Editorial

iMedPub Journals
www.imedpub.com

Journal of Biology and Medical Research

2017
Vol.1 No.1: 1

Cardiovascular Surgery: A View in the Future

Pavel Ermolaev*

Department of Operative Surgery and Topographic Anatomy, Omsk State Medical University, Russia

***Corresponding author:** Pavel Ermolaev, Department of Operative Surgery and Topographic Anatomy, Omsk State Medical University, Russia, Tel: 79236985894, E-mail: yermol@inbox.ru

Rec date: August 31, 2017; **Acc date:** September 01, 2017**; Pub date:** September 05, 2017

Citation: Ermolaev P (2017) Cardiovascular Surgery: A View in the Future. J Biol Med Res. Vol.1 No.1: 1.

Editorial

Cardiovascular diseases are an important medical and social health problem around the world. Despite great advances in surgery, anesthesiology and intensive care, pharmacology and medical industry the incidence and mortality of circulatory diseases remain unacceptably high. Because of the increasing number of elderly patients with multifocal lesions of different vascular regions and comorbidity, that greatly increases the risk of open surgery; a significant role belongs to the development of endovascular technologies.

Until recently, classical vascular arterial surgery meant many cuts in the area of reconstructive surgery. Multilevel lesions of the arteries previously often required sequential staged operations, which were very traumatic, long time and often resulted in thrombosis of the reconstructed sections of the vascular region. In recent years there has been a tendency to integrate the technologies of open and endovascular interventions, and new specialization named hybrid surgery was born. Hybrid operations significantly expand the capabilities of vascular surgery. A hybrid approach optimally combines efficacy and low invasiveness. The introduction of hybrid technology allows reducing mortality and the incidence of postoperative complications in severe contingent of patients.

Currently, hybrid surgery is developing in four directions:

Surgery of aneurysms of the thoracic and abdominal aorta.

Transcatheter implantation of the aortic and mitral valves.

Open heart surgery and concomitant endovascular stenting of any vascular bed.

Correction of complex congenital heart diseases.

The hybrid operating room includes all the necessary equipment for open heart and endovascular interventions. All technical elements (angiography, CT and MRI scanners and video navigation systems) should be easily compatible. During one stay in hybrid operating room patient can receive all the necessary diagnostic and healing procedures in one place using most advanced medical technologies.

Another aspect of introducing a hybrid approach to everyday surgery is the problem of teaching and learning in this specialty. At present, close communication is required between medical schools and hospitals, including specialists in cardiac and vascular surgery, anesthesiology and intensive care for the development of unified protocols for medical education. Ideally an operating specialist in the field of angiology should equally confidently get the technique of open and endovascular interventions to choose the most optimal and safe method of treating the patient in each individual case.

Thus, hybrid surgery is an example of a synthesis of medical technologies and a serious alternative to traditional methods of surgical treatment of cardiovascular diseases. Hybrid reconstructive interventions are an effective and safe means of helping patients. The method allows combining the safety of minimally invasive operations and the radical technology of open reconstructions.

As it seems to me in the future there will be a further improvement of the hybrid approach. Future surgical operations will be even more low-invasive; may be ambulatory, but very high-tech. It will be robot assisted, distance, 3D-modeling surgery, diagnostic and treatment decisions will be made with the participation of algorithms of artificial intellect. New surgical methods are on the horizon, when personalized medicine is combined with human and artificial expert systems.