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Empathy and Compassion: The Human Edge

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A patient in a state-of-the-art super specialty hospital, attended by more than half a dozen doctors, given precise medication, treated with timely surgery, and ultimately made a good recovery. The patient must be more than lucky to have recovered from a critical illness that almost took his life. Yes, he was grateful towards the entire team. Yet, he had some sadness, and a little anger. His complaint was simple yet profound, that the doctor never reached out with a simple touch of reassurance. Nobody held his hand to ease his anxiety. He felt his reports were being treated and the blood drawn everyday was giving the testimony to his illness. No one looked at his tongue or eyes, nor felt his pulse. His complaints were never even heard.

This scenario, which emerged during the COVID-19 pandemic, has now become a defining feature of modern healthcare. The patients are being examined more by technology than technique (physical examination). A battery of investigations follows and the diagnosis is made by the machines. At this juncture, AI (Artificial Intelligence) has not yet taken over. But it seems like we are silently shifting the whole weight of our work from diagnosis to treatment to the machine. A fear lurks in our minds that AI will replace human skill for even better delivery of services.

At Johns Hopkins University, a *Surgical Robot Transformer-Hierarchy,* trained on various surgical videos, recently performed a critical phase of gallbladder removal without human assistance. For the first time, a robot operated on a lifelike patient, responding to voice commands much like a novice surgeon guided by a mentor[1]. As medical roboticist Axel Krieger observed: "This advancement moves us from robots that can execute specific surgical tasks to robots that truly understand surgical procedures." This marks a giant step towards autonomous surgical systems capable of handling the unpredictable realities of patient care. This breakthrough raises an important question for us as doctors: What then remains uniquely human? In simulated scenarios and even on tissues in animal lab, since humanoid robots (STAR- Smart Tissue Anastomosis Robot) have already demonstrated accurate surgical performance, the day may not be far when they would operate independently on living patients [2]. While humans learn with a natural pace, machines are learning at lightening speed.

So, what could safeguard the future of our profession? For long, we comforted ourselves with the belief that medicine's complexity made it uniquely human. Today, we know that it was just an illusion. Radiology, Pathology, and other image-based fields are already shifting toward machine-led diagnosis [3].

What is it that will keep us in the race with a super-fast cognitive analyser? It has to be something related to emotion. And that is the magic of compassion and empathy. A detailed history taking and thorough clinical examination will enhance our diagnostic and treatment skills letting us have a command on what investigations we order and what treatment pathway we choose. At the end of the day, it gives us a satisfaction that we are truly justifying our cause for choosing this

profession. The patient feels he is being cared for, and not just being attended to.

Curiosity, Creativity and Connectivity are the human super powers that keep us distinct and above all creatures. We never thought that the machines made by our own hands would be our competitors. Instead of blind submission or even a denial that things will change towards our replacement, we must continue to hold on to the keys that will open the doors of new horizons. And, in medicine the most important power we can hold on to is connectivity through compassion and empathy.

With this background understanding, if we equip ourselves to master AI, we will be doing a great service to humanity. With a hybrid approach, we can use it to augment our capabilities in making the right diagnosis and selecting the right treatment. We can make use of AI powered tools for routine tasks so that more time is given for patient interaction. The goal should be to enhance and not to replace human expertise. So next time you see any patient, never fail to hold a hand to feel the pulse, plunge into the depth of the history and relieve not just the pain but also some of the mental agony that comes with the disease. After all, we ought to give a personal touch to the treatment we offer which is unique to our being which no machine can match. Touch, in healthcare is a complex, multi-faceted communicative channel and process, providing physical, psychological and emotional benefits [4].

Whether we like it or not, AI is here to stay, grow and change. Let us believe that AI will not replace but amplify our abilities, enabling us to integrate change into our practice and master it. Empathy and compassion will remain the true human edge and no algorithm can feel a pulse with warmth or heal a heart with kindness.

This may be true until the present time. There is constant and progressive attempt to incorporate compassion and empathy with AI in health care delivery. The interest in this incorporation has grown internationally over the last decade. In a range of healthcare contexts, AI technologies are being used to enhance empathetic awareness, empathetic response and relational behaviour. With *Human – AI System* of intelligent caring with immersive technology (Virtual Reality – VR and Augmented Reality- AR), the learning experience gets finer. Mastering surgery gets simpler, precise and safe [5]. The healthcare personnel can understand what empathy actually means. They can visualise and even experience what the patient suffers.

There is not much difference between empathy and compassion. Broadly, empathic engagement can be categorised into three dimensions; *Cognitive* or mentalizing, which pertains to the recognition and understanding of the emotional states of others; *Emotional* empathy, or affective sharing, which involves resonating with others' emotional experiences; and *Motivational* empathy, often termed empathic concern or *Compassion*, which encompasses feelings of concern for another's welfare and a readiness to act to enhance their well-being [3, 6]. In the current scenario, AI based algorithms and facial recognition technologies can recognise emotional states and at times are better and can even surpass human capabilities. They can do well with cognitive empathy. It may be difficult for AI to attain the required standards for motivational and emotional empathy [3].

This is where the Human-AI system of intelligent caring can actually do the wonders in health care delivery. Together, patient care can be amplified. Digital Chatbots can do most of the talking when there are time constraints. They can also provide preliminary support in the absence of a therapist by prompting self-reflective questioning and facilitating emotion regulation in challenging scenarios [3]. Emotional and motivational part of empathy can be handled better by human interaction, or by both in the future.

It is often said that change is the only constant in this world. The change is inevitable, and it is just waiting around the corner for our acceptance. It will arrive sooner than we think. As healthcare professionals, we must be ready to upgrade our skills and learn alongside machines to ensure better patient care. After all, it is the patient who remains at the heart of our calling, and to whom we dedicate our entire lives.

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