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INVITED COMMENTARY

Hypermobility, Trauma, and the Roads That Lead to Rome

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The 1950 film *Rashomon*, written and directed by the Japanese *auteur* Akira Kurosawa, famously employs a narrative style in which the same story (in this case, a violent encounter on a wooded path between a bandit, a samurai, and his wife) is told in multiple, overlapping, and contradictory ways [1]. What has since been dubbed the "Rashomon effect" is a narrative tool that can be used to demonstrate the inherent bias of any given perspective on reality. This concept has been invoked in scientific contexts as well in instances when investigators reach differing conclusions by observing the same phenomenon through different theoretical or methodological lenses [2]. Among complex clinical categories such as functional dyspepsia (FD) and irritable bowel syndrome (IBS), for example, a prism of interpretations can emerge depending on which of their craggy surfaces is turned toward the light.

Recent attempts to mitigate bias at the level of nomenclature among these diagnoses indicate that some measure of bias is inescapable. With the fourth iteration of the Rome criteria, functional gastrointestinal disorders (FGIDs) were renamed disorders of gut–brain interaction (DGBI) to unburden them of psychosomatic stigma and emphasize their neurobiological basis [3]. Some experts in the field have since argued that the new language remains reductive, marginalizing rather than subsuming the other potential mechanistic contributors (gut microbial disturbances, dietary intolerances, immune dysregulation, specialized inflammatory mediators, etc.) that might make major pathogenic contributions depending on the circumstances. These quibbles lead in turn to the perennial question of whether and to what extent it is meaningful to regard a multifaceted diagnosis like IBS as one distinct versus several clinical entities.

In their study published in the current issue of *Digestive Diseases and Sciences* [4], Silvernale and colleagues turn their attention past individual DGBI risk factors to the problem of how those factors might intersect. Beginning with the common clinical observation that DGBI prevalence is increased among patients with joint hypermobility syndromes (JHS) including Ehlers–Danlos Syndrome (EDS), they assembled a study cohort from an online JHS/EDS support group to query the relationship between prior traumatic exposures and DGBI therein. Among 193 patients, the prevalence of IBS and FD was 68% and 35%, respectively, which was associated with significantly more traumatic exposures and adverse childhood experiences (ACEs) as compared with JHS/EDS patients without IBS or FD. This finding led the authors to posit an intriguing albeit speculative model in which JHS represent a predisposition to DGBI that can be activated by trauma as a secondary environmental trigger.

The study is commendable for its lean design, delivering validated questionnaires to a self-assembled study cohort, in the service of a question of increasing interest to patients and clinicians both: what is it about JHS/EDS patients that accounts for their increased DGBI prevalence? There is a tendency to invoke structural defects of the gastrointestinal tract mediated by connective tissue dysfunction, the presumptive hallmark of JHS/EDS; certain commentators for example have hypothesized that organ prolapse, altered luminal compliance, and regional dysmotility all may be contributory [5]. At the same time, prior research has repeatedly demonstrated that traumatic life experiences including ACEs correlate with the prevalence and severity of IBS in a general population [6]. With their findings, Silvernale et al. illustrate the persistence of this trend in the context of JHS/EDS, structural predispositions notwithstanding.

The study's main limitations are intrinsic to its methodology and perhaps highlight the operation of Rashomon effects at deeper levels. The overwhelming majority of patients in this study were white and female, a gender bias that affects the observed association between DGBI and ACEs [7]. More saliently, online patient support groups rely on active participation and self-reporting, which introduce ample risk of selection bias. Though this bias might pertain to symptom severity and hypervigilance, as the authors note, the

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exuberance with which study participants associate themselves with a given diagnostic label may also be significant. While one patient may regard joint hypermobility as seismic in its importance to her illness narrative, the next may regard it as wholly incidental.

Since the hypermobile subtype of EDS has not been genetically defined, patients achieve this diagnosis based on a templated history and physical examination performed against a backdrop of requisite clinical suspicion. Online forums can easily facilitate that suspicion in the absence of an actual clinician specialist. If JHS/EDS is a diagnosis with potential significance in the minds of healthcare practitioners, that potential certainly exists for patients as well. Without diminishing the importance of elucidating the biology underlying these conditions, the search for additional diagnostic labels is likely to be especially keen among patients who already regard their symptoms as meriting further investigation, a revised account, or a different name.

The findings of Silvernale and colleagues in this study also coincide with an evolving cultural narrative around trauma, which has rendered as common intuition the potential for traumatic experience to bear upon physical function. In a recent magazine profile of psychiatrist Bessel van der Kolk, whose book "The Body Keeps the Score" [8] has remained on *The New York Times* bestseller list for years on end, historian Danielle Carr [9] probes the popular appeal of this concept, as well as the mismatch between that appeal and available evidence. To their credit, Silvernale et al. use well-established survey instruments, including the Brief Trauma Questionnaire, a tool associated with Diagnostic and Statistical Manual (DSM) criteria for post-traumatic stress disorder (PTSD). As Carr notes, however, those tools and criteria can themselves be understood as historically contingent and therefore subjectively weighted.

More work is certainly needed to clarify to what extent and under what circumstances the many susceptibilities to DGBI overlap and interact. Silvernale et al. present herein a research model that serves this function well, acknowledging from the start that there are multiple paths to a common clinical phenotype and dwelling with particular concern at their intersections.

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