So I really want to thank the earlier speakers for covering very relevant points.
Now this talk is a short one.
The idea is to talk about therapeutic pungly interventions before surgery in, I mean,
the focus is oncology, but I will also take the chance to cover a little bit of the non-oncology
part as well from a practical perspective.
So now when we talk about, you know, whenever we talk about endobronkyl mass or something,
typically, you know, it has been a very complicated thing.
Often these patients have been excluded from various trials, etc.
So how can an endobronkyl resection actually help in assessment for thoracic surgery or
from endobronkyl stage?
You can do endobronkyl staging and endobronkyl planning.
You can leave post-obstructive pneumonitis and electrolytic cases so patients can get
less infections.
There is improvement in lung function and you can improve the pre-operative status.
So I will show you some papers as well on that.
So when we talk about therapeutic bronchoscopy, we talk about such a lesion, it can be intrinsic,
extrinsic and then, you know, if it is an intrinsic lesion, you have to debulc it.
If there is a wall which is involved, you may need to put in a stand for support.
These are the different modalities which are available for us to treat air-based stenosis.
It will be laser, cotry, cryo, dilation, stent and we typically now do this using preferably
rigid bronchoscopy, a flexible scope within the rigid bronchoscopy and typically, yes,
sometimes we use sedation often general anesthesia, okay, and it will be short general anesthesia
as well.
It is possible to do these procedures, majority of them in a given situation only with flexible
bronchoscopy and sedation.
So this is how typically we remove the intrinsic component of a stenosis, typically we use a
rigid bronchoscopy, you burn or the endobronchial tumour with electrocotry or with laser, then
now we typically more easily, lasers are not easily available in our country, so we use
laser, electrocotry and that also works pretty well.
So argon plasma, I will show you how I have used, how I, one can use electrocotry plus
argon plasma together to treat some of these regions and of course, you know argon plasma
has been used very, you know, lot by the gas metrologist and very easily available to
us through our gas stocolies.
There is a benefit of argon plasma that the beam can bend and you can actually direct
the beam to the target region much easier.
So this is the paper which we published, which I mean was published almost now 15 years ago
and this paper looked at therapeutic bronchoscopy interventions before surgical resection of
lung cancer.
This was done in my previous institution, you know, in Europe, two centres,

Heidelberg
and Basel together, 74 patients, okay.
Which is bronchoscopy was done routinely and then depending on the individual who was
doing the case that individual decided they want to use argon, laser, electrothermy or
even a mechanical chlorine.
The modalities that were used were single either a laser in 17 percent, mechanical in
7 percent, argon plasma in 5 percent, electrocotry in 5 percent, one was cryotherapy and combined
argon plasma and laser plus mechanical depridement or argon plasma and laser and stent in two
patients.
Now what is senior?
What is senior?
Senior is that there is an improvement in FEV1, okay.
So if you did an FE1, the pre procedure FE1 was 1.7 liters and that improved to 2.2 liters
and we know that FEV1 is an important parameter for fitness, for surgery and for a post-operative
outcome.
So if there is a very clear benefit, look at this.
FEV1 improved to 2.5 liters to 3.3 liters.
Somebody may argue and say we do not see so much of high FEV in our country as there is
an European built but the point is you have an improvement in the lung function if you
are able to remove the endobronchial tumor.
Now what were the parent-cammer sparing surgeries?
You know we talked about parent-cammer sparing surgeries.
Sometimes you can have a legion which comes from the right up a look, comes up to the
carina and you think oh this patient will need pneumonectomy but when you remove this
endobronchial legion with the bronchoscope, you find out it is limited only to the upper
lobe, you can go ahead and only do a right up a lobectomy.
So these are the different types of parent-cammer sparing surgeries that were done in almost
76% of the patients.
That means you could save the lung.
You know for example if you are planning a biolobectomy, you could do a single lobectomy,
if you are playing a pneumonectomy, you could do a biolobectomy or a single lobectomy.
So basically parent-cammer sparing surgery was done 58% and parent-cammer sparing eventually
happened in 42% but in a significant amount of patients, you can do a parent-cammer sparing
surgery.
So therapeutic bronchoscopy before lung surgery in selected patients helps to improve lung
function.
You can see exactly where the tumor is endobronchial because it may be popping up from somewhere
and that might not be the site because you use endobronchial staging so that might not
be the correct endobronchial staging and it permixed parent-cammer sparing surgery

and
was a reduction in post-obstructive pneumonia, post-obstructive symptoms.
Now I will show you some simple cases, okay.
Some cases that we have done before, this is a patient who had, who was diagnosed to have
a carcinoid and was asked to undergo a pneumerectomy.
So this patient was referred to us for a bronchoscopic option here and what you see here is a, clearly you see this is a complete right main, you look at this, right main bronch
is completely occluded, okay.
So in this case, this was slightly bleeding, easily bleeding tumor so opted for a diode
laser, this is a contact laser and I think this was done by Shishir and you eventually
later on, right.
So eventually we managed to, you see a large amount of the tumor has been removed and then
you have a little bit of necrotic bit, often the necrotic bit is coughed out by the patient
later on.
So what did we do for this patient?
The plan was to do a sleeved section but this patient eventually landed up with just
a bronchotomy with wide excision with a primary susing without a luminae compromise.
So clearly a pneumonectomy was saved, this patient was saved of a pneumonectomy and is
doing very well, we followed up this patient for almost two years, there has been no recurrence
so far and has done well.
This is another patient here, oops, my is not working, this I should show you, sorry,
I will, oops, oops, oops, oops, oops, oops, sorry, sorry what is happening here?
I will get you, sorry, what is happening here?
What is happening?
Let me show you the video directly.
Oops, oops, never happened before, sorry, okay, we have a year, five, one small, five,
two hours, yeah, so this is a young patient here, so we are doing a rigid bronchoscopy
and you will see here that this patient has got, she had hemicosis, you can trace the
hemicosis to that particular level there and here you can see that there is a big endodron
bronchial tumor and you know we expect it to be carcinoid.
So for this particular patient what was done is we've snared the lesion here, you will
see it so we can use a rigid bronchoscope.
This is a flexible scope which we are using through the rigid bronchoscopia and you will
see that with the snare we resected this tumor.
Now what is the idea?
Even if it's a carcinoid again we've been working with our thoracic surgeons very closely
and in this particular patient this lesion was removed and after there's a combination
here we use a combination of electro surgery and you saw that even now with it's a big
tumor.

So we try to remove it from the base after removing it from the base there's a residual
tumor there and this is where we use a combination of electro surgery plus argon plasma.
The idea is again you want to shave off whatever is the residual tumor at the base.
Clearly you see here that tumor has been it's coming out.
Sorry, we've got the unedited bit.
Yeah, so it will take a minute.
Yeah, last minute.
And you clearly see you can you see all the pus coming out so this is a post obstructive
secretion.
There are post obstructive secretions cause can cause post obstructive pneumonia.
This patient actually presented with a post obstructive pneumonia and that's how the whole
work of it happened.
So now you clearly see a large amount of the tumor has been removed and then we can use
a organ instead of using more electro-corty the base can cause a lot of airway damage.
We have now introduced the argon plasma here and clearly see with the argon plasma you
can actually, yeah this is argon plasma here.
So you burn off the base of the tumor with argon plasma and then that helps to improve
the lumen.
But this patient we after this it came out to be carcinoid we did a dota pad and this
legion was present only within the intermediate bronchus.
So even the upper low bronchus was the superior segment of the low low bronchus was spared.
And eventually this patient I think we did with vivic and george and this eventually
we could do just a sleeve resection for this patient and the patient is really doing very
well.
She is a 21 year old girl who had this problem and again she came to us from a different
state and in that state also she was offered to undergo a biolobectomy.
I think this is not fair.
So somebody wanted to undergo a biolobectomy you can actually just do a simple sleeve resection.
Now let me see if I can get back and through some important slides here.
Yeah so we have done this, we have done this and the last thing here again about a carcinoid.
This is another patient who was asked undergo a pneumonectomy L-sped is a very old patient
here.
She did not want to have surgery at any cost.
So we did, you know this is an edited video and within 30 seconds.
So you clearly see this is, she was a proven carcinoid.
So in this particular case this bit was removed.
Then if you see after we removed this part of the lesion using an electro-cortia gain.
So we thought that the lesion came out very well, job well done and then you passed the
bronchoscope again and at the end this is the last slide.
And at the end you can see that even this segmental bronchine, the secondary carinas

also have a disease and in this case what do we do?
We went ahead and we used again a simple contact form for a diode laser to remove that bit.
Now this patient, after we removed this lesion she saw the video, the family saw the video
and they refused to undergo any particular surgery.
So I almost followed up this patient for eight years.
You know we did multiple bronchoscopies, the lesions were not growing.
She was absolutely fine and then after eight years of follow up she said okay, Doc we'll
come back only if required or if I get any symptoms again.
So I think, now you see here we removed the main lesion and clearly you can see at the
carina also there are some lesions here and that were removed by diode laser.
So just to sum up, therapeutic bronchoscopy prior to surgery, leads to improvement in
lung function, facilities and dopranic cell staging, permit span camera surgery, spaying
surgery and a reduction post obstructive and post operative pneumonia and as you saw as
you were removing one of the lesions a lot of pus was already coming out.
So I think a very important thing is required from collaboration even from a pulmonologist
center on thoracic or cholosothoracic surgeon point of view.
Thank you very much.
So we can take a question after this.
Yeah, yeah, just yeah we'll do one more talk.
So now for the next talk I've got I would like to introduce Dr. Mausha who's a pulmonologist
in training and now an intensivist and pulmonologist at Nanobati Hospital and he's also involved
in a lot of oncology intensive oncology care.
So that's what I've asked him to speak on predictors of postoperative pulmonary complications
in oncology.
Thanks Mausha.