



Guest Editorial

Robot-Assisted Surgery: Future of Medicine and it's Application in MOLUMA'S Surgical Procedure

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1. Introduction

Since the beginning of any civilization, world has always witnessed that human race are the greatest innovators of all time. It originated from the discovery of fire to the invention of weapons such as stone tipped arrows to swords later as means of survival, to an arise of new millennium leading to emergence of technology and its greater advancement and innovations to make our lives better and healthy so that it could serve the potential needs of mankind and furthermore support humanity.

2. Background

The word 'technology' means the scientific knowledge which we acquire are applied for practical purpose to make our life more easier and productive. This rapid advancement of technology has made a biggest contribution in the field of development of a machine which could replace humans and its effort and also which could conduct minor to major complex functions very precisely and efficiently. This man made machine Robot also termed as 'Artificial Human' name is derived from Czech word 'robota' meaning forced labor.

In our modern period, robots are replacing humans progressively in performing and conducting the most complicated, repetitive or any hazardous task which are

beyond the imaginations of humans.

In the field of medicine the traditional open surgical procedures has many flaws and drawbacks and flaws such as very limited access to the surgical area , long recovery time, very long hours of operation, surgical scars and marks and sometimes huge blood loss. Due to such major flaws of traditional procedure, robotics was introduced in the field of medicine which have been remote and unmanned surgery done with miniaturization, smaller incision, less pain, fast healing duration and decreased blood loss furthermore which could prevent all flaws of conventional procedure. This robotic- assisted surgical procedure aids surgeons a better control over the surgical instruments and a precise view of surgical site.

Robotics are successfully performing the most complex and advanced surgical procedures with more increased precision and in a very less invasive approach. Robotic-assisted surgical procedures have effectively addressed the limitations of laparoscopic and thoracoscopic procedures and revolutionizing the minimal access surgery.

World has witnessed the first robot which assisted over 60 anthropic surgical procedure was 'Anthrobot' developed by a team of biomedical engineers in Vancouver in 1985. Furthermore development in technology and research, 'da vinci' surgical system, a robotic surgical system was introduced by Intutive Surgical system got approved from FDA in 2000. This system has been used in pyeloplasty, prostatectomy, cystectomy, nephrectomy,

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hysterectomy, myomectomy, hiatal hernia repair. The possible risk of any robotic-assisted surgery could be nerve palsies due to extreme body mobilization or even sometimes direct compression to nerve which could become a major post operation complication. There also remains a possibilities of technical or mechanical failure during this type of surgical procedure which would create a hazardous situation during the procedure at the worst scenario.

3. Innovation

Surgical robots could be defined in simple terms as a device which is fully computer manipulated and self powered which initiates the positioning and control of surgical instruments enabling the surgeons to conduct any complex operation very efficiently. In our modern health sector, this surgical robots are playing a very vital role in bringing a robotic revolution which would be able to overcome the problems of medical staff shortages in emergency times, would be able to conduct various complex operation single handedly and assists minimal complication. In an article by Hashizume M which stated that in our near future almost all surgical procedures could be performed by surgical robots.

The utmost important goal in the field of medicine should be focused on the relief of pain and suffering from any diseased condition. The relief of suffering from any disease should be conducted in such a way that patient recovers faster and with no or minimal complications. Also there is one important factor which needs to be mentioned is that this healthcare should be accessible to everyone suffering from disease, no one should be deprived of their basic need because of financial weakness or instability.

From my perspective, this robotic revolution in our healthcare would be able to bring down the cost of treatment, would be able to accessible to everyone thus curing and saving millions of deprived souls and providing them best healthcare facility and treatment .

This is the most important factor of MOLUMA'S Surgical procedure, which aims at curing and saving lives of millions and providing them the best treatment by minimizing the cost.

MOLUMA'S Surgical Procedure is designed on the basis of advancement of robotics which would be able to conduct any variety of complex surgery with the application of minimal surgical instruments. This would be conducted in a very less invasive surgical approach with very short duration

of operation followed by short hospital stays. MOLUMA'S Surgical procedure also aims at drawbacks of traditional surgical procedures such as surgical scars and marks and also sometimes huge blood loss, ensuring to resolve all the major drawbacks and providing a efficient and successful surgery.

MOLUMA'S Surgical Procedure which would be applied to cure severe form of neurovascular compression syndromes would not use the approach of Craniotomy. Craniotomy is a surgical procedure to cut a bony opening in the region of skull. The cut portion of bony flap is replaced at the end with tiny screws and titanium plate fixation. This surgical procedure comes with severe complications such as blood clots, stroke, CSF leakage, swelling of brain as well as infections. This surgery are conducted and performed by skilled and experienced surgeons only which is also followed by huge costs could not be afforded by low income group and hence they will not get treated for their sickness.

MOLUMA'S Surgical Procedure henceforth aims at achieving and employing 'Robo-Craniomes' which would be able to resolve all complications of conventional procedure. This would be very low cost effective approach, everyone would be able to get treated and benefited from severe neurological disorders permanently and successfully.

4. Conclusions

I believe we are proceeding to a generation of betterment and development in every aspects to make our lives better and also to a an era of no pain and suffering from any disease, a generation where everyone would be able to get access to their basic healthcare needs and get's treated. This would be only possible if vast research and development could be conducted on technology and healthcare that could cure incurables at low cost.

I conclude by stating that Robotics is the future of medicine which would be changing, curing and saving lives of people and ultimately serving the humanity.

Author biography

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