

SrID	UserName	Organisation	Question	Answers
5	DR P K GUPTA	Meerut	not audible	Video & audio recording is available on facebook and ISG Website at <a href="https://www.youtube.com/channel/UCNSyaxLI1MDWgBJyb-i7kKQ/featured?view_as=subscriber">https://www.youtube.com/channel/UCNSyaxLI1MDWgBJyb-i7kKQ/featured?view_as=subscriber</a>
4	Anand	Chennai	How to measure corrected BMI in a patient with ascites and pedal edema ?	BMI measurements can be fallacious in presence of edema and ascites and hence we avoid this parameter to assess Sarcopenia
3	Saiprasad Lad	Mumbai	What should be the approach to Obese Cirrhotics regarding dietary advice and Carbohydrate intake?	EASL guidelines clearly mention 20-25 calorie diet with 1.5 gm/Kg protein intake. No specific recommendation made for carbohydrates or fat, but refined carbohydrates are not recommended. This to be combined with change in lifestyle with progressively increasing exercises
2	Vaishali Dubey	New Delhi	Easiest and best method to screen Pt in opd for sarcopenia. The significance of prescribing protein powder and bcaa powder	Sarc-F questionnaire to suspect sarcopenia and hand grip test for making a diagnosis of probable sarcopenia. Protein powders may be prescribed to complete quota of recommended proteins and BCAA have been shown to improve nutritional status, reduced proteolysis and improved muscle mass as well as HE
1	Dr Jayesh Soni	Mumbai	Clinical practice, what are the bedside features suggestive of sarcopenia and frailty	Remember the algorithm on slide number 52
11	pradeep agarwal	Dehradun	No video also	Video & audio recording is available on facebook and ISG Website at <a href="https://www.youtube.com/channel/UCNSyaxLI1MDWgBJyb-i7kKQ/featured?view_as=subscriber">https://www.youtube.com/channel/UCNSyaxLI1MDWgBJyb-i7kKQ/featured?view_as=subscriber</a>

10	Anand	Chennai	Any role of cyclical enteral nutrition ?	Those who are unable to take adequate calories, can be hospitalised and given tube feed as an overnight drip
9	Girish Kumar Pati	Cuttack	How to assess sarcopenia bed side	Remember the algorithm on slide number 52
8	pradeep agarwal	Dehradun	No audio sir	Video & audio recording is available on facebook and ISG Website at <a href="https://www.youtube.com/channel/UCNSyaxLI1MDWgBJyb-i7kKQ/featured?view_as=subscriber">https://www.youtube.com/channel/UCNSyaxLI1MDWgBJyb-i7kKQ/featured?view_as=subscriber</a>
7	Girish Kumar Pati	Cuttack	should assessment of sarcopenia be included in recommendation of progression of NAFLD, AFL and compensated liver disease	Yees. Significance of sarcopenia in early stages of disease is much greater as compared to late disease
6	Anand	Chennai	Some of Chronic liver disease patients have chronic pancreatitis with exocrine insufficiency..how to manage nutritional requirements in this subset of patients	Pancreatic enzyme replacement therapy can be given along with diet
15	Girish Kumar Pati	Cuttack	can sarcopenia be a surrogate marker for NASH; any cut off available or not	Not known. Cut off for sarcopenia remain same as described in the talk.

18	Sudhir Maharshi	Jaipur	Which is the best method to assess sarcopenia in CLD patients with ascites	No, Remember the algorithm on slide number 52
17	Girish Kumar Pati	Cuttack	should we assess background neuronal status in all case of sarcoenia	Sarcopenia is a generalised muscle disorder. If symprtoms suggest any neurological disease or muscle disease, surely it should be evaluated
16	Sudhir Maharshi	Jaipur	Dose sarcopenia predicts other complications of cirrhosis like hepatic encephalopathy, HRS, SBP...	The association of sarcopenia withincreased risk for hepatic encephalopathy and infections has been indicated in many studies..
19	Girish Kumar Pati	Cuttack	any different cut off for sarcoenia diagnosis in cases with associated commodities such as diabetes; MS; obesity; pregnant ladies; childhood NAFLD	Cut off for sarcopenia reamin same as described in the talk. No separate information is available for children and pregnant women

20	anil arora	delhi	is sarcopenia not a direct manifestation of malnutrition should we not be definig malnutrition more oboectively than to concentrate on sarcopenia	Sarcopenia is a major component of malnutrition . Mechanisms other than malnutrition are also involved. It has its own special significance. It is unlikely that if we can asses malnutrition accurately and objectively, it will replace this diagnosis. All this is hypothetical though.
21	Girish Kumar Pati	Cuttack	CAN SARCOENIA BE A SURROGATE MARKER FOR HCC DEVELOPMENT IN SIMPLE NAFLD WITHOUT UNDERGOING NASH RELATED CIRRHOSIS	Sarcopenia and myosteatosiis are associated with higher risk of HCC development. Thogh more data is needed to accurately answer your question
23	Girish Kumar Pati	Cuttack	HOW TO FULLY CONFIRM SARCOPENIA; ANY MUSCLE BIOPSY REQUIRED OR NOT	Remember this algorithm on slide number 52. Muscle biopsy in not required unless a primary muscle disease is suspected.
22	anil arora	delhi	would not any and every chronic disease like CKD COAD CHF produce sarcopenia as part of chronic malnutrition and chronic infection	Secondary sarcopenia can be produced by many diseaeses. The quatification of the individual contribution of different etiologies is not possible at present.

28	Piyush Thakur	Varanasi	Does sarcopenia affect all groups of muscles equally or is there an order of involvement of different groups	sarcopenia is a generalised disease but is likely to involve different muscles differentially depending on how frequently a particular muscle group is utilised. Muscles not in use are likely to waste more than those that are actively being used
27	Bonthala Subbaraj satyaprakash	bangalore	Any predictors of sarcopenia before it is obvious	Life style of a person may predict, but there are no studies to demonstrate that.
26	anil arora	delhi	if cld is the cause of sarcopenia why does it not reverse after LT as happens with other complications most of which are recoverable after transplantation	I showed you the slide on the effect of immunosuppressive agents on the muscles. Most likely , corticosteroids and calcineurin inhibitors are amin culprit
25	Sharad Dev	Varanasi	Do we cut off values of Indian population to define sarcopenia by Total psoas area ?	It is a gap in knowledge, and you need to fill it.
24	Girish Kumar Pati	Cuttack	IF MUSCLE MASS THINNER BUT PERFORMANCE OF MUSCLE NOT COMPROMISED CAN WE TELL IT SARCOPENIA	Remember this algorithm on slide number 52. Thin muscles with good strength and performance will not be classified as sarcopenia.

34	Bonthala Subbaraj satyaprakash	bangalore	ideal time to intervene to prevent sarcopenia	As early as possible . I would say, as soon as diagnosis of cirrhosis is made.
33	Jayanthi	chennai	how do you diagnose myosteatorsis	Pixel density of whole muscle area on CT measured through the Slice-O-matic soft ware has been used by many studies.
32	Dr Ajay kumar	RISHIKESH	Is baseline measurement of sarcopenia by handheld dynamometer is sufficient or it should be serially measured at each visit/admission	Remember the algorithm on slide number 52
31	Santhos	Vellore	Which etiology of cirrhosis predisposes to more sarcopenia	Gap in knowledge
30	Neeraj	Hyderabad	Is It possible to reverse sarcopenia with diet or liver transplant ?	The question has been addressed in the talk. Video & audio recording is available on facebook and ISG Website at <a href="https://www.youtube.com/channel/UCNSyaxLI1MDWgBJyb-i7kKQ/featured?view_as=subscriber">https://www.youtube.com/channel/UCNSyaxLI1MDWgBJyb-i7kKQ/featured?view_as=subscriber</a>
29	x	mumbai	what is the logic of banning meat/chicken in CLD patients practiced by many doctors....	Incorrect advice. About a third of protein intake can be from animal sources if there is no encephalopathy.

36	Girish Kumar Pati	Cuttack	WHETHER ANGIOGRAPHY AND NCT SHOULD BE INCLUDED IN ASSESSEMENT TOOL BEFORE STAMPING SARCOPENIA DIAGNOSIS	Remember the algorithm on slide number 52
35	anil arora	delhi	rather than comparing sarcopenia if you look at the objective refined parameters of malnutrition you may find the same corelation of adverse outcomes	Sarcopenia is a major component of malnutrition . Mechanisms other than malnutrition are also involved. It has its own special significance. It is unlikely that if we can asses malnutrition accurately and objectively, it will replace this diagnosis.
37	HAMEED RAINA	mumbai	I believe prescribing low salt (<2gm/dl) is a major reason for low malnutrion in CLD.We should avoid putting patients of CLD on strict Salt free diet(<2 m/dl) unless with ascites ...	I agree. Low salt may rob the tase from the food. Should only be prescribed where indicated
68	Hitesh Dudhe	Hyderabad	Sir what is the cut off sarcopenia on hand grip in Indian populations	Please see nonmograms on slide no 50. Boradly Grip strength <27 Kg for men and <16 Kg for women may be abnormal

67	Dr s k sharma	New delhi	How many muscle groups you need to test to meet the diagnostic criteria ?	The tests described are related to limited number of muscles/groups. They representatative of whole body muscles
66	Vivek Joshi	Chennai	Can sarcopenia and myosteatorsis coexist?	Please see definition. In new definition, it is part of sarcopenia.
65	Samir	lko	Assessment of sarcopenia in setting of NAFLD-CLD	Same as described . Remember the algorithm on slide number 52
64	Dr K S Narayan	Dhanbad	Sir.. just using dynamometer is sufficient for diagnosing sarcopenia or anything else also needs to be done ?	Remember the algorithm on slide number 52
63	Hiteshi Dhami Shah	Mumbai	How much of BCAA per kg body weight do you suggest with patients with Sarcopenia?	0.25g/kg/day is recommended slong with high protein diet.
62	Babu Vinish	Chennai	In a patient with DCLD, volume overload w with encephalopathy and GI bleed who has been banded - how would you give calories to the patient	As liquid diet. . I agree that it is difficult in the setting of emergency. As soon as volume overload has been treated, and one can start enteral feeding with high protein diet.
61	Thankappan.k.r	Trivandrum	C	Correct for question-1



60	Sunil Raviraj	Trivandrum	For sarcopenia what are all tests we need to mention while presenting a long case in practical exam?	Remember the algorithm on slide number 52
59	ASHMEET CHOUDHARY	indore	Can testosterone be used in cirrhotics	Yes, for those who have lower levels of this hormones.
58	Jacob	Chennai		3 correct for question-1
57	Jaseem	Bengaluru	CT cutoffs for sarcopenia - 50 and 39 cm <sup>2</sup> /m <sup>2</sup> for males and females - based on studies in western population , what cutoffs should we use for Indian population ?	Gap in knowledge. Need you to plan a research on this question
56	Anuraag	Chandigarh	validated bed side tests For diagnosis of sarcopenia apart from dynamometer ?	Remember the algorithm on slide number 52
55	vishnu agarwal	jaipur	sir between frailty and sarcopenia which one is better predictor of prognosis	Both are. My contention is that when you measure frailty, you are measuring sarcopenia but incompletely.

73	Damodar Krishnan	Chennai	Pathogenetic difference of sarcopenia and sarcopenic obesity if any ?	Insulin resistance may be a major contributor in sarcopenic obesity. But this an open question.
72	Kailash Kolhe	Mumbai	Role of testosterone in mx of sarcopenia	See slide number 64.
71	Hiteshi Dhami Shah	Mumbai	How much of resistance training exercise would you suggest per week in patients with Sarcopenia?	It is very good question. I request you to go through Puneeta Tandon's paper at Journal of Hepatology 2018 vol. 69 j 1164–1177. It needs to be carefully planned.
70	ARUN	Lucknow	is there any different cut-off of SMI for Indian population?	Gap in knowledge. Need you to plan a research on this question
77	Jayakumar	Trivandrum	LVP seem to cause sarcopenia.Does more frequent albumin prevent sarcopenia	Gap in knowledge. Need you to plan a research on this question
76	ABHISHEK ANIL MUFKALWAR	HYDERABAD	Can we prevent development of sarcopenia in a preserved liver function. If yes how	Nutrition and exercise are good methods to begin with
75	gauri	tamil nadu	Is there any effect on smooth muscles too?	People with sarcopenia may have associated cirrhostic cardiomyopathy. Effect on other smooth muscles is not known.

74	Dr suyash	Dehradun	Does protein supplement have a role in sarcopenia management in CLD? What particular protein composition needed?	Yes. Recommended amount is 1.2-1.5/kg/day . A third of this could be animal protein, another third as plant based and remaining from vegetable sources.
101	Shreya	Lucknow	Severe sarcopenia is associated with poor post transplant survival. Is there any cut off beyond which patient should not be listed for LT?	Transplant is currently planned for liver failure and depends on severity of liver disease. Sarcopenia at lower MELD values under prioritizes patients. There are no cut offs that make LT a contraindication
104	Dr Ajay kumar	RISHIKESH	Is serial measurement of sarcopenia has some prognostic significance? can it identify occurrence of HE	Yes it has significance. Progressing sarcopenia predicts higher risk of hepatic encephalopathy
103	ravi	ahmedabad	Are this 4 meter test standard different for different populations?	Grading is 1. unable to walk=0; >8.7 Sec=1, 6.21-8.7=2; 4.82-6.20=3 and <4.83=4 points
105	anil arora	delhi	if sarcopenia has multiple preop prognostic correlates why it is not seen after LT in terms of reversal	Due to catabolic effect of immunosuppressive drugs on muscles
107	Dr Vimal B Saradava	Rajkot	S myostatin level test available in india? cost?	Not available yet

112	Girish Kumar Pati	Cuttack	ROLE OF ANABOLIC STEROID IN SARCOPENIA	No RCTs are available. It's a Gap in knowledge
111	Arpan	Delhi	Role of muscle biopsy in diagnosis?	Muscle biopsy is not required unless you suspect an additional primary muscle disease
110	ANKIT MAHESHWARI	kolkata	short n long term effect of exercise in terms of portal hypertension and ammonia metabolism?	Improvement in General wellbeing, Improved VO2 Max, muscle mass, ventilatory functions has been shown. No robust RCTs for mortality, but recommended universally Not Robust for mortality, but recommended universally
109	SIMNA L	Trivandrum	Can we use the usual antropometric measurements like TSF, MAC,MAMC for diagnosing sarcopenia?	Not accurate enough. Remember the algorithm on slide number 52
108	anil arora	delhi	is it a prime time to obectivise malnutrition more clearly of which sarcopenia is just a part rather than have the prsmatic view of looking at sarcopenia alone	Sarcopenia is a major component of malnutrition . Mechanisms other than malnutrition are also involved. It has its own special significance. It is unlikely that if we can asses malnutrition accurately and objectively, it will replace this diagnosis. All this is hypothetical though.
113	Venkatakrishnan Leelakrishnan	Coimbatore	Role of TIPP's in sarcopenia. Will Mtor inhibitors worsen sarcopenia post LT	Question has been answered in slide no 56. Please see Tsien C, Shah SN, McCullough AJ, Dasarathy S. Reversal of sarcopenia predicts survival after a transjugular intrahepatic portosystemic stent. Eur J Gastro Hepatol 2013; 25: 85–93. . Yes mTOR inhibitors aggravate sarcopenia

116	Dr Ajay kumar	RISHIKESH	Is serial measurement of sarcopenia has some prognostic significance? can it identify occurrence of HE	Yes it has significance. Progressing sarcopenia predicts higher risk of hepatic encephalopathy
115	Hozefa Runderawala	Mumbai	How to treat sarcopenia obesity?	Overall calorie intake to reduce 20-25 cal/kg/day with 1.5g/kg/day proteins and exercise programmes to achieve negative calorie balance
114	anil arora	delhi	fat in the muscle alone is it as bad as in the liver or does it have to trigger muscle injury in the muscle	Fat in muscle has additional prognostic significance than fat in the liver. Pathogenetically both may involve insulin resistance
119	ishtkhar ahmed	Jaipur	How sarcopenia leads to increase mortality in CLD?	One of the main factors is increased susceptibility for infections
118	Sharad Dev	Varanasi	Which peripheral muscle circumference measurements correlates best with sarcopenia ?	Muscle circumference may not be accurate measure of muscle size. Myosteatosis is a major bias.
117	Piyush Thakur	Varanasi	Have there been studies correlating blood ammonia levels with psoas muscle area?	Dr S Dasarathy has shown that prolonged hyperammonemia is related to sarcopenia. Ammonia levels at any instant may not have any direct correlation.
125	Girish Kumar Pati	Cuttack	ROLE OF BETA BLOCKER IN SARCOPENIA	Beta blocker are associated with increased body fat, but no direct correlation with sarcopenia is described.

124	Hozefa Runderawala	Mumbai	What kind of exercises recommended, isotonic or isometric?	Both are recommended. I request you to go through Puneeta Tandon's paper at Journal of Hepatology 2018 vol. 69 j 1164–1177. It needs to be carefully planned.
123	Dr S K MISHRA	New Delhi	Role of glutamine in sarcopenia of cirrhosis	No RCTs are available. It's a Gap in knowledge
122	Dr S K MISHRA	New Delhi	Role of glutamine in sarcopenia of cirrhosis	No RCTs are available. It's a Gap in knowledge
121	Hozefa Runderawala	Mumbai	Will sarcopenia diagnosis have role in high MELD score CLD	Prognostic significance of sarcopenia diminishes as MELD scores rise above 20
120	Dr Ajay kumar	RISHIKESH	Any role of I/V branched aminoacids in building up of muscles in sarcopenia as in fasting state muscle protein is converted to amino acids.	IV therapy can only be given to hospitalised patients and can be tried if oral intake is not adequate. However, for domiciliary care oral therapy is preferred.
128	Dhruvin Shah	Chennai	What diet and caloric value to be used in obese cirrhotic patients? Using the usual high caloric diet may worsen the obesity? and should weight loss be a target of treatment in these patients?	EASL Guidelines have resolved your question. Overall calorie intake to reduce 20-25 cal/kg/day with 1.5g/kg/day proteins and exercise programmes to achieve negative calorie balance
127	Jayanthi	Chennai	not audible	Video and audio is available on ISG website

126	Piyush Thakur	Varanasi	How has been your experience with following up patients with a low meld score and sarcopenia after advising them with proper nutrition, BCAA or other measures. How long does it take for an objective improvement in sarcopenia and for how long is it maintained.	Improved survival has been demonstrated in this group. It is an ongoing treatment. Target would be reaching close to ideal weight gradually.
133	Parth Shah	Ahmedabad	Impact of Sr. Magnesium levels on Sarcopenia. And role of Magnesium as a therapy for Sarcopenia in CLD.	<b>Magnesium</b> status is strictly related to muscle ATP and muscle function. Both <b>magnesium</b> deficiency and <b>sarcopenia</b> tend to be more prevalent at older ages, it is felt that poor <b>magnesium</b> status contributes to late-life <b>sarcopenia</b> . Similar relationship may be possible in cirrhosis
132	SUBHASISH MAZUMDER	NOIDA	1.What should be the height of the chair in chair test?	Use a standard chair with arms and with a seat height of approximately 17 inches for all assessments, regardless of the height of the subject. Place the back of the chair against a wall to prevent movement during the test.
131	Anuraag	Chandigarh	Aerobic vs resistance exercises in sarcopenia ?	Both are recommended. I request you to go through Puneeta Tandon's paper at Journal of Hepatology 2018 vol. 69 j 1164–1177. It needs to be carefully planned.
130	Dr Hiteshi Dhani	Mumbai	Is Urinary urea nitrogen is good test to check the protein assimilation in patients with Sarcopenia?	Urinary creatinine to urinary nitrogen ratio is suggestive of muscle protein catabolism in renal failure.test is dependent on several extraneous factors and hence not an accurate test for sarcopenia.

129	Girish Kumar Pati	Cuttack	ANY ROLE OF GCSF IN SARCOPENIA	No studies in Humans. G-CSF is involved in load-induced muscle hypertrophy in experimental animals
154	Rajat dnb gastro student	Bhubaneswar	Namaste sir, how to check for micro nutrients such as b complex, minerals and trace elents	Test for their blood levels are available
153	Doctor	Chennai	Association btw sarcopenia and hrs sir ???	Sarcopenia is usually observed in patient with HRS. Any relationship over and above risk if infections has not been demonstrated.
152	Dr s k sharma	New delhi	Excellent and educative talk.Slide quality and content show How much effort has been put in. Congrats Dr Anand.	Thanks
150	Dr.Babu lal	pgimer	sir, 1. Whatsis the effect of exercise of portal hypertension. 2. How we start exercise for patients for gross ascites ?	During moderate exercise, there is transient increase in portal pressure by long term benefit may be there. I request you to go through Puneeta Tandon's paper at Journal of Hepatology 2018 vol. 69 j 1164–1177. It needs to be carefully planned.
139	Subhamoy	Kolkata	Any sudy on prognosis of liver transtplant in severely Sarcopenic patients	Kuo SZ. Transplantation 2019; 103: 2312-2317; Micheal et al Am Coll Surg. 2010 and J Am Coll Surg. 2013 Nov; 217(5): 10.1016/j.jamcollsurg.2013.04.042.; Ja Young Jeon, Hee-Jung Wang, So Young Ock, Weiguang Xu, Jung-Dong Lee, Jei Hee Lee, Hae Jin Kim, Dae Jung Kim, Kwan Woo Lee, Seung Jin Han. v Research Article   published 30 Nov 2015 PLOS ONE; <a href="https://doi.org/10.1371/journal.pone.0143966">https://doi.org/10.1371/journal.pone.0143966</a>



136	Dr K S Narayan	Dhanbad	Sir.. what is the dietary advise we can give especially in Indian respect ?	Dietary advise is summarised in my conclusion slide no 71. The presentation is available at ISG website
135	Girish Kumar Pati	Cuttack	ANY ROLE OF THYROXIN IN SARCOPENIA	TSH has a U-shaped association with sarcopenia and low muscle strength. That mean both low and high levels of hormones may be associated with sarcopenia.
134	VIJAY SHANKER	Patna	Role of anabolic stroids in sarcopenia of cirrhosis ?	No RCTs are vailable to make any recommendation
155	Mukul Rastogi Dr	Noida	Post TIPPS HYPERAMMONIA can further deterioration of muscle mass ? Please comment	As I mentioned, Porto-systemic shunting is used as an experimental model in animals to produce sarcopenia. Interestingly, TIPS has been shown in cirrhosis to improve muscle mass as well as mortality. The mechanism involved is not known.
158	Asif	Kerala	Is there any Indian reference value for hand grip strength based on North or South differences..??for men and women	Generally speaking grip strength <26 Kg for men and <18 Kg for women is suggestove of sarcopenia. However nomograms for indian patientis of different areas have not been prepared. It's a gap in knowledge.
156	Doctor	Chennai	Role of midarm MUSCLE CIRCUMFERENCE in assessment??	Not an accurate measure of sarcopenia. Remember this algorithm on slide number 52
165	Hitesh Dudhe	Hyderabad	What will be impact of sarcopenic obesity on handgrip	If sarcopenia has been diagnosed, it means muscle strength was below normal for age, sex and ethnic groups studied.
164	naveen polavarapu	Hyderabad	Excellent talk Dr Anand. can u please provide a link for the talk to watch later on.	It is available at ISG website

163	Ajay	Chennai	Insulin has any role not only nafld but other cld, as an anabolic hormone	Insulin resistance (IR) in skeletal muscle is a key defect mediating the link between obesity, sarcopenia and type 2 diabetes. Insulin resistance is associated with high insulin levels which are lipogenic
162	Dr Jairaj V Bomman	Bangalore	Is Hand grip muscle strength equivalent to psoas muscle mass. Cos hands are regularly under use as contributes to exercise more than leg muscles	Eact test is representative of overall muscle strength. Hand grip strength if low suggests proppable sarcopenia. The quantity and quality of muscle is a different dimation of muscles and need to be separately measured to confirm the diagnosis.
161	Swapnil	Mumbai	What is cut off for hand grip strength on dynamometer.? Any cut off of hand held dynamometer values for india.	Generally speaking grip strength <26 Kg for men and <18 Kg for women is suggestove of sarcopenia. However nomograms for indian patientis of different areas have not been prepared. It's a gap in knowledge.
160	Goutham	Chennai	Role of IV albumin infusion weekly or monthly on sarcopenia ?	Sarcopenia is assciated with lower albumin levels. I.V. albumin therapy may retard progression of sarcopenia, though there are no RCT to demonstrate this.
159	Abhirup Chatterjee	Kolkata	Sir is Dexa recommended for sarcopenia measurement?	DEXA can be used but is not as accurate as CT or MRI
174	Jijo Varghese	Trivandrum	What is the effect sirolimus on post transplant Patients in terms of sarcopenia?	mTOR inhibitors lead to inhibition of muscle protein synthesis and enhancement of protein breakdown. Hence they enhance sarcopenia.
173	Dr. Chandan	Chennai	Can TIPS induced hyperammonimeia worsen sarcopenia	As I mentioned, Porto-systemic shunting is used as an experimental model in animals to produce sarcopenia. Interestingly, TIPS has been shown in cirrhosis to improve muscle mass as well as mortality. The mechanism involved is not known.

172	Mukul Rastogi Dr	Noida	Any comment on cardiogenic isarcopenia in cirrhotic ?	Chronic congestive heart failure can also lead to sarcopenia. If cirrhosis and heart failure coexist, there will be two factors contributing to sarcopenia. It must be noted though that cirrhotic cardiomyopathy incidence is higher in patients with sarcopenia
171	Jijo Varghese	Trivandrum	Sir is there any role of myostatin and activin antibodies in treating sarcopenia in cirrhosis	Myostatin antibodies are undergoing phase 2 clinical trials. Results are awaited.
170	shubham	new delhi	Role of hormone - eg. testosterone supplementation in sarcopenia in CLD?	Yes, Testosterone therapy is indicated in those patients with Cirrhosis and sarcopenia, where deficiency of testosterone has been demonstrated.
169	Babu Vinish	Chennai	Testosterone is given i.m, but with a high INR, would you recommend it, in patients with low testosterone	Yes, Testosterone therapy is indicated in those patients with Cirrhosis and sarcopenia, where deficiency of testosterone has been demonstrated. Where IV can not be given oral substitutes can be tried.
168	Sharad Dev	Varanasi	What are the risk factors/patient subgroup in CLD to develop more pronounced sarcopenia ?	Inactive patients, with poor nutrition, low testosterone levels, multiple infections and associated hyperammonemia.
167	Karthik Manoharan	Chennai	will testosterone supplement will help build muscle mass in CLD	Yes, Testosterone therapy is indicated in those patients with Cirrhosis and sarcopenia, where deficiency of testosterone has been demonstrated.
166	Dr S K MISHRA	New Delhi	Isometric or isotonic exercise- which is better?	Both are equally effective. I request you to go through Puneeta Tandon's paper at Journal of Hepatology 2018 vol. 69 j 1164–1177. It needs to be carefully planned.
175	Jijo Varghese	Trivandrum	Sir did lasix had adverse effects from sarcopenia?	Furosemide has been related to sarcopenia in CKD. But in cirrhosis, its relationship with muscle cramps is described. No etiological link has been proven