

The high cost of cardiovascular or renal manifestations in type 2 diabetic patients free of these comorbidities should encourage the development of specific preventive strategies.



ABSTRACT

BACKGROUND

Cost of hospitalization for cardiovascular or renal disease (CVRD) is not well known for type 2 diabetes (T2D) patients free of CVRD at baseline.

OBJECTIVES

To estimate the 5-year cumulative costs of CVRD hospitalizations for T2D patients free of CVRD at baseline.

METHODS

Design & Data source:

A 5-year follow-up cohort study within the SNDS French nationwide claims database (about 99% of the French population from birth to death).

Population:

All T2D patients identified without CVRD at index date (January 1st, 2014) and 4-year database history, no cancer nor organ transplantation history.

Outcomes:

Hospitalization (primary or associated diagnoses) for myocardial infarction (MI), stroke, peripheral arterial disease (PAD), heart failure (HF), chronic kidney disease (CKD), cardio-renal disease (CRD=HF or CKD).

Data analysis:

5-year cumulative hospital cost for each CVRD from the perspective of all payers.

RESULTS

From about 2 million T2D patients without cancer or 76.5% were free of CVRD at baseline with a mean age of 65 years, 52% women, 46% T2D for more than four years and 7% of diabetic complications.

For the whole cohort, the 5-year global cost of all CVRD hospitalizations was 3.875 billion € (B€) with an increase weakly exponential over time for CVRD manifestations.

The 5-year cumulative hospital costs were 1.954 B€ for CKD and 1.169 B€ for HF, respectively 6.6 and 4.0 times more costly than for MI (0.295 B€), 3.2 and 1.9 times more costly than for stroke (0.614 B€), 2.8 and 1.7 times more costly than for PAD (0.690 B€). Hospitalizations for HF or CKD together were 1.8 times more costly than for MI, stroke and PAD together (2.742 vs 1.549 B€); sum of hospital costs of each specific CVRD was 21.9% higher than the overall cost because some hospitalizations may involve 2 or more CVRD diagnoses when considering primary and associated diagnoses.

CONCLUSION

The 5-year global CRVD complication cumulative hospital cost in France was about 4 billion euros for those without CVRD at baseline. HF and CKD hospitalizations together were twice as expensive than the MI, stroke and PAD complications together. This should encourage the development of specific preventive strategies.

Disclosure

The study was funded by an unrestricted grant from AstraZeneca. It was designed, conducted by the Bordeaux PharmacoEpi platform under the supervision of a Scientific Committee.

MJ, PZ and PJ declare to have received fees from AstraZeneca for their participation in the Scientific Committee.

The other authors received no financial support for the research.

Cumulative cardiovascular or renal disease (CVRD) hospital cost for type 2 diabetics free of CVRD at baseline: a 5-year cohort study in the SNDS nationwide database

P. Blin¹, P. Zaoui², M. Joubert³, E. Guiard¹, D. Sakr¹, C. Dureau-Pournin¹, MA. Bernard¹, R. Lassalle¹, F. Thomas-Delecourt⁴, S. Bineau⁴, N. Moore¹, C. Droz-Perroteau¹, P. Jourdain⁵

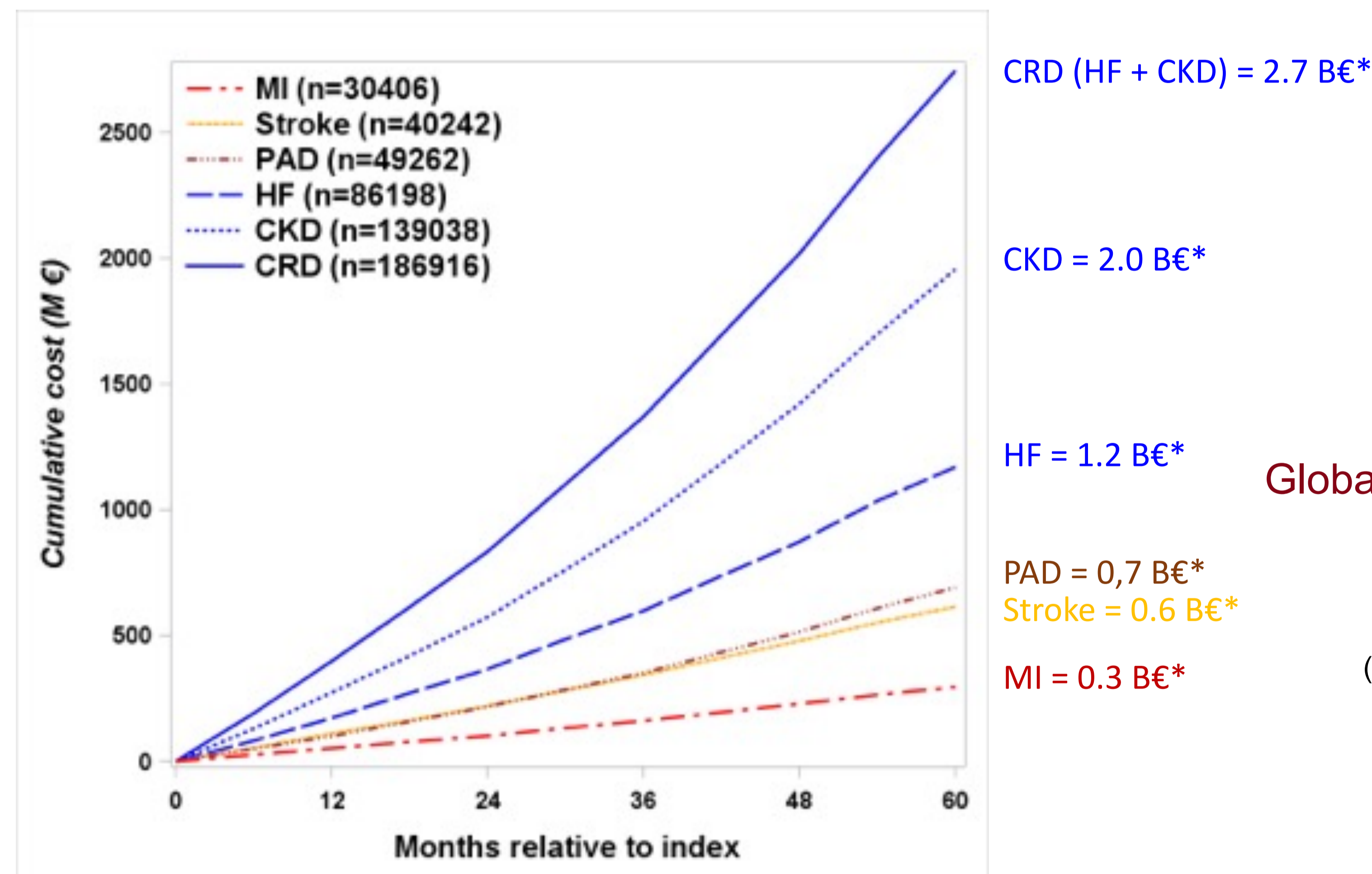
¹ Univ. Bordeaux, INSERM CIC-P 1401, Bordeaux PharmacoEpi, Bordeaux, France
² CHU Grenoble Alpes, Grenoble, France
³ CHU, Caen, France
⁴ AstraZeneca, Courbevoie, France
⁵ APHP, Paris, France

Study populations 1,591,428 CVRD-free T2D patients

Table 1. Main characteristics of the study population at index date

Follow-up (years), mean ± (sd)	4.8 (0.7)	Cardiovascular drug dispensing (3 last months before index date)	Type of last antidiabetic treatment dispensing (3 last months before index date)	Last antidiabetic drug dispensing (3 last months before index date)
Age (years), mean ± (sd)	65.2 (12.1)	Low dose aspirin 22.2 %	None 13.3 %	Metformin 14.1 %
Male	48.2 %	Statins 40.1 %	Monotherapy 49.0 %	Sulfonylurea 29.1 %
Diabetic complications				
Diabetic eye complications	1.9 %	Antihypertensives 5.1 %	Bitherapy 20.8 %	DPP-4 inhibitors 11.7 %
Diabetic neuropathy	1.4 %	ACEI or ARB 53.7 %	Tritherapy or more 6.5 %	Metiglinides 8.5 %
Severe hypoglycaemia	0.6 %	Beta blockers 23.8 %	Insulin 10.4 %	Ascarbose 3.2 %
Keto-lactate acidosis	0.5 %	Calcium channel blocker 17.5 %		Insulin 10.4 %
Lower limb amputations	0.1 %	Low ceiling diuretics 1.1 %		
		P2Y12 antagonists, % 3.3 %		

5-year cumulative CVRD hospital costs



Global CVRD hospitalizations cost*
3.9 billion € (B€)

*some hospitalizations may involve ≥ 2 CVRD manifestations (primary or associated diagnoses)

Figure 1. Cumulative CVRD hospital costs during 5-year of follow-up in billion euros (B€)

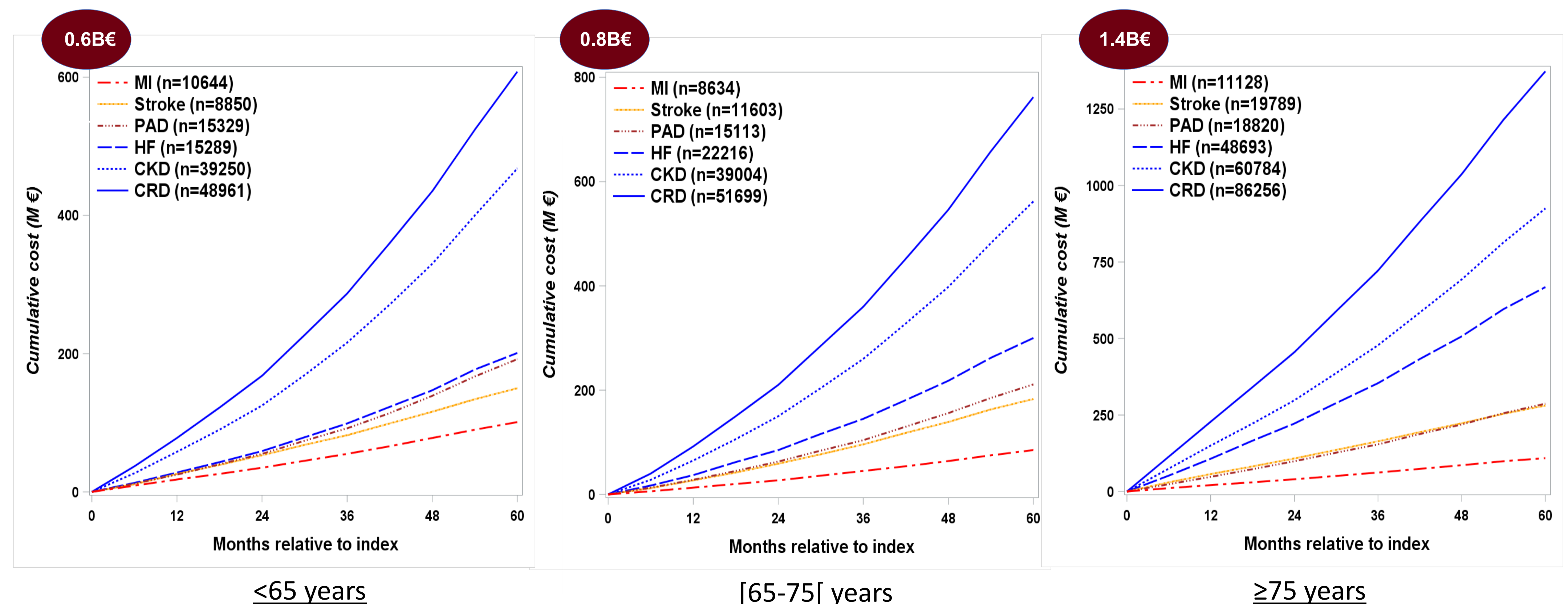


Figure 2. Cumulative CVRD hospital costs during 5-year of follow-up according to age in billion euros (B€)

ISPOR Europe 2022 Vienna, Austria, November 6-9, 2022