Management of type 2 diabetes in heart failure: Insights from iCaReMe Global Registry

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DIABETES COMPLICATIONS AND DIABETES IN CRISES
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BACKGROUND

- Because of the bidirectional association and the vicious pathophysiological circle linking them, heart failure (HF) and type 2 diabetes (T2DM) are two comorbid conditions frequently observed and adversely affecting the prognosis.[1]
- Morbidity, mortality and socioeconomic burden of both HF and T2DM disproportionately affects low- and middle-income countries (LMIC).[2,3]
- Data on clinical characteristics and therapeutic regimens in people with T2D and HF are scarce in particularly in LMIC.

AIM

- To describe the clinical characteristics and therapeutic management of T2D in patients with HF enrolled in iCaReMe Global Registry (NCT03549754).

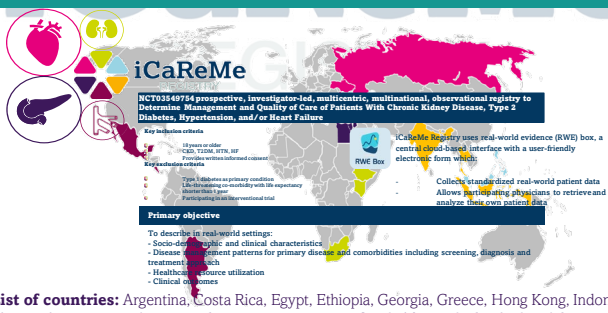
METHODS

iCaReMe Global Registry (NCT03549754) is an ongoing, prospective, multinational, multi-center, observational study collecting data on the management and quality of care in patients with HF, T2D, HTN and/or CKD

We examined baseline characteristics and treatment patterns of adults with HF and T2DM, enrolled between Feb 2018 and Dec 2022 in 21 countries across the six WHO regions

Statistical Analysis:

Categorical variables using frequencies and percentages; Continuous variables summarized using arithmetic means±SD, or medians with IQR.



* **List of countries:** Argentina, Costa Rica, Egypt, Ethiopia, Georgia, Greece, Hong Kong, Indonesia, India, Jordan, Kenya, Lebanon, Malaysia, Mexico, Russia, South Africa, Thailand, The Philippines, Turkey, Ukraine, United Arab Emirates

** **WHO regions:** Africa, Americas, Eastern Mediterranean, Europe, South-East Asia, Western Pacific

RESULTS

Table1: Demographic and Clinical Characteristics

Characteristics[¥]	Patients with available 2D Echo LVEF N=1215			Total Patients[#] N=1796
	HFrEF Patients N=645	HFmrEF Patients N=185	HFpEF Patients N=385	
Female, n (%)	208 (32.2)	84 (45.4)	220 (57.1)	812 (45.2)
Age, Mean (SD), years	59.6 (9.8) N=644	60.7 (11.0) N=185	60.7 (11.7) N=385	60.1 (11.2) N=1796
HbA1c	N=399	N=143	N=358	N=1370
Mean (SD), %	8.0(1.8)	8.2(1.9)	8.2(2.1)	8.1(2.0)
Median (IQR), %	7.8 (6.8,8.9)	7.9 (7.1,9.3)	7.8 (6.6,9.4)	7.7 (6.6,9.2)
<7%, n (%)	117 (29.3)	33 (23.1)	121 (33.8)	457 (33.4)
<8%, n (%)	217 (54.4)	74 (51.7)	193 (53.9)	760 (55.5)
BMI≥30kg/m^2, n (%)	204 (38.5) N=530	66 (41.5) N=159	190 (58.1) N=327	656 (44.3) N=1481
LVEF % Mean (SD)	31.1(6.6)	44.9(2.3)	60.4(6.4)	42.5 (14.4)
NYHA II-IV, n (%)	N=576 485(84.2)	N=146 124(84.9)	N=173 137(79.2)	N=1011 833(82.4)
Blood Pressure				
SBP, Mean (SD), mmHg	119.7(20.1) N=635	131.2(20.5) N=183	132.5(20.0) N=375	126.7(20.6) N=1729
DBP, Mean (SD), mmHg	74.6(11.6) N=635	80.8(13.0) N=183	78.3(11.8) N=374	77.2(11.9) N=1730
Renal Function				
eGFR, Mean (SD), ml/min/1.73m^2	68.8(31.1) N=601	69.1(29.4) N=153	66.4(28.7) N=216	68.3(29.7) N=1254
UACR, Mean (SD), mg/g	216.2(506.4) N=65	235.1(618.6) N=68	143.5(294.0) N=195	199.4(597.4) N=597

¥Values are presented as mean ± SD unless otherwise specified, #Includes patients with and without ejection fraction data.
Note: Unknown and missing data not included for percentage calculation. Where indicated, N or the denominator represents the number of patients with available data

Figure 1: Comorbidities

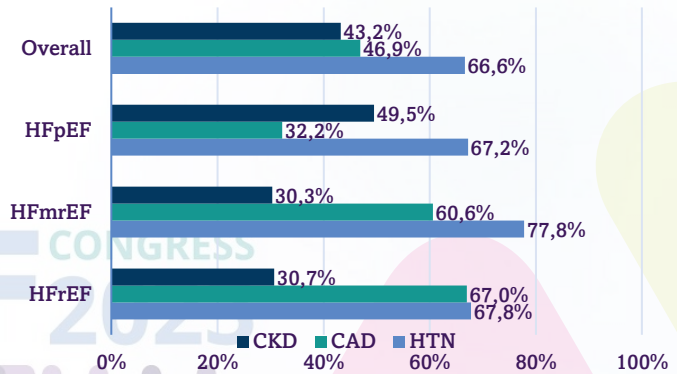
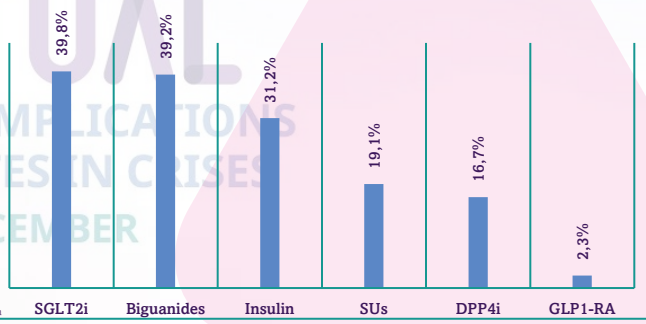


Figure 2: T2DM Treatment Patterns



In total, 1796 adults (45.2% female) with HF and T2D were included. Mean±SD age 60.1±11.2 yrs; LVEF 42.5±14.4%; A1c 8.1±2.0%.

- Overall, 53.1% had HFrEF and 82.4% had NYHA class II-IV symptoms.
- Comorbidities included HTN in 66.6%, CAD in 46.9%, CKD in 43.2% and 44.3% were obese.
- Glycemic goal of A1c < 7% was achieved in 33.4%.
- T2D medication included SGLT2i in 39.8%, biguanides in 39.2%, insulin in 31.2%, sulfonylureas in 19.1%, DPP4i in 16.7% and GLP1-RA in 2.3%.

CONCLUSION

Real world data show a poor glycemic control and low adoption of guidelines-directed medical treatment in T2DM patients with HF. This is a strong call to action for treatment optimization to achieve glycemic targets with end organ protection as goal.

References

1. Elendu, Chukwuka, et al. "Heart failure and diabetes: Understanding the bidirectional relationship." Medicine 102.37 (2023): e34906.
2. Agbor, Valirie N., et al. "An overview of heart failure in low-and middle-income countries." Cardiovascular Diagnosis and Therapy 10.2 (2020): 244.
3. Lam, Anastasia A., et al. "Diabetes comorbidities in low-and middle-income countries: an umbrella review." Journal of global health 11 (2021).

Disclosures

S.J received speaker fees, advisory or consultancy or grants from Abbott, Novo Nordisk, Sanofi, Biocon, Twinhealth, FrancoIndian, Serdia, USV, Marico, MSD, Boehringer Ingelheim, Cipla, Lifescan, AstraZeneca, Zydus Cadila, Glenmark, Torrent. C.P reports advisory board fees for AstraZeneca, Boehringer Ingelheim, Eli Lilly, GSK, Vifor Pharma; speaker fees for AstraZeneca, Astellas, Janssen Cilag, Novartis, Otsuka, Vifor Pharma. K.K reports speaker and consultancy fees from AstraZeneca, Novartis, Novo Nordisk, Sanofi, Eli Lilly, Merck Sharp & Dohme, Boehringer Ingelheim, Bayer, Abbott, Amgen, Napp, Roche, Servier, Oramed Pharmaceuticals. A.N received funding for research from Sanofi, Novo Nordisk, Alfasigma, Artsana, AstraZeneca, Johnson&Johnson, Medtronic, Shionogi, SOBI, Meteda and Theras. P.F, S.G, S.P, H.V and A.H are AstraZeneca Employees.

Abbreviations

A1c= glycated hemoglobin, BMI= body mass index, CAD= coronary artery disease, DBP= diastolic blood pressure, DPP4i= dipeptidyl peptidase 4 inhibitors, Echo= echocardiography, eGFR= estimated glomerular filtration rate, GLP-1 RA= Glucagon-like peptide-1 receptor agonists, HF= heart failure, HFmrEF= heart failure with mildly reduced ejection fraction, HFpEF= heart failure with preserved ejection fraction, HFrEF= heart failure with reduced ejection fraction, HTN= hypertension, IQR= interquartile range, KDIGO= kidney disease: improving global outcomes, LVEF= left ejection fraction, NYHA= New York heart association functional classification, RWE= real world evidence, SBP=systolic blood pressure, SD= standard deviation, SGLT2i= sodium/glucose cotransporter-2 inhibitors, Sus= sulfonylureas, UACR= urine albumin-to-creatinine ratio, WHO= world health organization.

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iCaReMe REGISTRY

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Management of type 2 diabetes in chronic kidney disease: Insights from iCaReMe Global Registry

IDF CONGRESS 2023 VIRTUAL
DIABETES COMPLICATIONS AND DIABETES IN CRISES
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BACKGROUND

- Type 2 diabetes (T2DM) is the leading cause of chronic kidney disease (CKD) and a major risk factor for both CKD progression and adverse cardiovascular outcomes.[1]
- With the growing prevalence of T2DM, the burden of CKD and its complications is becoming a public health concern.[1]
- KDIGO dedicated evidence-based guidelines to assist with decision-making, providing clear direction for implementation of care to improve clinical outcomes of people with diabetes and CKD.[2]
- Real-world evidence (RWE) help to assess the implementation of guidelines and in identifying barriers for optimal care.

AIM

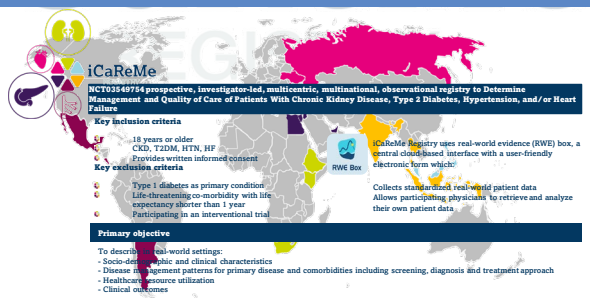
- To describe the clinical characteristics and therapeutic management of T2D in patients with CKD enrolled in iCaReMe Global Registry (NCT03549754).

METHODS

iCaReMe Global Registry (NCT03549754) is an ongoing, prospective, multinational, multi-center, observational study collecting data on the management and quality of care in patients with CKD, T2D, HTN and/or HF

We examined baseline characteristics and treatment patterns of adults with CKD and T2DM, enrolled between Feb 2018 and Dec 2022 in 21 countries across the six WHO regions

Statistical Analysis:
Categorical variables using frequencies and percentages; Continuous variables summarized using arithmetic means±SD, or medians with IQR.



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**WHO regions: Africa, Americas, Eastern Mediterranean, Europe, South-East Asia, Western Pacific

RESULTS

Table1: Demographic and Clinical Characteristics

Characteristics¥	CKD+T2D (N=2052)
Age (years)	62.8 ± 11.4 (N=2045)
Female, n (%)	971 (47.3)
BMI≥30kg/m², n (%)	591 (36.1) (N=1636)
Blood Pressure	
Systolic BP (mmHg)	133.0 ± 20.2 (N=1930)
Diastolic BP (mmHg)	76.7 ± 11.6 (N=1926)
HbA1c (%)	N=1581
Mean ± SD	7.8 ± 1.8
Median (IQR)	7,3 (6.5,8.8)
<6.5%, n (%)	376(23.8%)
<7%, n (%)	629(40%)
<8%, n (%)	984(62.2%)
Renal Function	
Sr Creatinine (mg/dL)	1.8 ± 1.4 (N=1820)
eGFR (mL/min/1.73m²)	48.6 ± 25.1 (N=1820)
UACR (mg/g)	406.3± 847.6 (N=669)
Comorbidities	
Stroke, n (%)	77/1261 (6.1)
CAD, n (%)	417/1255 (33.2)
HF, n (%)	523/1271(41.1)
Dyslipidemia, n (%)	823/1402(58.7)
HTN, n (%)	1425/1663(85.7)

¥Values are presented as mean ± SD unless otherwise specified
Note: Unknown and missing data not included for percentage calculation. Where indicated, N or the denominator represents the number of patients with available data

Figure 1: KDIGO eGFR Stages

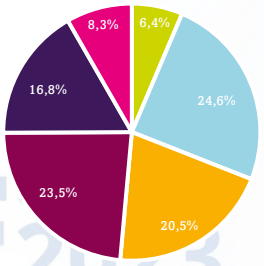


Figure 2: UACR KDIGO Categories

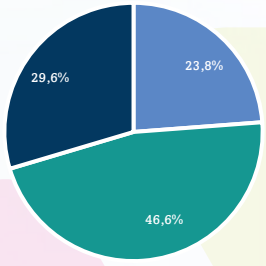
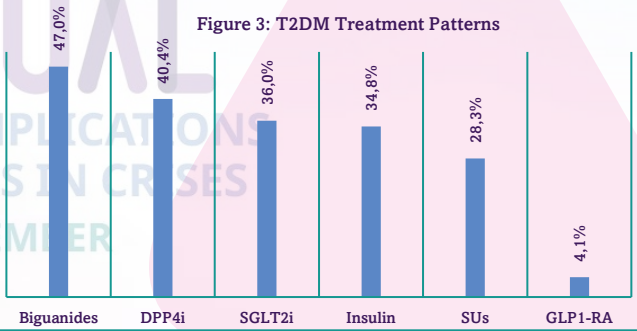


Figure 3: T2DM Treatment Patterns



Data of 2052 adults (47.3% female) with CKD and T2D were analyzed. Mean age 62.8 years; A1c 7.8 %; eGFR 48.6 ml/min/1.73m²; UACR 406.3 mg/g.

- Overall, 69.1% had eGFR stage G3-5 and 76.2% had albuminuria category A2-3.
- Comorbidities included HTN in 85.5%, HF in 41.1%, CAD in 33.2% and 36.1% were obese.
- Glycemic goal of A1c < 7% was achieved in 40%.
- T2D medication included biguanides in 47%, DPP4i in 40.4%, SGLT2i in 36%, insulin in 34.8%, sulfonylureas in 28.3%, and GLP1-RA in 4.1%.

CONCLUSION

Real-world data on the management of T2DM in Chronic Kidney Disease show a poor glycemic control and low adoption of guidelines-directed medical treatment. Treatment optimization is needed for appropriate glycemic targets and improving the adverse prognosis associated with T2DM and CKD.

References

1.de Boer, Ian H., et al. "Diabetes management in chronic kidney disease: a consensus report by the American Diabetes Association (ADA) and Kidney Disease: Improving Global Outcomes (KDIGO)." Diabetes Care 45.12 (2022): 3075-3090.
2. Rossing, Peter, et al. "KDIGO 2022 clinical practice guideline for diabetes management in chronic kidney disease." Kidney International 102.5 (2022): S1-S127.

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Abbreviations

A1c= glycated hemoglobin, BMI= body mass index, BP= blood pressure, CAD= coronary artery disease, DPP4i= dipeptidyl peptidase 4 inhibitors, eGFR= estimated glomerular filtration rate, GLP-1 RA= Glucagon-like peptide-1 receptor agonists, HF= heart failure, HTN= hypertension, IQR= interquartile range, KDIGO= kidney disease: improving global outcomes, RWE= real world evidence, SD= standard deviation, SGLT2i= sodium/glucose cotransporter-2 inhibitors, SUs= sulphonylureas, UACR= urine albumin-to-creatinine ratio, WHO= world health organization.

iCaReMe REGISTRY

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Poster #Sa3124
Abstract #13644

Management Patterns in Patients With Heart Failure: Insights From iCaReMe Global Registry

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INTRODUCTION

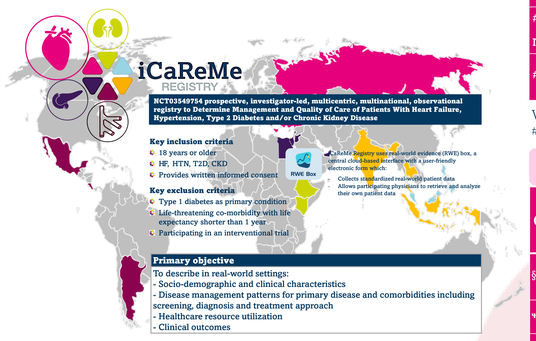
- Heart failure (HF) is increasing in prevalence, including in low- and middle-income countries due to increased rates of obesity, HTN, T2D and CKD
- Little information is available about the characteristics and management of individuals with HF in low- and middle-income countries
- iCaReMe is an ongoing global registry which collects data from contemporary routine clinical practice of patients with HF, T2D, HTN and/or CKD

OBJECTIVE

- Describe clinical characteristics, comorbidities, and management of HF patients in the iCaReMe Registry

METHODS

iCaReMe (NCT03549754) is an ongoing, prospective, multinational, multi-center, observational study which collects data on the management and quality of care in patients with HF, HTN, T2D and/or CKD



We examined baseline characteristics and treatment patterns of iCaReMe HF cohort enrolled from 21 countries* across 6 WHO regions** between February 2018 and December 2022

Statistical Analysis
Categorical variables using frequencies and percentages; continuous variables summarized using arithmetic means and standard deviation.

*** List of countries (N analyzed):** Argentina (03), Costa Rica (13), Egypt (1400), Ethiopia (08), Georgia (02), Greece (06), Hong Kong (85), Indonesia (09), India (249), Jordan (14), Kenya (76), Lebanon (67), Malaysia (40), Mexico (258), Russia (17), South Africa (3), Thailand (22), The Philippines (13), Turkey (557), Ukraine (113), United Arab Emirates (114)

**** WHO regions:** Africa, Americas, Eastern Mediterranean, Europe, South-East Asia, Western Pacific

RESULTS

Table 1. Demographic and Clinical Characteristics

Parameters	Overall population N=3069	Available 2D Echo LVEF N=2307			†p value
		HFrEF N=1462	HFmrEF N=331	HFpEF N=514	
#Age (Years)	58.7±12.6 N=3066	57.3±12.4 N=1460	60.0±12.4 N=331	59.8±12.8 N=514	<0.001
*Male, n (%)	1816 (59.2)	1002 (68.5)	193 (58.3)	232 (45.1)	<0.001
#BMI ≥30 (kg/m²), n (%)	1002 (40.3) N=2488	477 (38.2) N=1249	98 (36.2) N=271	214 (53.2) N=402	<0.001
LVEF (%)	39.0±13.7 N=2307	30.4±6.8 N=1462	44.9±2.2 N=331	59.6±6.7 N=514	-
LVEF %, Median IQR	36.0 (30.0,47.0) N=2307	30.0 (25.0,35.0) N=1462	45.0 (43.0,46.0) N=331	60.0 (55.0,64.0) N=514	-
*NYHA Class, n (%)	N=2122	N=1352	N=283	N=291	
I	359 (16.9)	217 (16.1)	46 (16.3)	48 (16.5)	0.078
II	1263 (59.5)	844 (62.4)	162 (57.2)	159 (54.6)	
III	404 (19.0)	235 (17.4)	62 (21.9)	64 (22.0)	
IV	96 (4.5)	56 (4.1)	13 (4.6)	20 (6.9)	
#NT-proBNP, ng/L	3472.1±7249.7 N=426	3854.9±8175.8 N=244	2308.9±5408.8 N=79	2854.9±4300.4 N=74	0.178
#SBP, mmHg	122.9±21.0 N=2931	116.6±19.5 N=1422	127.1±22.0 N=327	129.9±21.1 N=502	<0.001
#DBP, mmHg	76.1±12.0 N=2932	73.8±11.6 N=1422	79.0±13.1 N=327	78.1±12.3 N=501	<0.001
#LDL-c, mg/dL	99.3±41.8 N=1543	96.8±39.2 N=560	105.9±46.0 N=174	102.5±43.2 N=385	0.021
#eGFR, ml/min/1.73m²	70.3±29.4 N=2325	72.3±29.9 N=1342	70.5±28.5 N=288	65.8±28.4 N=332	0.035
#UACR, mg/g	282.5±878.3 N=666	198.9±468.0 N=78	343.7±1007.2 N=77	166.2±445.6 N=198	0.657

Values are presented as mean ± SD unless otherwise specified; *p values calculated using chi-square test; #p values calculated from Kruskal Wallis test; †p value is applicable for HF subtypes

Table 2. History of Comorbidities & Hospitalizations

Comorbidities	Overall population N=3069	Available 2D Echo LVEF N=2307			†p value
		HFrEF N=1462	HFmrEF N=331	HFpEF N=514	
§HHF, n (%)	570/2106 (27.1)	406/1328 (30.6)	60/259 (23.2)	67/286 (23.4)	0.002
*CKD n (%)	730/2394 (30.5)	273/1374 (19.9)	66/297 (22.2)	131/329 (39.8)	<0.001
*HTN n (%)	1629/2853 (57.1)	731/1411 (51.8)	211/322 (65.5)	319/500 (63.8)	<0.001
*T2D n (%)	1796/2974 (60.4)	645/1424 (45.3)	185/327 (56.6)	385/506 (76.1)	<0.001
*CAD n (%)	1236/2725 (45.4)	785/1407 (55.8)	169/304 (55.6)	152/462 (32.9)	<0.001
§Stroke n (%)	115/2732 (4.2)	64/1428 (4.5)	15/306 (4.9)	20/462 (4.3)	0.212

Unknown and missing data are not included in percentage calculation *p value calculated from chi-square test; §p value is calculated from Fisher test; †p value is applicable for HF subtypes

Figure 1. eGFR (mL/min/1,73m2) KDIGO Stages*

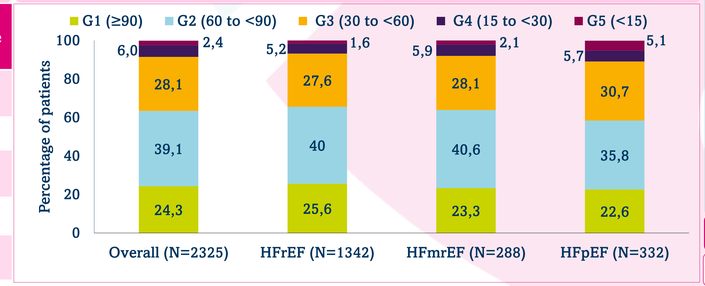
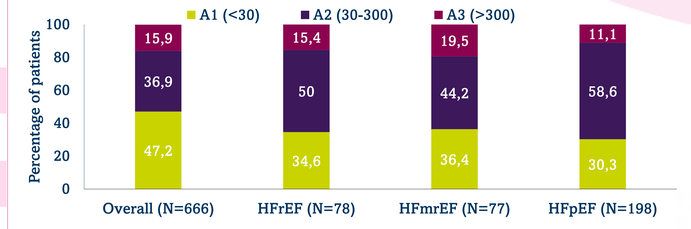
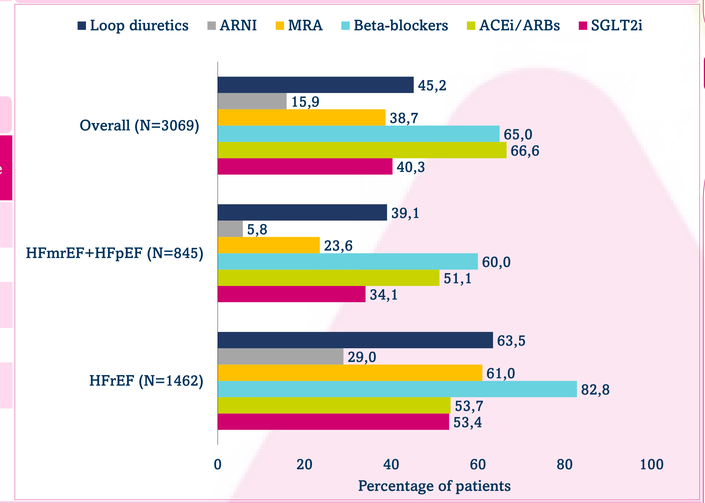


Figure 2. UACR (mg/g) KDIGO Categories*



*Unknown and missing data are not included in percentage calculation

Figure 3. Treatment Patterns Overall and by HF type



A total of 3069 adults with HF (mean age±SD 58.7±12.6 years, 59.2% males, 40.3% BMI ≥ 30kg/m²) were enrolled from 21 countries;

- 2307 (75.2%) patients had available LVEF data(63.4% HFrEF, 14.3% HFmrEF, 22.3% HFpEF)
- Patients with HFmrEF & HFpEF were older, more frequently female with higher SBP/DBP, LDL-c, and lower eGFR than those with HFrEF
- Patients with HFpEF were more obese than those with HFrEF
- HTN, T2D and CKD were more prevalent in patients with HFmrEF or HFpEF while those with HFrEF had more CAD and prior HHF
- In patients with available UACR (N=666, 21.7%) & eGFR (N=2325, 75.8%); 52.9% had A2-A3 albuminuria & 36.6% had eGFR G3-5
- Less than 55% of the patients received SGLT2i across all HF types
- In patients with HFrEF: <85% were on β blockers, <85% RASi/ARNI, <65% MRA, <65% Loop Diuretics, and <55% received SGLT2i

CONCLUSIONS

- iCaReMe Global Registry provides a unique perspective on the characteristics and management of patients with HF in low- and middle-income countries.
- The data demonstrate substantial burden of multi-morbidity across the ejection fraction spectrum.
- The results highlight persistent gaps between guidelines and routine care and the need to address barriers to the implementation of optimal management and evidence-based therapies.

Presenting Author

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Acknowledgment

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Abbreviations

ACEi= angiotensin-converting-enzyme inhibitors, ARB= angiotensin II receptor blockers, ARNI= angiotensin receptor-neprilysin inhibitors, BMI= body mass index, BP= blood pressure, CAD= coronary artery disease, CKD= chronic kidney disease, CVD= cardiovascular disease, DBP= diastolic blood pressure, Echo= echocardiography, eGFR= estimated glomerular filtration rate, HF= heart failure, HHF= hospitalization for heart failure, HFmrEF=heart failure with mildly reduced ejection fraction, HFrEF=heart failure with reduced ejection fraction, HFpEF=heart failure with preserved ejection fraction, HTN= hypertension, IQR= interquartile range, KDIGO= Kidney Disease: Improving Global Outcomes, LDL-c= low-density lipoprotein cholesterol, LVEF= Left ejection fraction, MRA= Mineralocorticoid Receptor Antagonists, NT-proBNP= N-terminal proBNP, NYHA= New York Heart Association HF classification, RASi= Renin Angiotensin System Inhibitors; SBP= systolic blood pressure, SD= standard deviation, SGLT2i= sodium/glucose cotransporter-2 inhibitors, T2D= type 2 diabetes, UACR= urine albumin-to-creatinine ratio, WHO= World Health Organization.

Disclosures

M.K has received research grant support from AstraZeneca, Boehringer Ingelheim, and Pfizer; consultancy or advisory board fees from 35Pharma, Alnylam, Amgen, Applied Therapeutics, AstraZeneca, Bayer, Boehringer Ingelheim, Cytokinetics, Dexcom, Eli Lilly, Esperion Therapeutics, Imbria Pharmaceuticals, Janssen, Lexicon Pharmaceuticals, Merck (Diabetes and Cardiovascular), Novo Nordisk, Pharmacosmos, Pfizer, scPharmaceuticals, Structure Therapeutics, Vifor Pharma, and Youngene Therapeutics; has received data analytic center fees from AstraZeneca; and has received honoraria from AstraZeneca, Boehringer Ingelheim, and Novo Nordisk. He holds stock options from Artera Health and Saghmos Therapeutics. C.L is supported by a Clinician Scientist Award from the National Medical Research Council of Singapore; has received research support from NovoNordisk and Roche Diagnostics; has served as consultant or on the Advisory Board/ Steering Committee/ Executive Committee for Alleviant Medical, Allysta Pharma, AnaCardio AB, Applied Therapeutics, AstraZeneca, Bayer, Biopeutics, Boehringer Ingelheim, Boston Scientific, Bristol Myers Squibb, CardioRenal, Cytokinetics, Darma Inc., EchoNous Inc, Eli Lilly, Impulse Dynamics, Intellia Therapeutics, Ionis Pharmaceutical, Janssen Research & Development LLC, Medscape/WebMD Global LLC, Merck, Novartis, Novo Nordisk, Prosciento Inc, Quidel Corporation, Radcliffe Group Ltd., Recardio Inc, ReCor Medical, Roche Diagnostics, Sanofi, Siemens Healthcare Diagnostics and Us2.ai; and serves as co-founder & non-executive director of Us2.ai. C.P reports advisory board fees for AstraZeneca, Boehringer Ingelheim, Eli Lilly, GSK, Vifor Pharma; speaker fees for AstraZeneca, Astellas, Janssen Cilag, Novartis, Otsuka, Vifor Pharma. K.K reports speaker and consultancy fees from AstraZeneca, Novartis, Novo Nordisk, Sanofi, Eli Lilly, Merck Sharp & Dohme, Boehringer Ingelheim, Bayer, Abbott, Amgen, Napp, Roche, Servier, Oramed Pharmaceuticals. H.H is a consultant for AbbVie, AstraZeneca, Bayer, Boehringer Ingelheim, Chinook, CSL Behring, Dimerix, Eli Lilly, Gilead, Janssen, Merck, NovoNordisk, and Travere Therapeutics; He received research support from AstraZeneca, Boehringer Ingelheim, Janssen and NovoNordisk. A.N received funding for research from Sanofi, Novo Nordisk, Alfasigma, Artsana, AstraZeneca, Johnson&Johnson, Medtronic, Shionogi, SOBI, Meteda and Theras. S.J received speaker fees, advisory or consultancy or grants from Abbott, Novo Nordisk, Sanofi, Biocon, Twinhealth, FrancoIndian, Serdia, USV, Marico, MSD, Boehringer Ingelheim, Cipla, Lifescan, AstraZeneca, Zydus Cadila, Glenmark, Torrent.
P.F, S.G, H.V and A.H are AstraZeneca Employees.

TH-PO1046

Clinical Characteristics, Comorbidities, and Management of Patients with Chronic Kidney Disease: Insights from iCaReMe Global Registry

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BACKGROUND

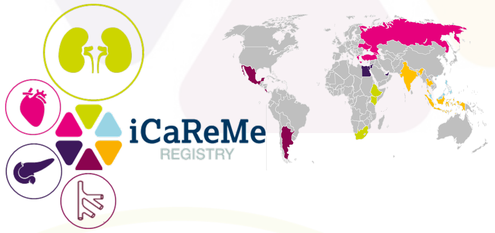
- Chronic kidney disease (CKD) is recognized as a global health concern due to its increasing prevalence and attributable morbidity and mortality.[1]
- Due to a paucity of real-world data on CKD and its associated comorbidities particularly in the low- and middle-income countries, there is a need to better understand the clinical characteristics and risk factors for CKD within the Cardiovascular Renal Metabolic Continuum.
- The iCaReMe registry is an opportunity to fill this knowledge gap by providing a comprehensive global real-world data source on patients' characteristics, disease management, and clinical outcomes.

OBJECTIVE

- To describe clinical features, major risk factors, and the management of patients with CKD

METHODS

iCaReMe Global Registry (NCT03549754) is an ongoing, prospective, investigator-led, multinational, multicentric, observational study to determine the management practices and quality of care of patients with CKD, and/or T2D, and/or HTN, and/or HF.



We present the baseline clinicodemographic characteristics and treatment patterns of iCaReMe Global Registry CKD cohort enrolled from 21 countries* across 6 WHO regions between February 2018 and December 2022.**

Statistical Analysis

Categorical and continuous variables were presented using frequencies and percentages, and continuous variables were summarized using arithmetic mean and standard deviation.

*List of countries and sample size: Argentina (02), Costa Rica (37), Egypt (160), Ethiopia (11), Georgia (04), Greece (08), Hong Kong (17), Indonesia (03), India (622), Jordan (65), Kenya (13), Lebanon (232), Malaysia (262), Mexico (79), Russia (21), South Africa (14), Thailand (102), The Philippines (68), Turkey (1031), Ukraine (123), United Arab Emirates (103)

** WHO regions: Africa, Americas, Eastern Mediterranean, Europe, South-East Asia, Western Pacific

RESULTS

Table1: Baseline Characteristics of iCaReMe CKD Cohort

Characteristics	Overall (N = 2977)	CKD+T2D (N = 2052)	CKD+HTN (N = 2018)
Age (years)	60.6 ± 13.5 (N = 2970)	62.8 ± 11.4 (N = 2045)	61.9 ± 12.4 (N = 2011)
Male, n (%)	1624 (54.6)	1081 (52.7)	1105 (54.8)
BMI (kg/m^2)	28.3 ± 5.7 (N = 2262)	28.9 ± 5.6 (N = 1636)	28.6 ± 5.6 (N = 1545)
Systolic BP (mmHg)	133.0 ± 20.5 (N = 2693)	133.0 ± 20.2 (N = 1930)	135.8 ± 20.6 (N = 1865)
Diastolic BP (mmHg)	77.9 ± 12.1 (N = 2690)	76.7 ± 11.6 (N = 1926)	78.7 ± 12.5 (N = 1864)
HbA1c (%)	7.5 ±1.8 (N = 1830)	7.8 ± 1.8 (N = 1581)	7.4 ± 1.8 (N = 1272)
Potassium (mEq/L)	4.5 ± 0.6 (N = 2184)	4.5 ± 0.6 (N = 1462)	4.6 ± 0.6 (N = 1600)
Serum Creatinine (mg/dL)	2.1 ± 1.6 (N = 2492)	1.8 ± 1.4 (N = 1820)	2.2 ± 1.7 (N = 1723)
eGFR (mL/min/1.73m^2)	46.1 ± 26.2 (N = 2492)	48.6 ± 25.1 (N = 1820)	42.7 ± 24.5 (N = 1723)
UACR (mg/g)	556.7 ± 1169.9 (N = 891)	406.3 ± 847.6 (N = 669)	609.3 ± 1211 (N = 625)

Note: Values are presented as mean ± SD unless otherwise specified.
Patients with missing data were excluded from the analysis.

Figure 1: Comorbidities

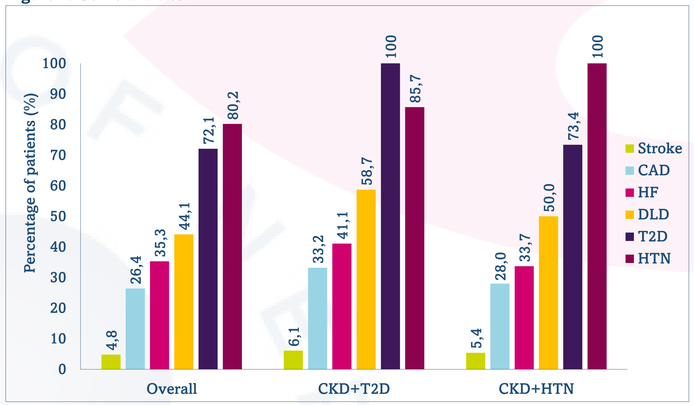


Figure 2: eGFR KDIGO Categories

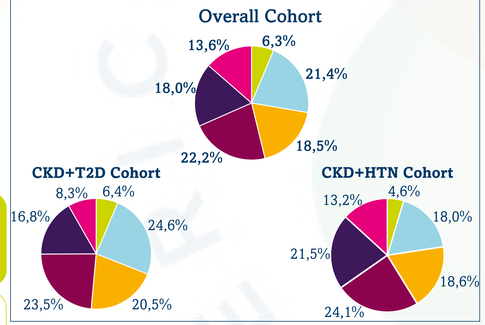


Figure 3: Albuminuria (mg/g) KDIGO Categories

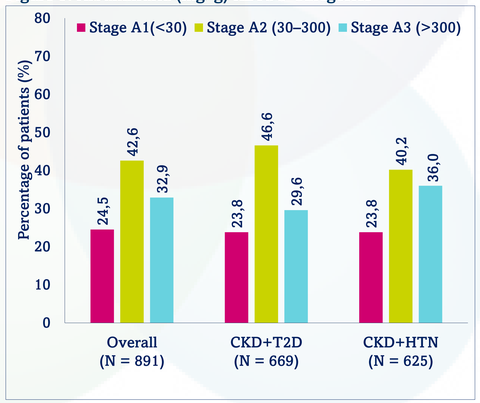
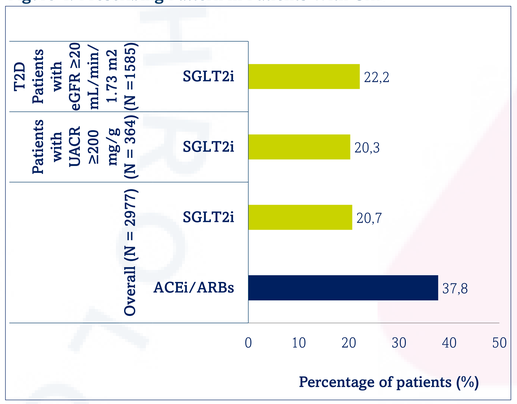


Figure 4: Prescribing Pattern in Patients With CKD



Overall, 2977 adults with CKD were enrolled with mean age 60.6 years and were 54.6% male. Diabetic kidney disease (44.6%) and hypertensive kidney disease (34.4%) were the most common etiologies. HTN, T2D, dyslipidemia, and HF were present in 80.2%, 72.1%, 44.1%, and 35.3% of patients, respectively.

- Most of patients had advanced CKD; G3-5 was found in 72.4% overall, 69.1% of CKD+T2D cohort, and 77.4% of CKD+HTN cohort. A2-3 UACR was found in 75.5% overall, 76.2% of both CKD+T2D and CKD+HTN cohorts.
- Mean UACR was 556.7 mg/g overall, 609.3 mg/g in patients with CKD+HTN, and 406.3 mg/g in those having CKD+T2D.
- Mean eGFR was 46.1 mL/min/1.73 m^2 overall, 42.7 mL/min/1.73 m^2 in patients with CKD+HTN, and 48.6 mL/min/1.73 m^2 in CKD+T2D cohort.
- UACR was reported in 30% of patients while eGFR was reported in 83.7%.
- ACEi or ARB were prescribed to 37.8% of patients, and 20.6% received an SGLT2i (22.2% of patients with T2D and eGFR ≥20 mL/min/1.73 m^2 and 20.3% of patients with UACR ≥200 mg/g).

CONCLUSION

Our results highlight:

- **The substantial burden of multimorbidity in patients with CKD**
- **The gaps between guidelines and routine clinical practice**
- **The opportunities to improve the management of patients with CKD by improving the use of UACR and the adoption of evidence-based treatments.**

DISCLOSURES

C.P reports advisory board fees for AstraZeneca, Boehringer Ingelheim, Eli Lilly, GSK, Vifor Pharma; speaker fees for AstraZeneca, Astellas, Janssen Cilag, Novartis, Otsuka, Vifor Pharma. K.K reports speaker and consultancy fees from AstraZeneca, Novartis, NovoNordisk, Sanofi, Eli Lilly, Merck Sharp & Dohme, Boehringer Ingelheim, Bayer, Abbott, Amgen, Napp, Roche, Servier, Oramed Pharmaceuticals. A.N received funding for research from Sanofi, NovoNordisk, Alfasigma, Artsana, AstraZeneca, Johnson&Johnson, Medtronic, Shionogi, SOBI, Meteda and Theras. H.H is a consultant for AbbVie, AstraZeneca, Bayer, Boehringer Ingelheim, Chinook, CSL Behring, Dimerix, Eli Lilly, Gilead, Janssen, Merck, NovoNordisk, and Travere Therapeutics, He received research support from AstraZeneca, Boehringer Ingelheim, Janssen and NovoNordisk. S.J received speaker fees, advisory or consultancy or grants from Abbott, NovoNordisk, Sanofi, Biocon, Twinhealth, FrancoIndian, Serdia, USV, Marico, MSD, Boehringer Ingelheim, Cipla, Lifescan, AstraZeneca, Zydus Cadila, Glenmark, Torrent.
P.F, S.G, L.N, H.V and A.H are AstraZeneca Employees.

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References:
1. Kovesdy CP. Epidemiology of chronic kidney disease: an update 2022. *Kidney Int Suppl* (2011). 2022;12(1):7-11.

Abbreviations: ACEi, angiotensin-converting enzyme inhibitors; ARB, angiotensin II receptor blockers; BMI, body mass index; BP, blood pressure; CAD, coronary artery disease; CKD, chronic kidney disease; DLD, dyslipidemia; eGFR, estimated glomerular filtration rate; HbA1c, glycated hemoglobin; HF, heart failure; HTN, hypertension; KDIGO, Kidney Disease Improving Global Outcomes; SD, standard deviation; SGLT2i, sodium/glucose co-transporter 2 inhibitor; T2D, type 2 diabetes; UACR, urine albumin-creatinine ratio; WHO, World Health Organization

iCaReMe REGISTRY

TH-PO1047

Clinical Characteristics and Treatment Patterns in Patients with Chronic Kidney Disease: Real-world Insights from iCaReMe Registry-Middle East and Africa (MEA) Cohort

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INTRODUCTION

- The global burden of CKD has witnessed an approximately 30% rise in the past 3 decades coupled with an increased prevalence of two major risk factors i.e., HTN and T2D.[1-3]
- The MEA region shares a disproportionate burden of CKD with a paucity of data on patients' characteristics and management practices.[2]
- Despite available guidance, the region lacks proper care, screening, and awareness in patients with CKD.[3]

OBJECTIVE

- To describe clinical features, major risk factors, and management of patients with CKD

METHODS

iCaReMe Global Registry (NCT03549754) is an ongoing, prospective, investigator-led, multinational, multicentric, observational study to determine the management practices and quality of care of patients with CKD, and/or T2D, and/or HTN, and/or HF

Baseline clinicodemographic characteristics and treatment patterns of patients with CKD enrolled from 8 Middle East and Africa (MEA) countries* between February 2018 and December 2022

Statistical Analysis

Categorical and continuous variables were presented using frequencies and percentages and continuous variables were summarized using arithmetic mean, and standard deviation.

***List of countries and sample size:** Egypt (160), Ethiopia (11), Jordan (65), Kenya (13), Lebanon (232), South Africa (14), Türkiye (1031), United Arab Emirates (103).

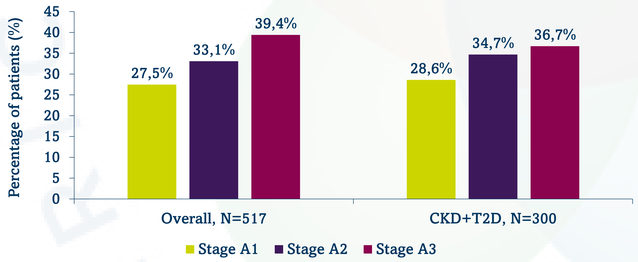
RESULTS

Table 1. Demographics and clinical characteristics

Parameters	Overall CKD, N=1629	CKD+T2D, N=886
Age (years)	59.7 (14.5); n=1623	63.1 (11.5); n=880
Males, n (%)	913 (56.1)	490 (55.3)
BMI (kg/m²)	28.7 (5.6); n=1151	29.9 (5.5); n=660
Smoking status, n (%)		
Current smoker	200 (12.3)	126 (14.2)
Ex-smoker	207 (12.7)	135 (15.2)
Non-smoker	981 (60.2)	576 (65.0)
SBP (mmHg)	133.1 (21.0); n=1428	133.5 (20.1); n=836
DBP (mmHg)	79.0 (12.3); n=1427	77.8 (11.8); n=834
HbA1c, (%)	7.1 (1.6); n=851	7.4 (1.6); n=654
UACR (mg/g)	722.9 (1354.7); n=517	526.0 (1018.3); n=300
eGFR (mL/min/1.73 m²)	43.0 (27.6); n=1289	45.5 (25.9); n=759
Co-morbidities, n (%)		
HTN	1160 (75.6)	701 (82.8)
HF	516 (36.4)	329 (43.0)
Dyslipidemia	498 (33.1)	397 (47.8)
CAD	386 (26.4)	280 (34.8)
Stroke	53 (3.6)	38 (4.7)

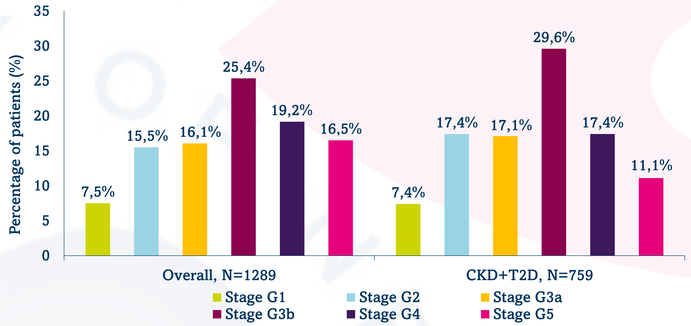
Note: Values are presented as mean (SD) unless otherwise specified

Figure 1. Albuminuria KDIGO categories



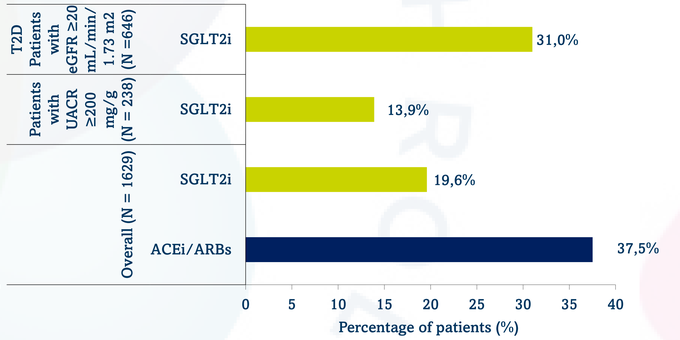
UACR (mg/g) KDIGO classification: A1 <30; A2 30-300; A3 >300

Figure 2. eGFR KDIGO stages



eGFR (mL/min/1.73m²) KDIGO classification: G1: ≥90; G2: 60-<90; G3a: 45-<60; G4: 15- <30, G5: <15

Figure 3. Treatment patterns



A Total of 1629 adults with CKD (mean±SD age; 59.7±14.5years, 56.1% male) were enrolled from 8 MEA countries (Egypt, Ethiopia, Jordan, Kenya, Lebanon, South Africa, Turkey, and United Arab Emirates). UACR and eGFR were available in 31.7% and 79.1% of patients, respectively. The prevalence of KDIGO GFR G3-5 was 77.0% and albuminuria A2/A3 was 72.5%. HTN was present in 75.6%, T2D in 54.4%, HF in 36.4%, dyslipidemia in 33.1% and CAD in 26.4%.

- In both CKD overall and CKD+T2D cohorts, almost three-fourth of patients had A2-3 albuminuria. As per eGFR stages, G3-G5 CKD was reported in more than three-fourth of patients in both cohorts.
- Overall RASi were prescribed for 37.5% of the patients and 19.6% were treated with SGLT2i:
  - Among patients with UACR ≥200 mg/g, SGLT2i were prescribed for only 13.9%
  - In patients with CKD+T2D with eGFR ≥20 mL/min/1.73m², 31.0% received SGLT2i

CONCLUSION

- Most of the enrolled patients were at high/very high risk of CKD progression. Only one third had UACR testing. Less than one third received optimal guidelines-directed medical therapy (GDMT).
- Our results highlight underutilization of UACR screening and suboptimal adherence to GDMT in patients with CKD in the MEA region.

DISCLOSURES

M.A reports honoraria for presentations from Amgen, Astellas, AstraZeneca, Bayer, Boehringer Ingelheim, Menarini, MSD, NovoNordisk, Sanofi; Support for attending meetings from AstraZeneca, Astellas.

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References:
1. Kovesdy CP. *Kidney Int Suppl (2011).*2022;12(1):7-11.
2. GBD Chronic Kidney Disease Collaboration. *Lancet.* 2020;395(10225):709-733.
3. Al-Ghamdi S, et al. Int J Nephrol Renovasc Dis. 2023;16:103-112.

Abbreviations:

ACEi = angiotensin-converting enzyme inhibitors; ARBs = angiotensin receptor blockers; BMI= body mass index; CAD = coronary artery disease; CKD = chronic kidney disease; eGFR, estimated glomerular filtration rate; HbA1c = glycated hemoglobin; HF = heart failure; KDIGO, Kidney Disease: Improving Global Outcomes; MEA = Middle East Africa; RASi= renin angiotensin system inhibitors; SD = standard deviation; SGLT2i = sodium/glucose co-transporter 2 inhibitor, T2D = type 2 diabetes; UACR = urine albumin-creatinine

iCaReMe REGISTRY

Sa3127

Clinical Characteristics and Treatment Patterns in Patients with Heart Failure: Results from the iCaReMe Middle East and Africa Cohort

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[1]National Heart Institute, Cairo, Egypt, [2]Eskişehir Osmangazi University, Eskişehir, Turkey, [3]Cleveland clinic Abu Dhabi, Abu Dhabi, UAE, [4]Moi Teaching and Referral Hospital, Eldoret, Kenya, [5]Life Glynnwood Hospital, Benoni, South Africa, [6]Addis Ababa University, Black Lion Hospital, Addis Ababa, Ethiopia, [7]Khalidi Medical Center, Amman, Jordan, [8]St Georges Hospital University Medical Center, Beirut, Lebanon, [9]AstraZeneca Argentina, Buenos Aires, Argentina, [10]AstraZeneca India, Bangalore, India, [11]AstraZeneca Algeria, Algiers, Algeria

INTRODUCTION

- HF is a leading global health problem affecting more than 64 million people worldwide and is associated with increased morbidity, mortality, and longer hospitalization.[1-3]
- The burden of HF in LMICs is mainly driven by the increasing prevalence of etiological factors such as HTN, T2D, dyslipidemia, obesity, and poor lifestyle.[3]
- Identifying treatment gaps, encouraging evidence-based treatment strategies, creating MDTs, and adhering to the current clinical guidelines may help in reducing the HF burden.
- The MEA region bears a disproportionately higher burden of HF with a dearth of real-world data on patient characteristics, risk factors, and management practices.

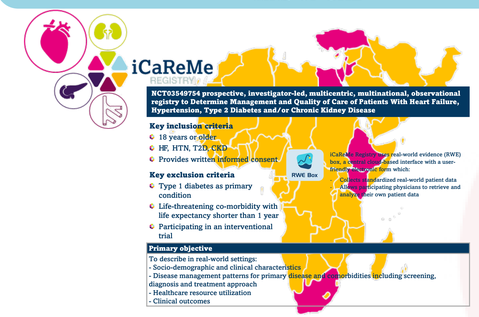
OBJECTIVE

- To describe the clinical features, comorbidities, and treatment patterns in patients with HF from the MEA-HF cohort of iCaReMe Registry.

METHODS

- A descriptive analysis of baseline data of HF patients enrolled in iCaReMe Global Registry from 8 countries : Egypt, Ethiopia, Jordan, Kenya, Lebanon, South Africa, Turkey, and United Arab Emirates.

iCaReMe Global Registry (NCT03549754) is an ongoing, prospective, investigator-led, multinational, multicentric, observational study to determine the management practices and quality of care of patients with HF, and/or HTN, and/or T2D, and/or CKD



Baseline clinicodemographic characteristics and treatment patterns of patients with HF enrolled from 8 Middle East and Africa (MEA) countries* between February 2018 and December 2022

Statistical Analysis

Categorical and continuous variables were presented using frequencies and percentages and continuous variables were summarized using arithmetic mean, and standard deviation.

***List of countries and sample size:** Egypt 1400, Ethiopia 08, Jordan 14, Kenya 76, Lebanon 67, South Africa 3, Turkey 557, United Arab Emirates 114

RESULTS

Table 1. Baseline Demographics and Clinical Characteristics

Characteristics	Overall[a] N=2239	HF patients with available LVEF, N=1919 HFrEF N=1297	HFmrEF N=249	HFpEF N=373	†p value
#Age (years)	58.4 (12.6), n=2236	57.0 (12.3), n=1295	59.9 (12.6), n=249	59.5 (12.9), n=373	<.0001
Female, n(%)	857 (38.3)	412 (31.8)	102 (41.0)	218 (58.5)	<.0001
#BMI (kg/m^2)	29.7 (5.8), n=1720	29.4 (5.3), n=1097	28.8 (4.6), n=193	32.3 (7.6), n=270	<.0001
#SBP (mmHg)	120.6 (20.9), n=2133	115.0 (18.9), n=1258	123.7 (21.5), n=246	130.1 (21.5), n=366	<.0001
#DBP (mmHg)	75.6 (12.2), n=2132	73.3 (11.6), n=1258	77.7 (13.4), n=246	78.5 (12.8), n=365	<.0001
NYHA II-IV	1452 (83.8)	998 (83.5)	172 (80.0)	196 (92.0)	<.0001
#NT-ProBNP (ng/L)	4301.6 (7884.0), n=277	4477.7 (8526.1), n=163	4980.6 (8320.7), n=29	3035.5 (4461.2), n=63	0.7545
#LDL-c (mg/dL)	100.6 (41.5), n=1004	97.7 (39.8), n=447	99.3 (48.2), n=106	104.8 (42), n=275	0.0326
#eGFR (mL/min/1.73 m^2)	70.7 (29.9), n=1808	73.2(30.3), n=1200	69.1(28.5), n=224	64.1(27.4), n=239	0.0005
#UACR (mg/g)	516.1 (1238.3), n=309	245.8 (643.1), n=38	839.3 (1779.6), n=22	202.0 (535.6), n=131	0.0248

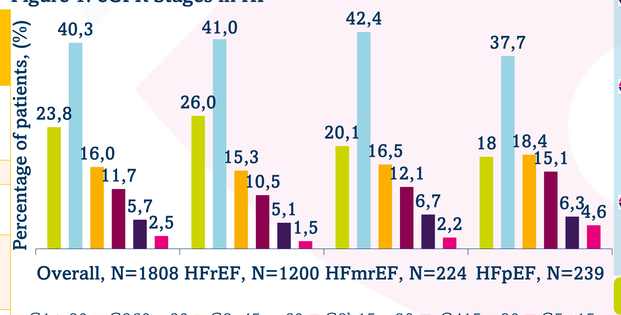
Unknown and missing data are not included in percentage calculation; values are presented as mean (SD) unless otherwise specified; #p values calculated from Kruskal Wallis test; †p value is applicable for all HF sub types except overall; [a]Includes patients with and without ejection fraction data.

Table 2. Comorbidities in HF

Characteristics n(%)	Overall[a] N=2239	HF patients with available LVEF, N=1919 HFrEF N=1297	HFmrEF N=249	HFpEF N=373	†p value
ᵠ HTN	1210 (56.4)	637 (51.0)	153 (62.7)	220 (60.4)	0.0001
ᵠ T2D	1084 (50.3)	554 (44.0)	117 (47.8)	251 (68.8)	<.0001
ᵠ CKD	517 (26.5)	228 (18.8)	40 (17.9)	83 (33.7)	<.0001
ᵠ Dyslipidemia	648 (33.0)	403 (36.8)	61 (27.5)	101 (27.8)	<.0001
§ CAD	1014 (47.8)	702 (55.3)	137 (56.6)	113 (33.1)	<.0001
§ Stroke	85(4.0)	51 (4.0)	11 (4.5)	16 (4.7)	0.0741

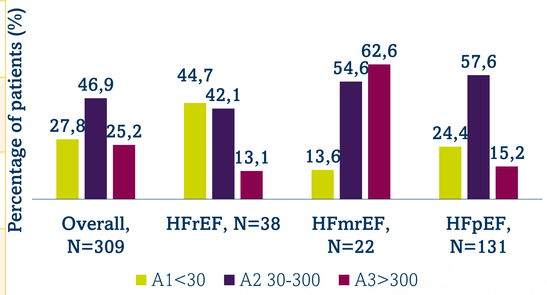
Note: Unknown and missing data not included for percentage calculation; ᵠp value calculated from chi-square test; §p value is calculated from Fisher test, †p value is applicable for all HF sub types except overall; [a]Includes patients with and without ejection fraction data.

Figure 1. eGFR Stages in HF



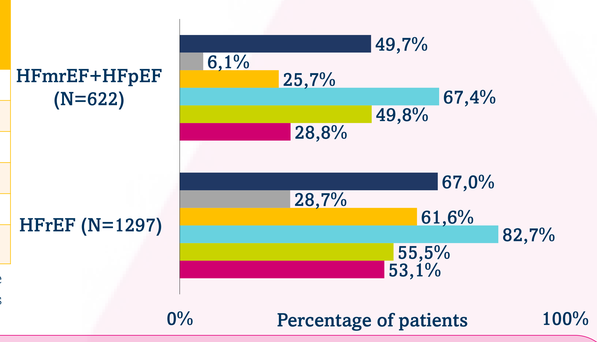
eGFR Stages (mL/min/1.73m^2) based on KDIGO CKD classification: G1: ≥90; G2: 60-<90; G3a: 45- <60; G4: 15- <30; G5: <15

Figure 2. Albuminuria Categories in HF



Albuminuria categories based on KDIGO UACR (mg/g) classification: A1 <30; A2 30-300; A3 >300

Figure 3. Treatment Patterns of HF MEA Cohort



Overall, 2239 adults (mean±SD age of 58.4±12.6 years, 61.7% males) with HF were enrolled. Of the 85.7% patients with available LVEF data,67.6% had HFrEF; 83.8% had NYHA class II-IV symptoms. Comorbidities included HTN (56.4%), T2D (50.3%), CAD (47.8%), dyslipidemia (33.0%), and CKD (26.5%). Mean UACR was 516.1 mg/g and mean eGFR was 70.7 ml/min/1.73m^2 reported in 13.8% and 80.9% of patients, respectively.

- Patients with EF≥40% were significantly older, more likely to be female, and more likely to have HTN, T2D, obesity, and renal disease compared to those with HFrEF.
- In HFrEF patients; <85% were on β-blockers, <85% on RASi/ARNI, <65% on MRA and <55% received SGLT2i.

CONCLUSION

- Our data provided valuable information on heart failure clinical burden and management patterns from Middle East and Africa countries.
- We found substantial prevalence of CV comorbidities across the ejection fraction spectrum and a need to improve the adoption of GDMT based on therapies with morbidity and mortality proven benefits.
- These insights should be taken into consideration when designing strategies to improve physician and institutional practices for heart failure.

DISCLOSURES

Z.B, Ç.Y, A.F, A.C, N.K, R.A, K.A, and A.P are Study Investigators, G.S, V.H, and H.A are AstraZeneca Employees.
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References:
1. Savarese G, et al. *Cardiovasc Res.* 2022; 118(17):3272-3287.
2. SD Solomon et al. *JACC Heart Fail.* 2022;10(3):184-197.
3. Agbor VN, et al. *Cardiovasc Diagn Ther.* 2020;10(2):244-251.

Abbreviations:

ACEi=angiotensin-converting-enzyme inhibitors; ARB=angiotensin II receptor blockers; ARNI=angiotensin receptor-neprilysin inhibitor; BMI=body mass index; BNP=brain natriuretic peptide; CAD = coronary artery disease; CKD = chronic kidney disease; CV= cardiovascular; DBP =diastolic blood pressure; EF=ejection fraction; eGFR=estimated glomerular filtration rate; GDMT = guideline-directed medical therapy; HF = heart failure; HFmrEF=HF with mildly-reduced ejection fraction; HFpEF = HF with preserved ejection fraction; HFrEF = HF with reduced ejection fraction; HTN=hypertension; KDIGO=Kidney Disease: Improving Global Outcomes; LMIC=low middle-income countries; LDL=low-density lipoprotein; LDL-c=low-density lipoprotein cholesterol; LVEF=left ejection fraction; MDT=multidisciplinary team; MEA= Middle East Africa; MRA=mineralocorticoid receptor antagonist; NT-proBNP=N-terminal proBNP; NYHA=New York Heart Association HF classification; RASi=Renin-angiotensin system inhibitors; SBP = systolic blood pressure; SD=standard deviation; SGLT2i= sodium/glucose cotransporter-2 inhibitor; T2D = type 2 diabetes; UACR = urine albumin-to-creatinine ratio; UAE = United Arab Emirates

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Burden of Cardiorenal Complications (CRCs) in T2D: Take Care of Me Programme

Map (epsMap.cfm?id=1020)

Epidemiology - Diabetes Complications
Presented on Saturday, June 4, 2022 11:30 AM

Author(s): **KAMLESH KHUNTI**, PETER FENICI, SUSANA GONCALVES, HIDDO L. HEERSPINK, SHASHANK JOSHI, MIKHAIL N. KOSIBOROD, CAROLYN S. LAM, ANTONIO NICOLUCCI, LARISA RAMIREZ, ALEJANDRA I. SILVA, II, FILIP SURMONT, HARDIK VASNAWALA, ESTEFANIA VAZQUEZ-MENDEZ, *Leicester, United Kingdom*, *San Jose, Costa Rica*, *Buenos Aires, Argentina*, *Groningen, Netherlands*, *Mumbai, India*, *Kansas City, MO*, *Singapore, Singapore*, *Pescara, Italy*, *Cambridge, United Kingdom*, *Bengaluru, India*, *Mexico City, Mexico*

Rationale: CRCs are known to be key determinants of patient outcomes in T2D; however, the burden of undiagnosed CRCs in unselected T2D population remains unclear, particularly in low-to-middle income countries (LMICs). 'Take CaRe of Me' (TCOM) programme aims to determine the global burden and treatment patterns of CRCs in people with T2D without prior history of cardiovascular (CV) and renal disease.
Methods: TCOM programme records data in a cloud based repository after being reported by primary care physicians on albuminuria, eGFR, CV risk, echocardiography and treatment patterns in adults with T2D and no CRCs at index visit for early identification of CRCs. We present a descriptive analysis (up to 10 Dec 2021) of baseline cardiorenal factors from 6 LMICs.
Results: We recruited 11335 adults (mean [±SD] age, 54.8±11.4 yrs; 57.9% women, mean T2D duration, 9.8±8.0 yrs). Mean HbA1c was 8.3±2.2% (65.8% with HbA1c >7%). Individuals with moderate-to-high renal risk (per urine albumin-creatinine ratio) ranged from 24.8% (Mexico) to 45.1% (Philippines) and with high/very high CV risk (per ESC 2019) ranged from 31.6% (Philippines) to 45.0% (Egypt) (Table).

Table. Clinical Characteristics and Cardiorenal Complications in People with T2D

	Overall (N=11335)	Argentina (N=910)	Egypt (N=2690)	India (N=3303)	Malaysia (N=262)	Mexico (N=2760)	Philippines (N=1410)
Age (yrs)*	54.8±11.4	58.1±11.7	53.9±10.0	54.8±12.0	52.8±13.6	54.2±11.4	56.2±11.8
Females, n (%)	6558 (57.9)	535 (58.8)	1939 (72.1)	1541 (46.7)	116 (44.3)	1530 (55.4)	897 (63.6)
T2D duration (yrs)*	9.8±8.0	9.1±7.7	12.9±7.8	9.0±7.2	13.7±13.9	8.4±7.5	8.0±7.9
T2D duration strata (yrs), n (%)							
<5	4045 (35.9)	328 (36.1)	439 (16.3)	1239 (37.7)	110 (43.0)	1244 (45.3)	685 (49.5)
5.1–10	2674 (23.7)	267 (29.4)	652 (24.2)	841 (25.6)	28 (10.9)	601 (21.9)	285 (20.6)
>10	4554 (40.4)	314 (34.5)	1599 (59.4)	1209 (36.8)	118 (46.1)	901 (32.8)	413 (29.9)
HbA1c (%)*	8.3±2.2	7.7±1.9	8.6±2.1	8.1±2.0	6.7±1.7	8.7±2.4	8.3±2.4
HbA1c control, n (%)							
<7%	3622 (34.3)	349 (44.3)	601 (25.1)	1201 (36.6)	184 (70.2)	842 (31.1)	445 (39.1)
7-10%	4656 (44.1)	341 (43.3)	1198 (50.0)	1511 (46.1)	61 (23.3)	1109 (41)	436 (38.3)
>10%	2290 (21.7)	97 (12.3)	596 (24.9)	566 (17.3)	17 (6.5)	757 (28)	257 (22.6)
UACR (mg/g), n(%)**							
Normal-to-mildly Elevated, A1 (<30)	5966 (64.7)	396 (73.3)	1219 (55.4)	1911 (62.3)	133 (63.9)	2013 (75.3)	294 (55)
Moderately increased, A2 (30-300)	2809 (30.5)	131 (24.3)	845 (38.4)	998 (32.6)	62 (29.8)	564 (21.1)	209 (39.1)
Severely increased, A3 (>300)	447 (4.8)	13 (2.4)	135 (6.1)	156 (5.1)	13 (6.2)	98 (3.7)	32 (6.0)
eGFR*(mL/min/1.73m^2)	92.9±26.4	98.7±9.3	NA	150.1±133.9	NA	NA	89.4±29.9
CV risk†, n(%)							
Moderate	752 (6.6)	24 (2.6)	77 (2.9)	373 (11.3)	35 (13.4)	175 (6.3)	68 (4.8)
High	349 (3.1)	20 (2.2)	153 (5.7)	50 (1.5)	2 (0.8)	34 (1.2)	90 (6.4)
Very high	4020 (35.5)	383 (42.1)	1057 (39.3)	1235 (37.4)	84 (32.1)	906 (32.8)	355 (25.2)
Echocardiograph findings, n (%)							
Echo available	1380	0	556	250	7	499	68
LVH	233 (16.9)	0	74 (13.3)	30 (12.0)	2 (28.6)	105 (21.0)	22 (32.4)
LAE	230 (16.7)	0	81 (14.6)	21 (8.4)	1 (14.3)	121 (24.2)	6 (8.8)
DD	62 (4.5)	0	17 (3.1)	6 (2.4)	1 (14.3)	34 (6.8)	4 (5.9)
PH	56 (4.1)	0	24 (4.3)	2 (0.8)	0	27 (5.4)	3 (4.4)
VHD	56(4.1)	0	18(3.2)	11(4.4)	0	24 (4.8)	3 (4.4)

*presented as mean ±SD, **Risk stratification as per UACR, †Risk stratification as per European Society of Cardiology, 2019

CV, cardiovascular; DD, diastolic dysfunction; eGFR, estimated glomerular filtration rate; HbA1c, glycated haemoglobin; LAE, left atrial enlargement; LVH, left ventricular hypertrophy; NA, not available; PH, pulmonary hypertension SD, standard deviation; T2D, type 2 diabetes; UACR, urine albumin-creatinine ratio; VHD, valvular heart disease (defined as presence of moderate or severe, stenotic or regurgitant disease of aortic or mitral valve).

Discussion: There is high burden of unrecognized CRCs in T2D in real-world setting, with >35% having moderate-to-high renal and high/very high CV risks. Our results point at the unmet need for early diagnosis, risk factor management and use of cardiorenoprotective glucose lowering drugs.

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Prevention and Health Promotion

PREVALENCE OF STRUCTURAL ECHOCARDIOGRAPHIC ABNORMALITIES IN PATIENTS WITH TYPE 2 DIABETES IN PRIMARY CARE: INSIGHTS FROM THE TAKE CARE OF ME PROGRAMME IN 4 EMERGING COUNTRIES

Poster Contributions
For exact presentation time, refer to the online ACC.22 Program Planner at https://www.abstractsonline.com/pp8/#!/10461

Session Title: Prevention and Health Promotion Flatboard Poster Selections: Diabetes and Cardiometabolic Disease
Abstract Category: 37. Prevention and Health Promotion: Diabetes and Cardiometabolic Disease

Authors: *Kamlesh Khunti, Shashank Joshi, Peter Fenici, Larisa Ramirez, Alejandra Silva, Filip Arnold M. Surmont, Hiddo Heerspink, Mikhail Kosiborod, Carolyn S.P. Lam, Antonio Nicolucci, Hardik Vasnawala, Estefania Vazquez, Saint Luke's Mid-America Heart Institute, Kansas City, KS, USA, University of Leicester, Leicester, United Kingdom*

Background: To determine prevalence and related clinical manifestations of early echocardiographic (echo) abnormalities in type 2 diabetes (T2D) in primary care.

Methods: Take CaRe of Me program (NCT03549754) is an ongoing international, prospective, observational study focused on diagnosis and management of early cardiorenal (CR) disease in T2D. Cohort enrolled 5996 T2D subjects (Dec 2020 to Aug 2021) with no CR disease per records at index visit. Systematic Coronary Risk Evaluation-ESC 2019 identified high risk patients who were referred for echo per routine care. We present analysis of documented echo (696) from Egypt- 41, India- 155, Mexico- 432 and Philippines- 68.

Results: Mean age was 56.2±10.9 years; 53.7% were females. 33.5% had echo abnormalities — left ventricular hypertrophy (61%), left atrial enlargement (54%), diastolic dysfunction (15%), pulmonary hypertension (12%) and valvular disease (15%). People with echo abnormalities were older, had longer T2D duration, high/very high cardiovascular risk and albuminuria. Per symptoms and echo, 231 had likely diagnosis of pre-heart failure (HF) (stage B: 190, stage C: 41); 32 had HF with preserved ejection fraction (EF) and 9 had HF with mid-range EF.

Table. Baseline Characteristics

	Normal echo		Abnormal echo	
	HF symptoms			
	No	Yes	No	Yes
Mean±SD	N=403	N=60	N=202	N=31
Female; %	49	67	57	68
Age; year	53.7±10.8	54.7±12	61±9.3	59.6±9.1
T2D duration; year	8.9±7.4	10.8±7.2	11±8.5	13.6±8.4
Glycated hemoglobin; %	8.8±2.3	8.8±1.9	8.6±2.3	8.7±2.5
Systolic blood pressure; mmHg	124.1±16.2	128.3±14.1	129.1±20.1	131.3±19.1
Total cholesterol; mg/dL	147.2±75.1	178.8±60.4	156.3±116.3	181.7±79
*Cardiovascular high/very high risk; n (%)	293 (73)	47 (78)	184 (91)	25 (81)
*Albuminuria A2 and A3; mg/g, n (%)	213 (58)	30 (53)	131 (71)	16 (55)

*Per urine albumin creatinine ratio and ESC 2019

Conclusion: A third of T2D patients referred for echo without prior CR disease had structural heart abnormalities with increased risk of developing symptomatic HF. Early diagnosis of silent structural heart abnormalities in T2D may help targeting HF preventative therapies to those at highest risk.

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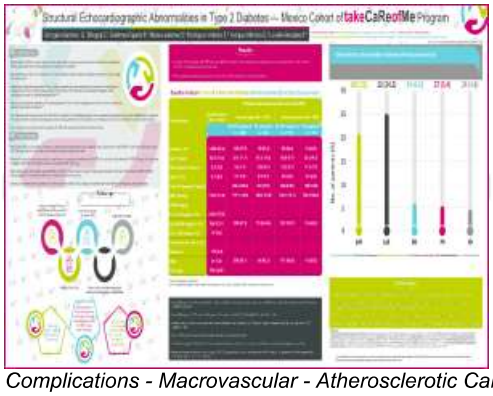
Structural Echocardiographic Abnormalities in T2D: Mexico Cohort of Take Care of Me Program

Map (epsMap.cfm?id=321)



Complications - Macrovascular - Atherosclerotic Cardiovascular Disease and Human Diabetes
Presented on Monday, June 6, 2022 12:00 PM

Author(s): GUILLERMO SAHAGÚN-SÁNCHEZ, CHARIT BHOGRAJ, PEDRO GUTIÉRREZ-FAJARDO, FLORISA RODRIGUEZ-VALADEZ, **FERNANDO J. LAVALLE-GONZALEZ**, ESTEFANIA VAZQUEZ-MENDEZ, OMAR MEZA-LEDEZMA, *Monterrey, Mexico*, *Singapore*, *Singapore*, *Guadalajara, Mexico*, *Ciudad de Mexico, Mexico*, *Monterrey, N.L., Mexico*, *Mexico City, Mexico*

Rationale: Due to gaps in detecting subclinical cardiac abnormalities in T2D, we evaluated prevalence and clinical manifestations of early echocardiographic (echo) abnormalities in primary care in Mexico.
Methods: Mexico cohort of the ongoing 'Take CaRe of Me program' enrolled 2760 people with T2D (between 7 Dec 2020 - 10 Dec 2021) and no cardiorenal disease per index visit history. We present descriptive data of documented echo performed by cardiologists as routine clinical care (499) in high-risk T2D identified by Systematic Coronary Risk Evaluation (ESC 2019).
Results: With mean age of 54.2±11.4 years, 55.4% were females and 189 patients (37.9%) had echo abnormalities — left ventricular hypertrophy (21%, 105), left atrial enlargement (24.2%, 121), diastolic dysfunction (6.8%, 34), pulmonary hypertension (5.4%, 27) and valvular disease (4.8%, 24). Substantial proportion of people with echo abnormalities had high or very high CV risk (Table). Overall, 23 people had presumptive diagnosis of pre-HF based on symptoms and echo. Per documented data, 18 people had HF with preserved ejection fraction (EF), 4 had mid-range EF and 1 had reduced EF.
Conclusion: Structural abnormalities are prevalent in 37.9% of people with T2D referred for an echo, even in absence of symptoms. Timely diagnosis of silent structural heart abnormalities in T2D is an opportunity for using novel cardiorenal pharmacotherapy for preventing HF.

Table. Echo abnormalities and clinical characteristics of people with T2D in Mexico cohort

	Normal echo		Abnormal echo	
	Without HF symptoms (N=284)	With HF symptoms (N=26)	Without HF symptoms (N=173)	With HF symptoms (N=16)
Age (year)#	53.6±11.1	58.2±11.4	60.5±9.7	55.9±9.2
T2D duration (year)#	9.6±7.4	10.8±8.1	12.5±8.7	11.5±7.7
HbA1c (%)#	9.1±2.5	8.9±2.1	8.8±2.5	9.4±2.8
Systolic blood pressure (mmHg)#	118.7±14.3	120.5±13.8	125.5±18	125.9±24.6
Total cholesterol (mg/dL)#	166.4±55.4	153±37.1	168.5±57	192.5±83
*CV high/very high risk, n (%)	270 (95.1)	24 (92.3)	171 (98.8)	14 (87.5)
*Albuminuria (A2, A3) (mg/g), n (%)	189 (67)	17 (65.4)	127 (74.7)	10 (62.5)

CV = cardiovascular; echo = echocardiography; HbA1c = glycated hemoglobin; HF = heart failure; T2D = type 2 diabetes mellitus
#values are presented as mean ± SD
*Risk per European Society of Cardiology 2019 and urine albumin-to-creatinine ratio (UCAR)
Albuminuria stage A2: UCAR 30-300 mg/g, stage 3 UCAR: >300 mg/g

Disclosure: G.Sahagún-sánchez: None. **C.Bhograj:** None. **P.Gutiérrez-fajardo:** None. **F.Rodriguez-valadez:** None. **F.J.Lavalle-gonzalez:** Speaker's Bureau; ; Abbott Diagnostics, AstraZeneca, Bayer AG, Boehringer Ingelheim International GmbH, Eli Lilly and Company, Janssen Pharmaceuticals, Inc., Novo Nordisk, Sanofi, Servier Laboratories. **E.Vazquez-mendez:** None. **O.Meza-ledezma:** None.

Take CaRe of Me Programme: Gaps in early diagnosis of cardiorenal complications in type 2 diabetes from 6 countries

PRESENTED AT
International Diabetes Federation Congress 2021
Dec 7-11, 2021

Background
Gaps exist in early identification and prevention of cardiorenal complications (CRCs) in type 2 diabetes (T2D).

Aim
To investigate global variations in burden and treatment patterns of CRCs, including albuminuria, high cardiovascular (CV) risk, and early echocardiographic findings, among individuals with T2D in primary care settings. This is an ongoing patient-centric program that collects data on early diagnostic tests during disease journey to support critical decision-making.

Method
'Take CaRe of Me', a subset of DISCOVER CaReMe Registry, is a multicountry, prospective, cloud-based data repository on routine care for adults (>18 years) with T2D, without cardiorenal disease history at screening (per medical records). We present preliminary descriptive analysis (until May-2021) from 6 countries.

Results
Among 4686 patients (mean age: 55.7±11.3 years; 46.2% men), average T2D duration was 8.4±7.2 years (N=4534) and mean glycated hemoglobin (HbA1c) was 8.3±3.0% (N=4409). About 32.3% had total cholesterol >180mg/dL (N= 4362); 51.4% had low-density lipoprotein cholesterol >70mg/dL (N=3985). Mean estimated glomerular filtration rate was 94.6±23.2mL/min/1.73m(2) (N=479) and mean urine albumin:creatinine ratio (UACR) was 62.9±181.9mg/g (N=3869). Overall, 66.3% had HbA1c >7%; as per UACR and European Society of Cardiology (ESC) 2019, 32.7% had high renal risk (UACR >30mg/g), and 37.0% had high/very high CV risk (Table 1). On echocardiography (N=417), 8.9% (n=37) had diastolic dysfunction, 20.6% (n=86) had left ventricular hypertrophy, 16.5% (n=69) had left atrial enlargement, and 8.6% (n=36) had valvular diseases. Among high/very high CV risk (N=1861) and high renal risk (N=1390), biguanides were most commonly prescribed antidiabetics in all lines of therapy (n=502, 26.9%; n=346, 24.8%), followed by biguanides+sulfonylureas (n=154, 8.3%; n=126, 9.1%), respectively. As first-line therapy, 42.4% (693/1635) with high/very high CV risk, 44.6% (531/1191) with high renal risk, and 44.2% (518/1172) with both risks received

antidiabetics; around 2% of them received dipeptidyl peptidase-4 inhibitors (DPP-4i), sodium-glucose cotransporter-2 inhibitors (SGLT2i) or DPP4i+SGLT2i. Overall, less than 2% of patients with high/very high CV or renal or both risks received glucagon-like peptide-1 agonists. Other therapies (N=4229) included antilipids (98.4%), antihypertensives (23.2%), and antiplatelets (2.4%).

*Risk defined per UACR and ESC 2019

Discussion
Among patients with T2D without cardiorenal disease, 32.7% and 37.0% had early signs of high renal risk and high/very high CV risk. Thus, channeling attention to early markers like UACR and echocardiography through enhanced screening enables timely diagnosis and adequate treatment with novel antihyperglycemics that also reduce cardiorenal risk at an early stage.

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