Aim 2, Dr. Gupta will conduct a single-center cross-sectional pilot study to generate preliminary data on the effects of gender, pubertal status, and disease severity on growth in children with Crohn's disease. Both studies will utilize advanced multivariate statistical analyses. This research will form the basis for a multicenter longitudinal study in newly diagnosed childhood Crohn's disease, to be proposed in an R01 grant application before the end of the K award.

**Project Narrative/Public health relevance:** Improved understanding of the etiology and gender-associated differences in growth impairment in pediatric patients with Crohn's disease is critical to effective medical management and may clarify the underlying mechanisms for gender differences in this chronic disorder.