

## INVITED LECTURES

### KSS PRESIDENT LECTURE

# Liver Surgery 2020: Personal Experience for 30 years

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In this lecture, liver surgery and researches carried out in the Department of Hepatobiliary Surgery, Ajou University are revised. Since its opening in 1994, Ajou University Hospital has grown into a base hospital in the southern Gyeonggi province in a relatively short period of time. In this context, the Department of Hepatobiliary Surgery, also, started independently as a division of general surgery, and we are proud that it has fulfilled its role sufficiently by performing over 3,000 liver resections and 650 liver transplantations during the past 27 years. In this lecture, I would like to share my experience on the settlement process of liver transplantation at Ajou University Hospital. I will also, discuss the state of art technology in liver surgery and molecular markers of liver cancer which were my lifelong research projects.

Ajou University has performed 650 liver transplantations as of the end of August 2020. I will briefly summarize the history of liver transplantation in my institution, then, discuss the outcomes of 500 cases which were conducted until 2016. The focus is on the aspects that might differentiate Ajou University from other institutions. Also, I would like to share some of the difficulties we faced in the learning curve of liver transplantation and the process of overcoming them.

Recently, the introduction of laparoscopic surgery and the development of 3-D imaging technique are opening a new era in the field of liver surgery. A change in the concept of clinical anatomy of the liver, the significance of anatomical resection and the subsequent change in surgical approach are to be discussed. In addition, I would like to suggest that the success rate of anatomical resection of the liver can be augmented by introducing a "tailored hepatectomy" whereby an appropriate surgical method is selected by identifying individual anatomical variation through 3-D image analysis prior to surgery.

We have performed the three levels of researches concerning the development of molecular stratification biomarkers for Sorafenib in advanced stage HCCs during the past 10 years: 1) Training cohort study about development of biomarker using target molecules of Sorafenib, 2) its validation study using large group and limitation of target molecular study, and 3) development of disease control biomarker through nCounter technology and big data analysis. The results from these studies are to be shown in the end.