Provision of Interdisciplinary Health Care to a Case of Compartment Syndrome with Emphasis on Team work

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ABSTRACT

The subject of importance of teamwork on medicine floor is not alien to many hospital settings. Many health care facilities practice working with inter-disciplinary teams in almost all the stages of patient analysis, diagnosis, treatment, and care to ensure the highest standard of services provided. Yet, the importance of teamwork is often overlooked and the true value offered by this inter-disciplinary meshwork of ideas is undermined. This is especially the case in many hospital settings in a lot of developing countries where most of the efforts to improve health care standards are focused on establishing bare minimum essential requirements of a hospital. In this report, we present a case of Compartment syndrome, to emphasize the importance of a multi-disciplinary team in evaluation, diagnosis, successful treatment, and subsequent discharge of patients in good health.

Key Words: *Health care, Interdisciplinary, Teamwork*

Introduction

A 48 years old, non-diabetic non-hypertensive, male presented to OPD of ANTH (Akbar Niazi Teaching Hospital) in Dec 2018 with low back pain radiating towards legs. With insignificant past drug, or surgical history, he was discharged on 3rd post-operative day. The patient presented again on 4th February, 2019 with complaints of lower back ache and swelling of left leg for 4 days along with fever. Compartment syndrome was diagnosed and the patient was counseled for a possible above-knee amputation.

The patient was in dire need of financial and psychological help. Under these unusual circumstances, different teams in the hospital (including the surgical team, the medical team, the student body, and the management) came together and provided the patient with the gold standard of healthcare.

Case Report

A 48 years old male presented to the OPD with lower back pain radiating towards the leg. He did not have any significant past medical, surgical, or drug history. The patient had a surgical consultation for an iatrogenic urethral injury while passing Foley's catheter. A supra pubic catheter was passed following a cystostomy and the patient was discharged on 3rd post-op day.

He came back 2 months later with severe lower back pain and swollen left leg with complaints of fever for 4 days. A team was formed consisting of doctors from the surgical, orthopedic, and the medicine department. The patient was put under the care of the medicine department and was started on analgesics and injectable antibiotics according to the culture and sensitivity report. Multiple surgical consultations were done: First on 5th post-op day when examination revealed frank debris in his catheter and an edematous left leg with palpable distal pulses. A second surgical consultation took place on 10th post-op day because of a burst abscess. A massively swollen leg with red discoloration of skin was observed on lateral aspect of the leg. Active pus was oozing out and there were no palpable pulses.

The patient underwent operation and 500 ml of frank pus was drained. Necrosis of anterior and lateral compartment muscles was evident. The surgeons opted for a limb salvage procedure and excised dead tissue in the hope to save the limb. The patient was shifted under the care of the ICU team and the next day another wound debridement was done.

After 2 weeks in ICU, the patient was shifted to the medicine ward and the urology department was consulted for urethral repair. The patient started walking independently with a walker shortly after with the help of the department of Physiotherapy. The patient was discharged on 28th April, 2019 in good health. After 2 weeks of discharge, he presented again for a follow-up, walking without support.

The patient did not have any caretaker with him and thus the

student body formed a team which paid regular visits to the patient for psychological care. Hospital management provided the patient with much-needed financial aid.

Discussion

Interdisciplinary teamwork is an important component of modern medicine. It helps improve healthcare by providing healthcare facilities to meet the complex needs of patients. The need to study and develop effective teamwork strategies can be emphasized by two main reasons: 1) the quality of teamwork is associated with the quality of healthcare provided to the patient. A plethora of literature establishes the connection between effective teamwork and the quality of treatment.1 2) It also benefits the healthcare professionals to propagate their skills in a more advanced and effective environment.

High-functioning teams have certain qualities which allow them to produce good results with minimal errors. These teams comprise a small number of people with complementary skills who have one mutual goal and the required work-ethics to achieve it. The case presented here shows effective interdisciplinary teamwork which helped save the leg of a patient by timely intervention and coordination among different teams.

One of the major problems encountered when trying to establish a working team is that often times our organizational structures neglect the importance of coordination. This is primarily due to the increasing emphasis put on division of labor by our industrial sectors. Due to this the delegation of responsibilities to different teams keeping in mind the principles of coordination and integration is skipped.2

Many studies have investigated and linked effective teamwork strategies and interventions with safer, high quality care.3 Effective distribution of work, well defined tasks, and interdependent set of skills working for a joint goal are just some prerequisites for teamwork emphasized upon in such studies. One such prerequisite is identifying the team as a multidisciplinary pyramid rather than assigning it labels such as the ER, ICU, and OR. Removing these labels and addressing the team as one big pyramid comprising of unique skillsets serves as means of getting the team to operate in a way, which is both effective and efficient. This pyramid representation helps to improve communication between specialists, increase patient satisfaction, improve the overall care provided, and most importantly it helps to counteract the Halo effect.4

Often times, teams have hierarchical disparities which result in communication errors. For example, a junior medical resident might not be able to express his ideas in the presence of a senior medical resident. Studies show that approximately 30% team interactions include a communication failure of some type5 and patients handled by a team with poor teamwork are five times as likely to experience complications or death.6 This is countered effectively when a team consists of individuals with “different ideas” rather than “different ranks”. This way, every unique idea presented by every individual of the team is reflected clearly and contributes to the betterment of the patient.

Conclusion

This case confirms the empirical importance of teamwork in medicine and how, if applied effectively and timely, it can save the patient from drastic outcomes and form an effective, suitable environment necessary for the patient to recover.

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