Complications-Our Best teachers

Murali Poduval[1]

Our tools inform our experiences, which lead us to new tools, which expand or deepen or otherwise alter our stance. Then, we shape our tools and, through experience, practice, refine and incorporate them into our stance."
- Roger L. Martin, The Opposable Mind

Life as a surgeon is full of thrills and exciting moments. The thrill of executing a surgical procedure is experienced right from student days when one first does a minor procedure. For me it was a simple suture of a contused lacerated wound, two stitches and it was like I had conquered the world. Thirty years now as a qualified doctor and about fifteen as a teacher, I reflect back on my teaching and learning and surgical experiences and realise that there were so many sources of learning in this long journey. There are books, seniors, teachers and visiting speakers and journals and videos. The most vivid learning experiences have always been my patients and their stories. In recent days I have seen authors with medical backgrounds turn patient stories into bestselling books reflecting the intense involvement a doctor has with his patients. Of these authors, my favorite has been Atul Gawande and his book 'Complications'.

How many of us actually have an open approach to surgical complications and their influence on our careers and experiential learning processes? I have personally found surgeons particularly lacking in focus on their complication rates and correcting their shortcomings.

Let us go back to 1998, I had just started practice and in a corporate hospital, I saw a 56 year old slightly overweight lady with a fracture neck femur. It needed immediate fixation and I advised her so, but their consent came a good 24 hours later. I operated on her and performed a good open reduction and internal fiction with cancellous screws. On day 13 the wound broke down and discharged cheesy material. I was devastated and took her up for a washout and sent deep cultures. Nothing was grown but I started antibiotics anyway. The wound settled and I breathed a sigh of relief, but once again by clockwork on day thirteen the wound broke open and I had the same cheesy discharge from the wound bothering me. The patient was by now irritable but stayed with me, but requested dressings at home, I washed her out and started her on higher antibiotics, I still had no culture and the histopathology was inconclusive. I visited her at home for dressings. One of these visits I noticed her not wearing any jewellery and I asked her very innocently why she didn't wear any jewellery. She said she was severely allergic to all metals and did not take the chance of wearing even gold and silver. She ate out of glass plates and avoided contact with metals. I took off the screws and the head of the femur, the wound healed easily without any antibiotics. Was this infection? Was this metal allergy? I would never know, but I did go on my guard from then on and I refused her a replacement later, I also started asking my patients about known metal allergies from then on. It was a frustrating situation and the last thing on my mind was metal allergies, as I had never seen them in practice ever before.

Never seen, never experienced equalled never known. In a span of three weeks in practice I was wiser.

A decade and a half later, I operated a very obese thirty year old man with alcohol induced osteonecrosis of the hips. I did a fairly standard and uneventful total hip replacement and he was up and about in a couple of days. He was all good till about ten days when the wound discharged an inordinate large amount of altered blood. I washed him out immediately and discovered huge amount of fat necrosis and no infective material. I started him on amikacin and a cephalosporin and he did fairly well and wounds healed gradually. He was in the ward getting his course of intravenous antibiotics. One morning he complained that he was unable to use his right hand, clinically he had a wrist drop. We ordered a neurological consult and electrolyte levels, by four pm we knew he had low electrolyte levels across the board. He continued to deteriorate despite correction measures being instituted. By evening both upper limbs were weak, he had dinner with a relative at eleven pm and went to sleep. He was found dead two hours later. What was the cause? We discussed it in the departmental mortality and morbidity meet. He had been discussed just that morning in the morbidity and mortality meet and it had been suggested that he be evaluated for a polyneuritis as it is known in alcoholics.

BUT DEATH WAS SOMETHING WE HADN'T

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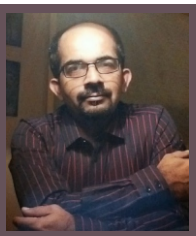

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ANTICIPATED. I spoke to nephrologists, neurologists and physicians all of whom assessed him and found nothing.

The subsequent departmental mortality and morbidity audit raised a few questions

1. Why did he die?
2. What was the cause of sudden death, was it sepsis, electrolyte imbalance, pulmonary embolism or was it a drug reaction.
3. Was the drug reaction related to an analgesic? or was it related to an antibiotic
4. We did find evidence on amikacin but it was obscure and tucked into a corner of the drug brochure and related to domiciliary administration of the drug in some groups of patients.
5. I was at sea and so was the department and so were our colleagues. I learnt my lesson though and I am much more careful with aminoglycosides now.

Complications are a part of a surgeon's development but reducing the incidence of complications is part of surgical skill.

Writing about and talking about complications has never been easy for a physician. I would even call it a traumatic experience, to be able to accept and talk about complications. Not many of us have the courage to discuss our complications and their import with our students and colleagues.

In my brief career I have learnt one thing very early, complications are our best teachers. One cannot avoid complications, and one who says he has never experienced one is lying. Complications come unannounced and take us by surprise, often leaving us helpless. The task in front of us as physicians is not to get flustered.

The common reaction to a complication is the easy way out. The doctor goes into what I call " The Defensive mode". He would say, " well this is a known complication, It is rare but known problem, I have done all I can but there is so much I can do…." Now there is another way one could respond too, what I would call " an aggressive mode"… …" I told you so"…." I had warned you this can happen in my consent, I had warned you that if you do not follow my instructions correctly there can be problems" I did my job well but the nurse missed the orders" " The physiotherapist was too aggressive". We are all familiar with these aggressive modes of shifting and apportioning blames. The occurrence of a complication is not a time for a blame game. One needs a strategy to tackle it.

1. Accept the fact that complications do occur
2. Keep a list and understand common and uncommon complications in any surgical procedure. You may do one hundred nailings in a year but the next one would land up in ARDS. Forewarned is forearmed is the motto.
3. Include a detailed consent in your surgical checklist. This consent should include detailed explanation of the surgical procedure, known risks and complications. It is a good practice to sit with the patient and spend time with him and explain patiently the details of surgery and anaesthesia. I routinely use apps from the apple store to show animations and to explain surgical procedures.
4. Do not take a standard or a stock consent for all surgical procedures. I believe the consent must have base essentials and a variable component. It is a good practice to get consent in vernacular too.
5. Use all safety measures you can. Review the surgical procedure, check your implants, and check that help is available in the operating room (OR) in the form of trained assistants and staff. It is essential that you use a surgical safety checklist in your OR as described by the World Health Organisation.
6. Followed standardised protocols in your OR and in your post operate areas.
7. When a complication occurs, man up to it. Don't run away from it.
8. Tell the patient what happened in a detached and impersonal but concerned tone, explaining the course of action next.
9. Explain to the relatives and also take a written statement that you have explained the same to them and further course of action
10. Include the event in your weekly Mortality and morbidity meets and do a basic root cause analysis. All stakeholders, anaesthetist, staff and doctors must be part of the RCA process.
11. In the event of sentinel or never events like deaths or transfusion reactions, it is essential that there be no blame games. A root cause analysis is the best way to find the reasons and the technical factors leading to the event and set in place remedial measures. It helps no-one to blame each other. Sacking a staff nurse will, in no way stop another event from occurring. But an analysis and steps change working patters will definitely help.
12. Set in place a transparent and guilt free reporting system, this will permit all staff, including nursing staff and ward attenders to report without fear of retribution. A reporting system is the heart of patient safety measures in any health providers system.
13. Have a culture of safety and quality built into your network. This happens only with behavioural and cultural changes at all levels of the healthcare system. Safety and quality and a monitoring system are the baseline for a successful and high quality healthcare delivery system. Weekly monitoring of events, audits, and the reporting system must be set in place. Our healthcare systems need to move away from traditional models and functioning to more modern systems based on concepts of quality and safety.
14. NO BLAME GAMES. It is time we learnt that complications occur and that shifting the blame is not the best way to tackle them. We must learn maturity and transparency and accountability without blame and fear of disciplinary action.

Roger Martin in 'the Opposable Mind" says how stance, tools and experiences form our personal knowledge domains. Of these, experiences are our most important companions. The use of the tools of our trade with the wealth of our experience we can shape and define how we view our work in an integrative manner. Let us be holistic and integrative in our approach to complications, not narrow minded and selfish and defensive. Let us inculcate this in our trainees and students, and integrate safety culture into our healthcare systems in a dedicated manner for the welfare of our patients.

I believe The Journal of Orthopaedic Complication is a welcome initiative where we would share experiences and problems over a dedicated peer reviewed and multimedia platform. We welcome case studies and original articles, we also will run dedicated symposia curated by experts in their field so that an in-depth look is taken at certain burning issues in orthopaedics. Over the next few years we intend to nurture this publication to make its own place amongst the best in its field.. With this issue, we begin our journey into the dark and mysterious and often misunderstood world of orthopaedic complications. On

this journey we need company, and who else is better than a good colleague and a friend, who will give solace and comfort and the best advice on the way. The team of Journal of Orthopaedic complications welcomes you to this unique venture. Lets begin… …..

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