

Advanced care planning and influences of hepatocellular carcinoma for liver cirrhosis patients: An Asian perspective

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Dear Editor,

Liver cirrhosis is a significant cause of morbidity and mortality in Singapore. Decompensated liver cirrhosis patients have a poor prognosis with a median survival of less than 2 years.¹ These patients often suffer from a high symptom burden with progressive deterioration compounded by acute and life-threatening decompensating events, which can be unpredictable.² It is thus important for physicians to incorporate advanced care planning (ACP) to align goals of cares as part of their management.

As there is very limited data on ACP specifically for liver cirrhosis patients in Singapore and Asia, the authors reviewed electronic ACP discussion records at their hospital, Sengkang General Hospital in Singapore, from January 2018 to December 2024, to investigate barriers to ACP, overall ACP outcomes, and the influence of hepatocellular carcinoma (HCC) diagnosis on ACP preferences for liver cirrhosis patients. ACP outcomes were tracked up till June 2025.

Only 72 (10.0% of cohort) liver cirrhosis patients were identified to have ACP discussion records, with mean age of 71.69 years, 51.39% of male sex, and 73.61% of Chinese ethnicity. Thirty-one patients had HCC (43.06%). Forty-one patients rejected or did not complete ACP (56.94%). For all patients who completed ACP (31/72), the median number of ACP counselling sessions was 1 and the median total time spent on discussion was 60.0 (interquartile range [IQR] 45.0–60.0) minutes. The median duration between ACP introduction and death was 54.0 (IQR 19.0–139.0) days. For preferred place of death, a majority of patients chose their own home (11/31, 35.5%), followed by no preference (10/31, 32.3%), and hospital (8/31, 25.8%). Differences between HCC and non-HCC patients for preferred place of death were not statistically significant ($P=0.946$). For preferred place of care, 80% (12/15) of HCC patients selected their own home or long-term care facilities over the hospital, compared

to 25% (4/16) of non-HCC patients ($P=0.0105$). Logistic regression analysis revealed that HCC patients were far more likely to select their own home or long-term care facilities over the hospital, compared to non-HCC patients (odds ratio [OR] 12.0, $P=0.004$, confidence interval [CI] 0.788–4.182). For preferred medical intervention, most patients (29/31, 93.5%) chose limited additional intervention, and all patients opted not to attempt cardiopulmonary resuscitation (Table 1).

Reasons for ACP rejection/non-completion were: death before completion (11/28, 39.3%), lack of readiness to discuss ACP (9/28, 32.1%), family-centredness (7/28, 25.0%), and patient condition hindering ACP discussion (1/28, 3.6%) such as encephalopathy. Reasons categorised under “lack of readiness” theme included: (1) patients that simply indicated unreadiness to discuss ACP (6/9, 66.7%); (2) patient preference to discuss ACP when situation arises (2/9, 22.2%); (3) patient perception that ACP is unnecessary (1/9, 11.1%). Reasons for “family-centredness” included: (1) patient preference to leave decision to family (2/7, 28.6%); (2) family excluding patient from decision-making (2/7, 28.6%); (3) family does not want patient to know their diagnosis (1/7, 14.3%); (4) family unready for ACP discussion (1/7, 14.3%); and (5) family does not want patient to think about end of life (1/7, 14.3%).

The findings show that incomplete ACPs in liver cirrhosis were due mostly to the lack of timely ACP initiation as patients died before ACP could be completed. This could be contributed by the unpredictable disease course of end-stage liver disease leading to prognostic uncertainty from physicians, especially if liver transplant is an option,³ and resulting in delays of ACP discussions.⁴ This is congruent with data from the West, whereby ACP discussions often commenced only when patients experienced severe deterioration and prognosis was poor.⁵ Second, patients’ lack of readiness to discuss ACP was likely

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Table 1. Baseline demographics and advanced care planning data.

Variables		Cohort (n=72)	HCC patients (n=31)	Non-HCC patients (n=41)	P value
Age, mean (SD)		71.69 (11.98)	69.55 (12.24)	73.32 (11.67)	0.188
Sex, no. (%)					0.144
Male		37 (51.39)	19 (61.29)	18 (43.90)	
Female		35 (48.61)	12 (38.71)	23 (56.10)	
Race, no. (%)					0.454
Chinese		53 (73.61)	24 (77.42)	29 (70.73)	
Malay		10 (13.89)	5 (16.13)	5 (12.20)	
Indian		7 (9.72)	1 (3.23)	6 (14.63)	
Others		2 (2.78)	1 (3.23)	1 (2.44)	
Religion, no. (%)					0.934
Christian		7 (9.72)	4 (12.90)	3 (7.32)	
Buddhist		4 (5.56)	2 (6.45)	2 (4.88)	
Taoist		7 (9.72)	2 (6.45)	5 (12.20)	
Muslim		9 (12.50)	5 (16.13)	4 (9.76)	
Hindu		3 (4.17)	1 (3.23)	2 (4.88)	
Catholic		4 (5.56)	2 (6.45)	2 (4.88)	
Free thinker		2 (2.78)	1 (3.23)	1 (2.44)	
Unspecified		36 (50.00)	14 (45.16)	22 (53.66)	
ACP outcomes, no. (%)					0.580
Completed		31 (43.06)	15 (48.39)	16 (39.02)	
Not completed/rejected		41 (56.94)	16 (51.61)	25 (60.98)	
ACP discussion process	No. of ACP counselling sessions, median (IQR)	1 (1–1)	1 (1–1)	1 (1–1)	0.366
	Total time spent on discussion (minutes), median (IQR)	60.0 (45.0–60.0)	45.0 (42.5–60.0)	60.0 (60.0–60.0)	0.072
	Duration between ACP introduction and death (days), median (IQR)	54.0 (19.0–139.0)	73.0 (17.0–135.0)	52.5 (21.0–147.8)	0.846
Preferred place of death (for completed ACP n=31)	Hospital	25.8% (8/31)	26.7% (4/15)	25.0% (4/16)	0.946
	Own home	35.5% (11/31)	40.0% (6/15)	31.3% (5/16)	
	Long-term care facilities (hospice, nursing home)	6.5% (2/31)	6.7% (1/15)	6.3% (1/16)	
	No preference	32.3% (10/31)	26.7% (4/15)	37.5% (6/16)	
Preferred place of care (for completed ACP n = 31)	Hospital	48.4% (15/31)	20.0% (3/15)	75.0% (12/16)	0.0105
	Own home	32.3% (10/31)	46.7% (7/15)	18.8% (3/16)	
	Long-term care facilities (hospice, nursing home)	19.4% (6/31)	33.3% (5/15)	6.3% (1/16)	
Care plans (for completed ACP n=31)	Limited additional intervention	93.5% (29/31)	86.7% (13/15)	100% (16/16)	0.226
	Do not resuscitate	100% (31/31)	100% (15/15)	100% (16/16)	

ACP: advanced care planning; IQR: interquartile range; SD: standard deviation

due to the distressing nature of ACP discussions. The idea of mortality underpins the discussion, and patients may not have come to terms with their prognosis. This is especially significant, where death is considered a taboo topic in Asian culture. Cirrhosis patients may also harbour excessively optimistic perceptions of their prognosis, which could influence them to pursue more aggressive interventions rather than palliative options.⁶ Lastly, family-centredness, which is the dominant role family members play in decision-making, was another prominent factor contributing to ACP non-completion/rejection. In Singapore's Asian cultural context, family-centred values and customs are deeply rooted into its social fabric. Collective input often takes precedence over individual autonomy and families play a central role in guiding healthcare choices. Asian family members are given substantial decision-making power in ACP discussions, particularly for elderly patients.⁷

The results also revealed a statistically significant association between HCC diagnosis and preferred place of care, with HCC patients preferring long-term care facilities or their own homes over the hospital (OR 12.0, $P=0.004$, [CI 0.788–4.182]). This could be attributed to the higher certainty of poor prognosis in HCC patients compared to non-HCC patients, which compels HCC patients to prioritise comfort. This is similar to a study on decompensated liver cirrhosis patients in the West, which showed that HCC liver cirrhosis patients had statistically significant higher odds of receiving hospice care compared to non-HCC liver cirrhosis patients.⁸

In conclusion, ACP completion rates for liver cirrhosis patients in Singapore are low, and important barriers identified were lack of timely initiation, lack of readiness, and family-centredness. Additionally, HCC diagnosis influences care plans, with HCC patients preferring to stay out of the hospital and non-HCC patients preferring hospitalisation. Knowledge of the barriers to ACP and the influence of HCC diagnosis may aid healthcare providers in guiding patients towards their most ideal ACP decisions that can satisfy their goals of care and wishes. ACP is an integral part of patient care in liver cirrhosis and should be encouraged earlier on in disease management.

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Ethics statement

This study was approved by SingHealth Centralised Institutional Review Board. Informed consent from patients was not required as authors used an existing dataset that was stripped of all identifying information (ECOS Ref: 2024-2251).

Declaration

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