Robotic surgery in the field of general surgery and the role of Korean Association of Robotic Surgeons

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The traditional surgical technique of cutting with a knife and scissors or suturing with a thread and a needle faced a big change with the introduction of laparoscopic surgery in the 1980s. Laparoscopic surgery has evolved into a more advanced surgery with the introduction of new surgical techniques with the development of instruments, and minimally invasive surgery has become the mainstream of major surgery. Under this environment, robotic surgery began to be introduced in the early 2000s and applied to each field. In particular, robotic surgery was used in cancer surgery.

In addition, with the development of robotic surgery techniques, the targets of robotic surgery have also been expanded from early cancer to advanced cancer, and from gastric cancer, colon cancer, thyroid cancer, etc., to high-level surgery such as liver cancer, biliary tract cancer, pancreatic cancer, and duodenal cancer. This suggests that robotic surgery can become more common in surgical treatment, and can provide more precise and safe medical services to patients than conventional surgery.

However, despite the development of surgical robot systems and robotic surgery techniques, there is controversy over the effectiveness and safety, and there is a burden that patients have to bear expensive costs in order to be widely used. Research is needed to develop new surgical methods and create evidence, and efforts to reduce the burden on patients undergoing surgery by accepting robotic surgery as a system of medical insurance are needed. In addition, there is a need for a qualification system that allows specialized surgeons with sufficient experience and qualities to perform robotic surgery.

Korean Association of Robotic Surgeons (KAROS) is constantly striving to develop surgical methods and to create a scientific basis in all areas of surgery such as thyroid, colon, stomach, hepatobiliary and pancreas. Furthermore, our society is also engaged in activities to provide discussions and guidelines for legal and policy support.

The establishment of guidelines based on the effectiveness of robotic surgery and education/training programs must be continuously developed and updated. In addition, it is necessary to maintain KAROS’ authority and neutrality.
with respect to various robotic surgical instruments to be released in the near future, while allowing them to take the initiative and influence in this field.

Finally, it can be said that the current position of robotic surgery in Korea is the best in the world. Since the first introduction of the surgical robotic system in Korea in 2005, surgeons in various surgical fields have developed robotic surgical methods that are universally used, and have played a leading role in the development and distribution of robotic surgery by educating and training numerous foreign surgeons. In addition to the efforts to further develop robotic surgery in Korea, it is expected that active interest and investment in the research and development of advanced medical technology and systems as a preparation for the rapidly developing future medicine is also necessary. This is why the role of KAROS in the times is becoming important.

**Conflict of interest**

No potential conflict of interest relevant to this article was reported.