Supplementary

Table S1 Comparison between MAFLD and NAFLD for the identification of CKD

Author, year	Study design	Study population	Diagnosis of fatty liver	Diagnosis of CKD	Results
Tanaka, 2022, (26)	Retrospective cohort	13,159 Japanese 32.8% NAFLD; 32.3% MAFLD	Liver ultrasonography	Positive for urinary protein or eGFR <60 mL/min/1.73 m^2	MAFLD better identified and predicted CKD than NAFLD
Liang, 2022, (21)	Prospective cohort	6,873 Chinese 40.3% NAFLD; 46.7% MAFLD	Liver ultrasonography	u-ACR ≥30 mg/g and/or eGFR <60 mL/min/1.73 m^2	Both equivalently increased incident risks of CKD
Jung, 2022, (27)	Retrospective cohort	268,946 Korean 27.4% NAFLD; 33% MAFLD	Fatty liver index ≥30	Positive for urinary protein or eGFR <60 mL/min/1.73 m^2	MAFLD better identified CKD than NAFLD
Zhang, 2021, (28)	Cross-sectional study	19,617 from US national surveys, 1999–2016 26.4–33% NAFLD; 28.4–35.8% MAFLD	Ultrasound-fatty liver index	u-ACR ≥30 mg/g and/or eGFR <60 mL/min/1.73 m^2	MAFLD and NAFLD had comparable prevalence for CKD
Sun, 2021, (25)	Cross-sectional study	12,571 from US national surveys, 1988–1994 36.2% NAFLD; 30.2% MAFLD	Liver ultrasonography	According to the KDIGO guidelines	MAFLD better identified CKD than NAFLD
Hashimoto, 2022, (23)	Cross-sectional study	27,371 Japanese 2.3% NAFLD; 20.8% MAFLD	Liver ultrasonography	Positive for urinary protein or eGFR <60 mL/min/1.73 m^2	MAFLD was independently associated with CKD, while NAFLD not

MAFLD, metabolic dysfunction-associated fatty liver disease; NAFLD, non-alcoholic fatty liver disease; CKD, chronic kidney disease; eGFR, estimated glomerular filtration rate; u-ACR, urinary albumin-to-creatinine ratio; KDIGO, Kidney Disease: Improving Global Outcomes.

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Table S2 Results of round 1 of the Delphi process

Domain and statements	Agree	Somewhat agree	Somewhat disagree	Disagree
1. Epidemiology of MAFLD and CKD				
1.1 The prevalence of CKD in individuals with MAFLD is higher compared to that in the non-MAFLD population	82%	18%		
1.2 MAFLD is an independent risk factor for CKD in patients with T2D, even after adjustment for common risk factors for CKD	72%	28%		
1.3 MAFLD is an independent risk factor for CKD in patients without T2D, even after adjustment for common risk factors for CKD	60%	38%	2%	
1.4 MAFLD is associated with a greater risk of CKD than patients with liver fat but without evidence of systemic metabolic dysregulation	50%	34%	16%	
1.5 MAFLD is associated with an increased incidence of CKD	82%	18%		
1.6 MAFLD is associated with an increased risk of kidney disease in childhood	30%	46%	18%	6%
1.7 CKD increases the risk of overall mortality among patients with MAFLD	74%	24%	2%	
2. Severity of MAFLD and CKD				
2.1 The presence of MESH on liver histology is independently associated with a higher prevalence of CKD than simple steatosis	48%	44%	6%	2%
2.2 The presence of MESH on liver histology is independently associated with a higher incidence of CKD than simple steatosis	46%	44%	8%	2%
2.3 MAFLD with advanced fibrosis (stage F3/4) has a higher prevalence of CKD than MAFLD without advanced fibrosis (stage F0–2)	64%	34%	2%	
2.4 MAFLD with advanced fibrosis (stage F3/4) has a higher incidence of CKD than MAFLD without advanced fibrosis (stage F0–2)	52%	46%	2%	
2.5 Advanced liver fibrosis in patients with MAFLD is independently associated with an increased risk of incident CKD in patients with T2D	56%	40%	4%	
2.6 Liver stiffness measured by transient elastography is independently associated with an increased presence of albuminuria	40%	46%	12%	2%
3. Mechanisms linking MAFLD with CKD				
3.1 MAFLD and CKD share multiple risk factors such as abdominal obesity, insulin resistance, dyslipidemia, hypertension and dysglycemia	90%	10%		
3.2 The MAFLD-associated genetic polymorphisms *PNPLA3* rs738409 variant, *HSD17B13* variant and *TM6SF2* variant are associated with CKD	30%	54%	14%	2%
3.3 Gut microbiota is linked to both MAFLD and CKD	48%	40%	10%	2%
3.4 Metabolic dysfunction is an important mechanistic link between MAFLD and CKD	86%	14%		
4. Managing and treating MAFLD and CKD				
4.1 Lifestyle intervention including a hypocaloric diet and regular physical exercise is associated with improvements in both MAFLD and CKD	74%	22%	4%	
4.2 Cardiometabolic risk factors should be treated in patients with MAFLD and CKD	96%	4%		
4.3 The use of antihypertensive treatment (if required) is important in MAFLD for decreasing risk of CKD	82%	18%		
4.4 Screening for MAFLD should be undertaken in patients with CKD	54%	40%	4%	2%
4.5 Patients with MAFLD and CKD should ideally be treated in a multidisciplinary team setting	90%	8%	2%	

MAFLD, metabolic dysfunction-associated fatty liver disease; CKD, chronic kidney disease; T2D, type 2 diabetes; MESH, metabolic steatohepatitis.

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Table S3 Results of round 2 of the Delphi process

Domain and statements	Agree	Somewhat agree	Somewhat disagree	Disagree
1. Epidemiology of MAFLD and CKD				
1.1 The prevalence of CKD in individuals with MAFLD is higher compared to that in the non-MAFLD population	90.2%	9.8%		
1.2 MAFLD is an independent risk factor for CKD in patients with T2D, even after adjustment for common risk factors for CKD	78.4%	19.6%	2%	
1.3 MAFLD is an independent risk factor for CKD in patients without T2D, even after adjustment for common risk factors for CKD	74.5%	23.5%	2%	
1.4 MAFLD is associated with a greater risk of CKD than patients with liver fat but without evidence of systemic metabolic dysregulation	54.9%	43.1%	2%	
1.5 MAFLD is associated with an increased incidence of CKD	86.3%	13.7%		
1.6 CKD increases the risk of overall mortality among patients with MAFLD	76.5%	13.7%	7.8%	2%
2. Severity of MAFLD and CKD				
2.1 The prevalence of CKD more strongly associates with steatohepatitis compared to simple steatosis	62.7%	29.5%	7.8%	
2.2 The incidence of CKD more strongly associates with steatohepatitis compared to simple steatosis	64.7%	27.5%	7.8%	
2.3 MAFLD with advanced fibrosis (stage F3/4) has a higher prevalence of CKD than MAFLD without advanced fibrosis (stage F0–2)	76.5%	23.5%		
2.4 MAFLD with advanced fibrosis (stage F3/4) has a higher incidence of CKD than MAFLD without advanced fibrosis (stage F0–2)	76.5%	23.5%		
2.5 Advanced liver fibrosis in patients with MAFLD is independently associated with an increased risk of incident CKD in patients with T2D	66.7%	33.3%		
2.6 Liver stiffness measured by transient elastography is independently associated with an increased presence of albuminuria	62.7%	33.3%	4%	
3. Mechanisms linking MAFLD with CKD				
3.1 MAFLD and CKD share multiple risk factors such as abdominal obesity, insulin resistance, dyslipidemia, hypertension and dysglycemia	94.1%	5.9%		
3.2 The MAFLD-associated genetic polymorphism *PNPLA3* rs738409 variant is associated with CKD	47.1%	35.3%	13.7%	3.9%
3.3 Alterations in gut microbiota may be linked to both MAFLD and CKD	62.7%	33.3%	4%	
3.4 Metabolic dysfunction is an important mechanistic link between MAFLD and CKD	84.3%	15.7%		
4. Managing and treating MAFLD and CKD				
4.1 Lifestyle intervention including a hypocaloric diet and regular physical exercise is associated with improvements in both MAFLD and CKD, though the extent of benefit might be different for both diseases	86.3%	13.7%		
4.2 Cardiometabolic risk factors should be treated in patients with MAFLD and CKD	96.1%	3.9%		
4.3 The use of antihypertensive treatment (if required) is important in MAFLD for decreasing risk of CKD	88.2%	11.8%		
4.4 Increased clinical vigilance for presence of severe MAFLD might be considered in patients with CKD	80.4%	19.6%		
4.5 Patients with MAFLD and CKD should ideally be treated in a multidisciplinary team setting, though the ideal care model has not been identified	88.2%	11.8%		

MAFLD, metabolic dysfunction-associated fatty liver disease; CKD, chronic kidney disease; T2D, type 2 diabetes.

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