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CASE AND COMMENTARY: PEER-REVIEWED ARTICLE

Which Systemic Responses Should We Evolve to Help Surgeons Navigate Their Regret Experiences?

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Abstract
Regret in surgical practice is typically construed as resulting from the commission or the omission of a specific action at a specific decision point, which leads to a deleterious outcome. This article suggests a need to expand this conception of surgical regret to better account for surgeons' regret experiences arising from factors beyond their control. The commentary accompanying the case investigates these external sources of regret, such as resource limitations or professional interpersonal dynamics that prevent a desired outcome from being realized. It also discusses the normative value of addressing surgeons' experiences of regret, especially as a catalyst to facilitate positive systemic changes to ameliorate surgeons' kindred experiences of moral distress, burnout, and compassion fatigue.

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Case

Mr P is an undocumented and uninsured immigrant in his mid-40s who currently lives in the United States. Mr P presents to a major quaternary care cancer center with a large primary chondrosarcoma localized to his right hemipelvis that is over 30 cm long and extends into his abdomen, displacing many of his abdominal organs. Chondrosarcomas typically do not respond to chemotherapy or radiation,[1] and the surgical resection of such a massive tumor (which would require an external hemipelvectomy with amputation) would require the assistance of orthopedic, general, plastic, vascular, and urological surgeons. However, due to Mr P's immigration status, he is unable to receive care at the cancer center and is referred to a local county health system that primarily provides care for indigent patients.

At the county hospital, Dr O, a junior attending orthopedic oncologist, and Dr G, a senior attending surgical oncologist, collaborate to manage Mr P's care and lead discussions during tumor board meetings. Mr P's tumor type and stage suggest a 5-year overall survival rate of 72% with surgical treatment.[2,3] Without surgery, the 5-year overall

survival of similar patients is 29%.[2] Dr O and Dr G anticipate Mr P's in-hospital intensive care unit postoperative recovery from a 2-day surgery to be nearly 40 days, with an additional 20 days in a rehabilitation space.[4] Dr O and Dr G meet several times to discuss Mr P's case, both concerned that the county hospital, with its limited resources, is not sufficiently equipped to enable Mr P's care team to meet his intraoperative and postoperative care needs. However, Dr O and Dr G meet with Mr P and explain that there is a philanthropy program at the county hospital that would enable Mr P's transfer to the quaternary cancer center to which he first presented. Mr P considers this option for a couple of days and decides against surgery, opting to manage his cancer palliatively.

Although the regret was mainly experienced by Dr O, both surgeons felt regret regarding Mr P's case.

Commentary

Wilson et al has identified 2 types of surgical regret in the literature: regrets of commission, in which a surgeon proceeded with a surgery that brought about a deleterious outcome; and regrets of omission, in which a surgeon elected not to proceed with a surgery that could have prevented the worsening of a patient's condition.[5] Notably, these regrets are outcome dependent and are predicated on the surgeon having sole agency in the making and execution of a decision, isolated from colleagues, patients, and systemic factors.

By challenging these underlying assumptions, the analysis that follows aims to expand the concept of regret in surgery to include an additional type of regret in which surgeons' agency is diminished due to factors beyond their control, thereby preventing surgeons from providing the care that they believe best aligns with their patients' goals of care.

Regrets Beyond One's Control

In what follows, the authors draw upon their experiences with cases similar to Mr P's and offer additional context for Dr O's and Dr G's regret experiences. Through the discussion of the case, this section aims to demonstrate how aspects of Mr P's care that were beyond the control of the surgeons resulted in the surgeons' experiences of regret.

Professional interpersonal dynamics in the case of disagreement between junior and senior surgeons. Suppose the surgeons in this case disagreed about whether surgery was indicated for Mr P, with Dr O believing it was indicated and Dr G believing it was not. Contributing to Dr O's regret might have been his reticence to voice his concern that Dr G might not appreciate the details of Mr P's case from the perspective of an orthopedist. Although the 2 surgeons might have extensively discussed the management of Mr P's case over multiple meetings, Dr O might have been hesitant to resist Dr G's position too strongly out of respect for Dr G's seniority in rank and experience.

An aspect of medical decision-making that is not unique to this case but warrants mentioning is the dynamic between a junior physician and a senior physician. Although this relationship has not been extensively written about, ethical tensions that can arise in disagreements between junior and senior physicians can be analogous to those in disagreements between residents and attending physicians[6]: even if a senior physician has not explicitly demanded that a junior physician acquiesce to their recommendations, a junior physician's self-perception as lower ranking can influence their deferral to a senior physician's recommendations. As such, even if Dr G did not insist on Dr O's adherence to his recommendation, given Dr G's seniority, Dr O might still feel that he

could not make the decision for surgery without Dr G's genuine belief that surgery was the right option for Mr P.

With the increasing interdisciplinarity of surgical care, this case also brings attention to ethical concerns that arise when specialists in related but distinct fields have differing perspectives on the care a patient should receive. Although Dr G is not an orthopedic oncologist, he has extensive experience in cancers of the abdomen, and the tumor invasion into this space brought the case within his domain of expertise. Dr O specializes in cancers of the musculoskeletal system and their surgical management, although he does not typically operate in the abdomen. In the context of a clinically ambiguous case that few surgeons in the world have encountered, both surgeons could have regretted that they did not have prior experience with such a case to be able to definitively identify and reach consensus on the best course of treatment for Mr P.

Physician influence on patient decision-making. When Dr O initially met with Mr P, Dr O likely explained that surgery was the best chance for a cure and recommended proceeding with surgery; Mr P assented to the procedure. However, if we infer from the case that Dr G also had an appointment with Mr P, he likely emphasized the detriments of surgery and recommended against it. Both surgeons based their recommendations on their expertise in different oncologic specialties, and although both surgeons assured Mr P that the choice was his to make, Dr O could have been concerned that the presentation of information in this disjointed manner undermined Mr P's agency in making an informed decision.

Central to a responsibly guided informed consent process is the explanation of risks and benefits to the patient, which allows the patient to determine what amount of risk they are willing to accept for an anticipated benefit. In practice, however, informed consent discussions are rarely straightforward. Among the factors that lead patients to follow their clinicians' recommendations is the worry that choosing otherwise would result in retaliation or the provision of lower-quality care.[7,8] Thus, although patients are theoretically freely able to choose between the options made available to them, they might feel compelled to align their decision with their physician's recommendation despite having reservations. It can be imagined that, for Mr P, such a concern was amplified, as either choice could be construed as contrary to a recommendation of one of the surgeons, even though both surgeons would be involved in his care moving forward.

Additionally, Dr G's likely description of the negative sequelae of surgery may have disproportionately heightened Mr P's tendency toward risk aversion in decision-making.[9] In enumerating the risks of surgery, the functional deficits following surgery, and the possibility of recurrence and subsequent mortality, Mr P, if risk averse, would have interpreted such losses as overridingly unfavorable compared to the benefit of a cure, making him liable to choose in a manner that comports with Dr G's recommendation. Indeed, Mr P did ultimately elect to not undergo surgery for his tumor, noting that he wanted to preserve his current quality of life. Although it is impossible to determine the extent to which Dr G's recommendation influenced Mr P's decision, it's likely that Dr O's knowledge of Dr G's influence on Mr P's decision contributed to Dr O's regret.

Systemic factors. In the end, Dr O and Dr G agreed that the county hospital was not equipped to provide the perioperative care that Mr P would need and expressed regret that they could not offer surgery to Mr P as a treatment option. Mr P decided not to

transfer from the county hospital to the cancer center for care. The unfortunate nature of this case weighed heavily on the minds of all members of the care team, perhaps most of all on Dr O, who was left grappling with the knowledge that Mr P's only chance for a cure was decisively obviated by the systemic insufficiencies faced by the hospital.

The regret that Dr O experienced was the product of an interplay between systemic and interpersonal factors beyond Dr O's control that precluded the surgery that he believed aligned most strongly with Mr P's goals of care: resource limitations at the county hospital and his own lack of seniority and lack of unanimous collegial support meant he could not continue to offer surgery as an option in good faith, and, if both surgeons met with Mr P at different times, Mr P's decision could be affected by discrepancies in information presentation, which could have prompted Mr P to decline to transfer his care to a hospital equipped to perform the surgery.

Moral Distress and the Value of Regret

Despite regret being a negative experience, surgeons should take care not to stifle feelings of regret, as instances of ignoring regret can beget moral distress, which can occur when a health care professional is unable to perform the action they perceive to be morally right.[10,11] Left unaddressed, repeated experiences of moral distress can result in psychological harms, such as moral injury,[12] burnout, and possibly the loss of empathy, termed "compassion fatigue,"[13,14] which invariably diminish the quality of care that a surgeon can provide. It is thus of crucial importance to identify means by which surgeons who are experiencing regret can be provided with a sense of closure and assurances that their regret has been noticed and is being considered seriously. By establishing a relationship between surgeon regret, moral distress, and moral injury, the interventions that have been promulgated in the literature pertaining to clinician distress can be extended to ameliorate the moral harms that can result from surgeon regret. Reflection on regret experiences can be beneficial in identifying not only patient care values but potential targets of systemic change to prevent regret, and the negative emotional experience of regret can serve as a powerful motivator for effecting this change.

The authors recall an instance in which a surgeon at the county hospital faced a case similar to that of Dr O. The surgeon advocated for the patient by enumerating the technical and ethical difficulties of his case to physicians from different specialties and hospital systems, raising enough awareness that the blood bank at the county hospital now tries to accommodate the increased system-wide demands necessitated by the complicated cancer surgeries that the surgeon performs. The surgeon's activism, motivated by his regret experience, expanded the scope of the oncology services offered to medically underserved populations by the county hospital.

Remediation of Regret

The events of this case reveal 2 institutional interventions that may be beneficial in remedying regret. Firstly, hospitals should consider the establishment of structured debriefing sessions for the involved parties to share their thoughts on how they felt throughout the decision-making process, including ways in which they felt that their perspective was or was not considered fully, areas in which they experienced uncertainty and how they chose to navigate it, or ways in which systemic factors precluded their desired outcome from being realized. Such debriefing sessions should be a space that equalizes the hierarchical differences between care team members to allow for open

communication and can motivate quality improvement efforts to enhance patient and clinician well-being.

Secondly, as medical care becomes increasingly interdisciplinary, the incidence of disagreements among clinicians is bound to rise, and efforts to preempt regret occasioned by such disagreements are warranted. Physicians evaluating patients as part of a multidisciplinary team should thus disclose that their opinions do not always concur with the final recommendation of the care team as a whole. Subsequent meetings can occur after every member of the team has had a chance to meet with the patient and the team has had an opportunity to align recommendations with a patient's values and goals of care. Presenting information as a united team can minimize the amount of decisional conflict that patients face, as it reduces the degree to which diverging opinions of members of a care team can complicate the making of important medical decisions. In instances of inter-clinician disagreements, every effort should be made to resolve conflicts before a unified recommendation is presented to the patient to ensure that every member of the care team is given the opportunity to express their perspectives and concerns.

Conclusion

Regret is an unavoidable experience in all aspects of health care and is felt by both patients and clinicians. Regret as experienced by surgeons, however, is given scant attention in medical training and literature. This case and commentary aims to broaden the definition of regret in surgical settings, thereby legitimizing a wider scope of negative affective experiences as genuine regret deserving of attention, and to suggest novel ways of interpreting and responding to experiences of regret. Such a reconceptualization of regret in surgery might be helpful in mitigating surgeon burnout and moral injury and in catalyzing personal and structural change in the service of improving patient care.

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