Robot-assisted thoracoscopic surgery (RATS) or video-assisted thoracoscopic surgery (VATS)?

Surgical support robots developed in the United States in the1990s have rapidly become popular since 2000. As of 2020, more than 5,500 units have been in operation and more than 6 million surgeries have been performed, probably due to da Vinci systems (Intuitive Surgical, co.) being used most around the world. Initially, there were many surgeries in the urology and gynecological areas, but due to the precise field of view of 3D and operability, it is considered to have many advantages in the thoracic surgery area, and the number of cases has increased, making it one of the important options for minimally invasive surgery.

On the other hand, video-assisted thoracoscopic surgery (VATS) began to spread in the 1990s as an alternative to open surgery and has now established itself as a representative surgical method for minimally invasive surgery. In recent years, uniportal VATS has attracted attention and more and more facilities are actively working on it in search of even more minimally invasiveness.

Robot-assisted thoracoscopic surgery (RATS) and uniportal VATS are both surgical methods that represent minimally invasive surgery and have many benefits in the thoracic surgery field, but the former still has limited implementation facilities and high cost issues, the latter of which can be introduced in facilities that have VATS in place, but it is said that it will take time to acquire the technic. In this special feature, we asked five experts in each field to discuss these two minimally invasive surgeries based on their present and future prospects. In any case, we have no doubt that we now have useful minimally invasive surgery option. It would be greatly appreciated if we could contribute even a little to the development of minimally invasive surgery in the future.

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