"When Good Doctors Go Bad:" Paolo Macchiarini and Complications

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INTRODUCTION

Celebrity surgeon Paolo Macchiarini performed experimental transplant surgery on patients with missing or damaged windpipes using an artificial trachea made of a polymer scaffold and the patient's own stem cells. In theory, the stem cells should grow to replace the missing tissue. However, of the eight surgeries he performed between 2011 and 2014, all but one of his patients died. The one who remained alive is still in intensive care. Not only did Macchiarini manipulate the results reported about the procedure's success, he also lied to his patients about the procedure's safety, and knowingly performed it on patients whose conditions were not life-threatening. Moreover, he executed much of this without his patient's consent.[1]

ANALYSIS

A few weeks before hearing about Macchiarini, I read selections from Atul Gawande's *Complications: A Surgeon's Notes on an Imperfect Science* for a bioethics class on the theme of 'prudence and the concrete.' *Complications* is a doctor's musings on the medical profession at large, what he finds is "a strange and in many ways disturbing business."[2] The medical field exudes competence, confidence, and technical mastery, but underneath it turns out to be "messy, uncertain, and also surprising."[3] In light of the report released surrounding Macchiarini's medical malpractice, Gawande's explorations of the perennial questions about medical decision-making, uncertainty, and trust are worth considering. As a student of philosophy and bioethics, with a keen interest in the treatment of the human person, I often wonder about the formation physicians receive, and how this affects their practice. How can physicians be better formed so as to make decisions that are humane, prudent, and just? Gawande's insights help address this question and more, by uncovering a fundamental aspect of medicine that is often overlooked: its inherently uncertain and risky nature.

A. "Education of a Knife"

The question of how surgeons "know" how to perform a surgery was something I had never considered, and the answers are naturally disconcerting. For his first-ever surgical procedure, Gawande had watched the senior surgeon perform it twice, attending to every step. He knew what he had to do in theory, but the actual procedure "remained wholly mysterious" to him. The "idea of jabbing a needle

so deeply and blindly into someone's chest" baffled him.[4] The difference between his and an experienced surgeon's hands was not necessarily familiarity with the procedure, but the cumulative experience of 'exposure to the knife.' This includes the paradoxical combination of confidence and uncertainty that accompanies every surgery, giving the experienced surgeon "an air of mastery."[5]

The reality of surgery is that "as in anything else, skill and confidence are learned through experience--haltingly and humiliatingly."[6] Like other technical or "hands on" work, experience is necessary for proficiency and eventual mastery, but it can only be gained through practice. The one difference in medicine, Gawande writes, is that doctors practice on *people*. With every surgery, there remains the element of the 'unknown'--each body and each person being a unique case and bearing unique circumstances that make the procedure an inherently uncertain endeavor.[7] Thus, medicine is continually faced with a conflict between the need to provide novice surgeons with experience and "the imperative to give patients the best possible care." Doctors carry "the moral burden of practicing on people," which can often occur in clinics "populated by the poor, the uninsured, the drunk, and the demented."[8] Gawande writes that this is the uncomfortable and often unspoken truth about surgical teaching.

B. "When Doctors Make Mistakes"

It is uncomfortable to acknowledge with Gawande that "all doctors make mistakes," especially when it comes to ones that are life-threatening. The balance between being "aware of one's limitations" and being "plagued by self-doubt" is a fine one. The doctor who experiences neither--who remains in denial about his limits and his fears--is dangerous. Gawande, like others in his profession, grapples with how mistakes are dealt. He writes of the Morbidity and Mortality Conference (M&M) happening weekly in most hospitals, commenting at length on its "paradoxical ethos." The M&M exists to reinforce the idea that error is intolerable, while simultaneously acknowledging that mistakes are an inevitable part of medicine. Mistakes happen, and they need to be addressed, learned from, and improved upon. The aim in surgery is always perfection, requiring a constant vigilance, "attention to the minutest details."[9] In addition to these technical feats, it is apparent that an air of trust, belief, and hope is also necessary. Although Gawande doesn't use those exact words, he states:

"I believe that with enough will and effort I can beat the odds. This isn't just professional vanity. It's a necessary part of good medicine."[10]

C. "Whose Body Is It, Anyway?"

Making medical decisions about life-threatening or terminal conditions are inherently difficult. One must weigh the likelihood of survival, the challenges of recovery, and the quality of life after surgery with their current condition. How does a patient make a decision about seemingly impossible matters? And, as Gawande asks, when a doctor sees a patient making a grave mistake, should they simply let it happen?[11] Medical decision making often forces the person to confront their deepest desires and fears: the 'ultimate' questions such as, 'what do I fear most' (pain, inability, death?) and 'what makes life valuable to me?' The "awkward truth" is that patients often either do not want, or do not know how, to handle the "freedom" of being able to make the final choice. Gawande quotes Carl Schneider's *The Practice of Autonomy,* who found that "the ill were often in a poor position to make good choices: they were frequently exhausted, irritable, shattered, or despondent."[12] Our culture has decided that the patient be the ultimate arbiter, but Gawande dives deep into this reality, uncovering the fact that "such a hard-and-fast rule seems ill-suited both to a caring relationship between doctor and patient and to the reality of medical care, where a hundred decisions have to be made quickly."[13] He suggests that we have gone wrong "in promoting patient autonomy as a kind of ultimate value in medicine rather than

recognizing it as one value among others."[14] Schneider discovered that what patients want most from doctors isn't autonomy per se, but competence and kindness. For Gawande, this means also "taking on burdensome decisions when patients don't want to make them, or guiding patients in the right direction when they do."[15]

D. "The Case of the Red Leg"

"The core predicament of medicine--the thing that makes being a patient so wrenching, being a doctor so difficult … is uncertainty." Uncertainty is "medicine's ground state."[16] The field is rife with "gray zones," areas where "clear scientific evidence of what to do is missing and yet choices must be made."[17] Gawande struggles with the gravity of the frequency with which doctors do wrong by their patients: failure to have done the right thing, or inaccuracy in diagnosis or treatment. And yet, decision-making cannot be done by a machine. There is no algorithm that calculates the cost-benefit analysis and comes up with the "right" answer. Even if we attempted to make "decision analysis" trees, so as to "use explicit, logical, statistical thinking instead of just [one's] gut," there is no adequate way of giving a weight or percentage of desirability to all possible outcomes.[18] And so how does one know what ought to be done in the face of uncertainty? He contemplates the often-baffling concept of *intuition*, of being able to know more than you can say or explain, and how that, too, is an inherent part of medicine.[19] Gawande writes that when there are no clear answers, decisions are made by feel: "you count on experience and judgment. And it is hard not to be troubled by this."[20]

CONCLUSION

E. Thoughts on Medicine

Gawande summarizes how:

"We look for medicine to be an orderly field of knowledge and procedure. But it is not. It is an imperfect science, an enterprise of constantly changing knowledge, uncertain information, fallible individuals, and at the same time lives on the line. There is science in what we do, yes, but also habit, intuition, and sometimes plain old guessing. The gap between what we know and what we aim for persists. And this gap complicates everything we do."[21]

What then *is* certainty? Can we ever have it? If serious decisions are ultimately made intuitively, and are laden with risk, it seems that we can never have it--either as a patient or as a physician. Despite all the science, tests, drugs, procedures, and technology in medicine's abilities, Gawande is clear about how at the heart of it all is a human being, a doctor who has good days and bad days, with gaps in his knowledge and skills he can only build through experience.

What then does our capacity to *trust* ultimately rest in? To trust is to *have faith in* something (or someone) solid or certain. But in *what*, when the outcomes are unknown? This concept is mysterious, because it is not exactly the competence of the doctor we can trust, but something even beyond them and their ability. Gawande states that: "we are all, whatever we do, in the hands of flawed human beings."[22] When physicians like Macchiarini fail their patients and the ethos of the practice so blatantly, it is cause to re-question not only *what* medicine is for, but also the way in which it is practiced. As a "fundamentally human endeavor," medicine is rife with uncertainty, guesses, and mistakes. This is not something we can change. But precisely as a human endeavor, the formation of the mind and heart of the physician is paramount to the way in which they care for the person they are given.

[1] Vogel, Gretchen. "Karolinska Institute has 'lost confidence' in Paolo Macchiarini, says won't renew his contract." *Science Magazine.* February 4, 2016. http://www.sciencemag.org/news/2016/02/karolinska-institute-has-lost-confidence-paolo-macchiarini-says-it-wont-renew-his?utm_campaign=email-news-latest&et_rid=17669483&et_cid=256735
[2] Gawande, Atul. *Complications: A Surgeon's Notes on an Imperfect Science.* Metropolitan Books, New York. 2002. P 4.
[3] Ibid, 4.
[4] Gawande, 15.
[5] Ibid, 16.
[6] Ibid, 18.
[7] "Surgical training is the recapitulation of [the] process … [of] floundering followed by fragments, followed by knowledge and occasionally a moment of elegance – over and over again, for ever harder tasks with ever greater risks," Gawande, 22.
[8] Ibid, 24.
[9] Ibid, 73.
[10] Ibid, 73.
[11] Ibid, 212.
[12] Ibid, 222.
[13] Gawande, 223.
[14] Ibid, 224.
[15] Ibid, 224. What is a "good" choice? How does the patient himself know what is best for him? Who ultimately knows what is 'best' for the patient? Medical decision-making is a fine and complicated balance between the doctor and his or her expertise with the needs of the patient. These needs, while particular to the patient and their situation, also run deeper to the underlying 'human needs' that exist at the base of everyone's experience, needs such as belonging, being 'heard,' acceptance, etc. especially in the face of suffering, fear, or loneliness. How does the doctor balance the technical aspects of the decision with the human aspect – and how are the 'real needs' of the patient uncovered?
[16] Ibid, 229
[17] Ibid, 237.
[18] Ibid, 241. A trivial example I was reminded of is in the film *Interstellar*, when Cooper doesn't agree with Amelia's decision to go to Edmund's planet–a decision she based on nothing other than her intuition-because it was an emotional and not logical one.
[19] Gawande cites the cognitive psychologist Gary Klein and the example of a fireman's intuition, who was able to leave a burning house moments before the floor collapsed beneath them. "It is because intuition sometimes succeeds that we don't know what to do with it. Such successes are not quite the result of logical thinking. But they are not the result of mere luck, either," p 247.
[20] Ibid, 237.
[21] Ibid, 7.
[22] Ibid, 105.