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BOOK REVIEW | NONFICTION

Life with a Rare Genetic Disease: The Science, the Suffering and the Hope

By MISHA ANGRIST APRIL 27, 2017

MERCIES IN DISGUISE
A Story of Hope, a Family's Genetic Destiny, and the Science That Rescued Them
By Gina Kolata
262 pp. St. Martin's Press. $25.99.

THE FAMILY GENE
A Mission to Turn My Deadly Inheritance Into a Hopeful Future
By Joselin Linder
261 pp. Ecco/HarperCollins Publishers. $28.99.

If life can be a Hobbesian trial — "nasty, brutish and short" — then for adults with rare genetic diseases, life can sometimes be nasty, brutish and long. Take the ordinary difficulties of getting through the day and add, for example, loss of motor function, a deteriorating memory or a blocked vein in the liver and a body so swollen with lymphatic fluid that clothes and shoes no longer fit. Now throw in lack of a diagnosis and dwindling financial resources.

While the precipitous drop in the cost of DNA sequencing has helped many rare-disease patients and their families find answers they could not have only a few years ago, many more continue to embark on protracted "diagnostic odysseys"

involving expensive visits with one flummoxed specialist after another. The unexplained disease brings shame, denial and sometimes blame. Along the way patients ask: Why me? It is both an existential question and a basic human desire to know oneself — to understand what is happening to one's body. Such knowledge might lead to a treatment for, or at least, better management of the condition.

The narratives of families suffering from such diseases traffic in these questions and a roiling stew of emotions: confusion, anger, determination, resilience, love, and moments of profound despair and hope. The seeming scarcity of the last asset — hope — can make books like Gina Kolata's "Mercies in Disguise" and Joselin Linder's "The Family Gene" hard to read: We know at the outset that many of the characters and some of their loved ones either carry or are at risk of carrying glitches in their DNA that will cause them anguish and most likely fell them before their time.

In these two books we hear again and again about people who have — or fear they have — "the gene for" a devastating disease. I confess that my inner geneticist chafes at this language — by and large, we all have the same 22,000 or so genes. Some of us have differing versions of those genes — a particular DNA mutation or variant in a gene that causes disease, for example — but not a distinct "gene for." Without the descriptor "mutated" in front of the word gene or "variant" after it, it's a bit like saying "I have an engine for a faulty timing belt." That said, I recognize that the usage battle is probably lost; moreover, after reading these books, one can hardly blame the authors for such language, given how little modern medicine has had to offer the families they write about — "gene for" connotes an inevitability that, sadly, remains far too apt. Despite this, and as the subtitles suggest, both books contain a welcome measure of hope — they are not merely medical procedurals that end with diagnoses and death, but family stories fraught with difficult choices and palpable compassion.

In "Mercies in Disguise," Kolata, a veteran science writer for The Times, tells the story of the Baxleys, longstanding pillars of Hartsville, S.C. Bill, the pater familias and a chemical engineer, is increasingly bewildered by simple tasks like opening a package of crackers. "Something is wrong with Dad," his son Mike says. We eventually learn that the something is Gerstmann–Sträussler–Scheinker syndrome, a rare neurodegenerative disorder whose mechanism baffled scientists for decades.

G.S.S. belongs to a family of diseases that includes Creutzfeldt-Jakob disease (the human version of "mad cow" disease) and fatal familial insomnia (described in heartbreaking detail by D. T. Max in 2006's "The Family That Couldn't Sleep"). Kolata takes a couple of detours into the history of the competitive quest to understand how these adult-onset diseases are caused by infectious proteins that start with a mutated gene and how they leave patients' brains riddled with microscopic holes. These excursions are a useful reminder of both the ego-driven ambitions that so often propel scientific discovery (in this case, the payoff was two Nobel Prizes) and how remote such discoveries usually are from the development of effective treatments.

Bill Baxley's four sons — two of whom are physicians — struggle to understand what happened to their father and to come to terms with their own inherited risk. As Kolata frames it: Would you want to know if you carried a fatal gene mutation? Not everyone does. The second half of "Mercies in Disguise" brings this abstraction to life through the eyes of the Baxley granddaughter Amanda and her sister Holly, whose father, Buddy, succumbed to G.S.S. like his father, Bill, before him. The deeply religious Holly rejects genetic testing for G.S.S. and declares that, in this case, hope and knowledge are mutually exclusive. "While I don't know, I have hope." For Amanda, on the other hand, knowledge is power, even if this particular bit of knowledge is incomplete and frightening and the power it confers is uncertain at best.

"Mercies in Disguise" is at its strongest when it wrestles with the stark realities of rare disease. Amanda's story presents an unflinching look at the financial hardships (likely to be exacerbated by any repeal or weakening of the Affordable Care Act's exemption of pre-existing conditions), indifferent medical institutions, abortion politics and the way delicate family dynamics are complicated by the prospect of a debilitating condition that strikes otherwise vigorous healthy people.

In "The Family Gene," Joselin Linder describes her father's mysterious illness beginning with nonspecific symptoms — puffy ankles, a heart murmur— through an accelerated decline culminating in the accumulation of massive amounts of a milky-looking, fatty lymph fluid in his abdomen that has left his organs "practically fused together." As far as anyone knows, this collection of features has never been seen

outside of her family. The narrative thus becomes a mix of family history, medical detective story and memoir.

Her father, a physician, is both a diligent observer of his own failing health and a cantankerous patient who is infuriated by it. His last words to his daughter are an expletive; Joselin doesn't take it personally. In addition to bestowing unconditional love on her dying father, she is busy negotiating her own health along with adulthood and all of its accouterments: feckless and sometimes tragic boyfriends, punk bands, dead-end jobs, and an ample supply of booze and cigarettes. It is this lack of sentiment that, in part, makes "The Family Gene" both congenial and engaging, despite the long shadow of a broken gene.

Early on Linder finds someone willing to make an abiding commitment to figuring out her family's wonky lymphatic system and strange constellation of complaints. The Harvard cardiologist and geneticist Christine (Dr. Kricket) Seidman periodically brings the Linders to her laboratory to take family histories, run tests, look for mutations and, perhaps most important, dispense a bit of bedside manner; after Linder undergoes a surgical procedure to unblock her hepatic vein, Seidman sends her flowers. Dr. Kricket is an empathetic embodiment of the blurry reality for rare-disease patients like Joselin Linder: Research and clinical care can be hard to distinguish from one another — maybe sometimes we shouldn't bother trying.

"The Family Gene" is occasionally beset by incorrect explanations of the science. BRCA1, for example, is not a gene variant as Linder describes it, but rather a gene that can harbor any one of hundreds of rare variants, or DNA spelling errors, that dramatically raise a woman's risk of developing breast or ovarian cancer. For its part, "Mercies in Disguise" sometimes suffers from a general humorlessness and heavy-handed prose ("Now he felt for the first time the wallop of tragedy"). But did I cry anyway? Yes — twice. In the end, these stories are less about didactic scientific explanations or transcendent language and more about how human beings respond to immensely challenging ailments that we don't understand very well if at all.

Yes, there is hope here, but it is hard-won. The overarching lesson that came from the completion of the Human Genome Project was that DNA is not destiny. But too often, for those living with untreatable inherited conditions, it can still feel that

way.

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