EDITORIAL

Robotic Surgery in Public Sector Hospitals: Irrational Use of Healthcare Resources

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In Czech, the writer Karel Èapek, in his play *R.U.R. (Rossum's Universal Robots)*, in 1920 showed artificial people called "roboti". This may be considered as an origin of word robot though literature is not clear on the subject.[1] The branch of technology that deals with various aspects of robots is called robotics. The robots in industry are in use for decades but its introduction into medicine is not that old. In 1985 Kwoh et al performed neurosurgical biopsies using Puma 560.[2] Davies et al later performed a transurethral resection of the prostate with the same system.[3] ROBODOC was the first surgical robot approved by the FDA. One such used in the field of medicine is the Da Vinci surgical system. The surgeon operates while seated comfortably at a console which is ergonomically designed.[4]

Since the introduction of technology and as the learning curve increased, the operative time of robotic surgery is now approaching that of standard laparoscopy. It has the advantage of increased precision due to 360 degree of rotation of robotic arm, avoidance of tremors, 3-dimensional vision and multi-level magnification. In comparison with the laparoscopic arms, which pivot at the 1-cm operating ports, the robotic arms eliminate this. It thus avoids leverage and minimizes tissue damage. Those who are already used to performing minimal access surgery, learns this skill quickly thus its potential in conventional surgery is apparent. Surgeons in robotic surgery do not have to stand throughout the procedure. The surgeons thus do not get fatigue. The surgical robot can be used continuously by rotating between surgical teams.[5]

Published series have demonstrated short hospital stay, less chance of damage to adjacent viscera, wound infection and less narcotic requirements and early return to work. It has more broader application in comparison with conventional laparoscopy like in prostatectomies. Its utility has also been shown in cardiac surgeries, obstetrics and even in pediatric surgical conditions like esophageal atresia.[6,7] Access through minimal size ports and lack of tremors are added advantage in comparison with open surgery. It is claimed that the reduced tissue destruction with robotic dissection improves postoperative outcomes. There is a need of studies looking at short and long term outcomes of this approach. For further evaluation randomized prospective trials are also required with systematic reviews and meta-analysis. The concerns have been shown by relevant quarters as to the overuse of technology that may have bearing on healthcare cost specially with industry push through physicians. The new technologies cost more but should that mean we question the intent of those who pursue the excellence in this field. This is a tricky question to answer. At this point in time private sector may acquire this technology as it is easy for them to compensate for cost of the equipment and hospital overheads through service charges.

In the province of Sindh a robotic surgical system is recently acquired that has generated debate among medical community in particular and public in general. The government of Pakistan is already struggling hard to deal with economic crises. With rising budgetary deficit many public sector and social sector up-lift programs have been slashed or are capped. Healthcare delivery system is also affected. The basic healthcare needs are not met with and even polio eradication drive is met with failure. In this background acquiring advanced technologies that have limited benefit to masses can not be justified. The irrational use of money from tax payers without taking any advise from stake holders, can only be deplored.

The public sector healthcare policies are usually made on utilitarian philosophy. It is time that such policies be made in a fair and equitable manner based upon scientific evidence. A transparent approach thus is expected from relevant quarters.

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