Thank you Dr. Priya for the introduction. So, we have already seen the importance of screening and the importance of surgery in early lung cancer. I don't need to brief you all about this. We are going to get older patients as our advancement in medical field is improving. So, surgical practice changing trials are hard and few. We are at a point where we have had two practice changing trials within a span of a year.

in early lung cancer. One is from the east, from the JCOG OAO2 from the Japanese group and other from the US, the CalGB 140503. We have addressed sublobar resection in less than 2 cm peripheral lung cancers.

Quickly briefing you about the trial schema of the CalGB140503. Less than 2 cm peripheral tumors after confirming histological diagnosis and on-table frozen for hilar and mediastinal station. Patients were randomized to either lobectomy or a sublobar resection which included both segmentectomy as well as wide resection.

and they were stratified for tumor size, smoking status and the histology. The primary endpoint was DFS and the secondary endpoint was OAS and difference in pulmonary function test whether removing less rung is associated with better preservation of lung and layers of local regional distance and systemic recurrence. So the trial was well randomized. There were close to 350 patients in each arm.

So the primary outcome, it was a non-inferior DFS, so segmentectomy or the sublobar resection has similar outcome to lobectomy for less than 2 cm tumours. Even the secondary outcome, the OS was good, the 5 year OS was 80.3 and 78.9 in stage 1 lung cancers. And even the pulmonary function test was similar on follow up.

and both the patients fared well even during the operative outcomes and a subgroup analysis was done comparing anatomical segmentectomies versus wedge resection there was no difference in recurrence or survival between these two groups so with this a post-hoc analysis has been done by the trial team to compare the effect of age on the post-operative complication and outcomes in patients who undergo either lobectomy or a sublobar resection

So the entire trial group was divided into three, either less than 65 years, 65 to 75 years or more than 75 years and the plan was to compare the surgical approaches, pathological findings, DFS, overall survival and the morbidity and mortality during the perioperative period.

So matching the two groups, the two groups were not evenly matched. We had more less than 65 year patients enrolled in the trial and more patients in the younger group were current smokers and N1 disease was higher in less than 65 and more than 75.

Coming to the primary outcome of the DFS, when you eyeball the entire data of lobectomy and sublobar resection across subgroups, you see there is no difference in DFS if a patient undergoes lobectomy or sublobar resection across the three age groups.

But when we just split the graphs, you see the outcomes of lobectomy in a patient undergoing less than 65 years or 65 to 75 or more than 75. You can see a hazard ratio of 1.67 in the patients undergoing lobectomy in more than 75 years, which is statistically significant. And while the patients even undergoing sublobar resection had a hazard ratio of 1.5, that's statistically significant compared to the other two age groups.

So coming to the overall survival, the entire data group comparing sublobar resections with lobectomy, there is no difference. But when you just stratify according to the age group, you can see a marked hazard ratio of death of 2.73 in patients who undergo a lobectomy for a stage 1 lung cancer in more than 75 years. While the other group, if they undergo a sublobar resection, it is not statistically significant.

So this is the entire results in a single tableau column. Even the perioperative outcomes were similar in the elder patients. Tolerated surgery, be it lobectomy or sublobar resection and the 90 day mortality were also similar between the two groups. Only the TFS and the OS is significantly worse in patients who were more than 75 years.

So, a critical point to note here is the similar trial, the JCOG trial, though they haven't published the entire results, the authors had said the non-lung cancer related mortality, you can see a 27 versus 52. The segmentectomy had a 27 deaths and 50, so twice higher in the patients undergoing lobectomy. They also noted that patients who undergo lobectomy have higher rates of death, but they are not yet

found the cause and they have quoted it probably could be the cardiovascular or the respiratory physiological changes the patients develop after undergoing a lobectomy. So this is from the national database in the US. You can see as the age increases non lung cancer death is eating into the survival even if a localized cancer has undergone curative treatment. So we have to be very careful when picking up patients and give a treatment if it is going to increase their chance of death

We have to be very specific and we have to be discussed with the patient before offering the treatment. So taking this point into consideration, there is a RCT that has started in 2016 in China and planning to occur to 340 patients which is specifically seeing patients more than 70 years if there is a difference if they undergo a segmentectomy or a lobectomy.

So older, fit patients, tall-tread surgical resection with similar adverse effects and mortality and surgery should be the treatment of choice for early lung cancer in fit patients. They have very poor DFS and OAS if they undergo a lobectomy in the more than 75 years age group. So caution needs to be taken when you are offering lobectomy. And I would prefer offering sublobar resection in feasible cases in patients who are more than 75 years of age. Thank you.