4e JOURNÉE
RÉTINE & DIABÈTE

Vendredi 29 novembre 2024

Nouveau visage du diabète juvénile

Alfred PENFORNIS (Corbeil-Essonnes)

université PARIS-SACLAY

Centre Hospitalier Sud Francilien

Liens d'intérêts Alfred Penfornis

- **Alfred PENFORNIS** déclare avoir participé à des interventions ponctuelles (essais cliniques, travaux scientifiques, activité de conseil, conférence ou colloque) pour les entreprises suivantes
  - **Abbott**
  - **Astra Zeneca**
  - **Bayer**
  - **Boehringer-Ingelheim**
  - **Dexcom**
  - **Diabeloop**
  - **Eli Lilly**
  - **Insulet**
  - **Medtronic**
  - **Medtrum**
  - **Novo Nordisk**
  - **Sanofi Aventis**
  - **Ypsomed**

2024 © Journée Rétine & Diabète, Tous droits réservés - Toute reproduction même partielle est interdite.
2024 © Journée Rétine & Diabète, Tous droits réservés - Toute reproduction même partielle est interdite.

Youth-Onset Type 2 Diabetes: The Epidemiology of an Awakening Epidemic

Wei Perng,[1,2] Rebecca Conway,[1,2] Elizabeth Mayer-Davis,[3] and Dana Dabelea[1,2,4]

Diabetes Care 2023;46:490–499 | https://doi.org/10.2337/dci22-0046

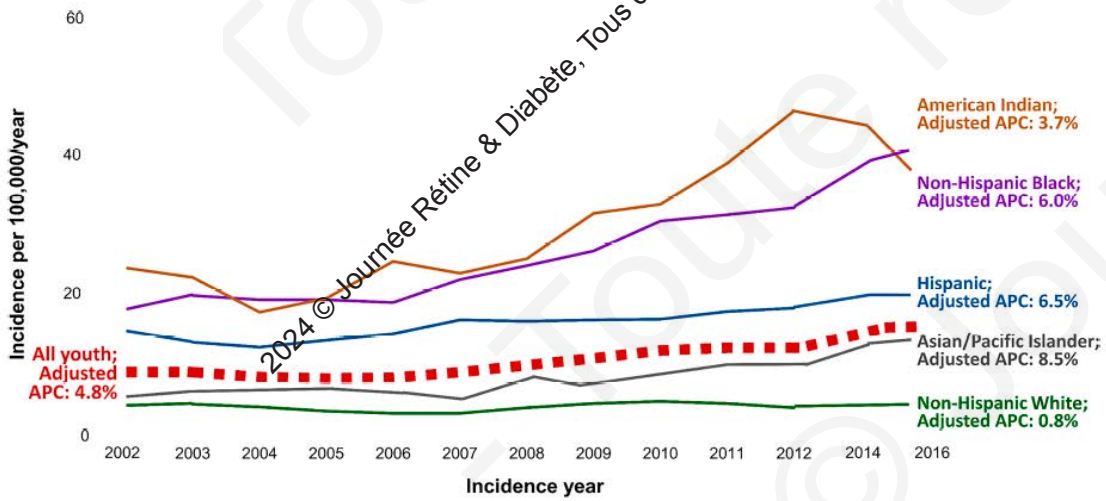


Figure 3—Temporal trends and APC in incidence of type 2 diabetes among multiethnic U.S. youth in the SEARCH study from 2002 to 2015. APC estimates for all youth are adjusted for age, sex, race, and ethnicity; estimates within racial and ethnic strata are adjusted for age and sex. Created from data reported in Mayer-Davis et al. (15) and Divers et al. (6).

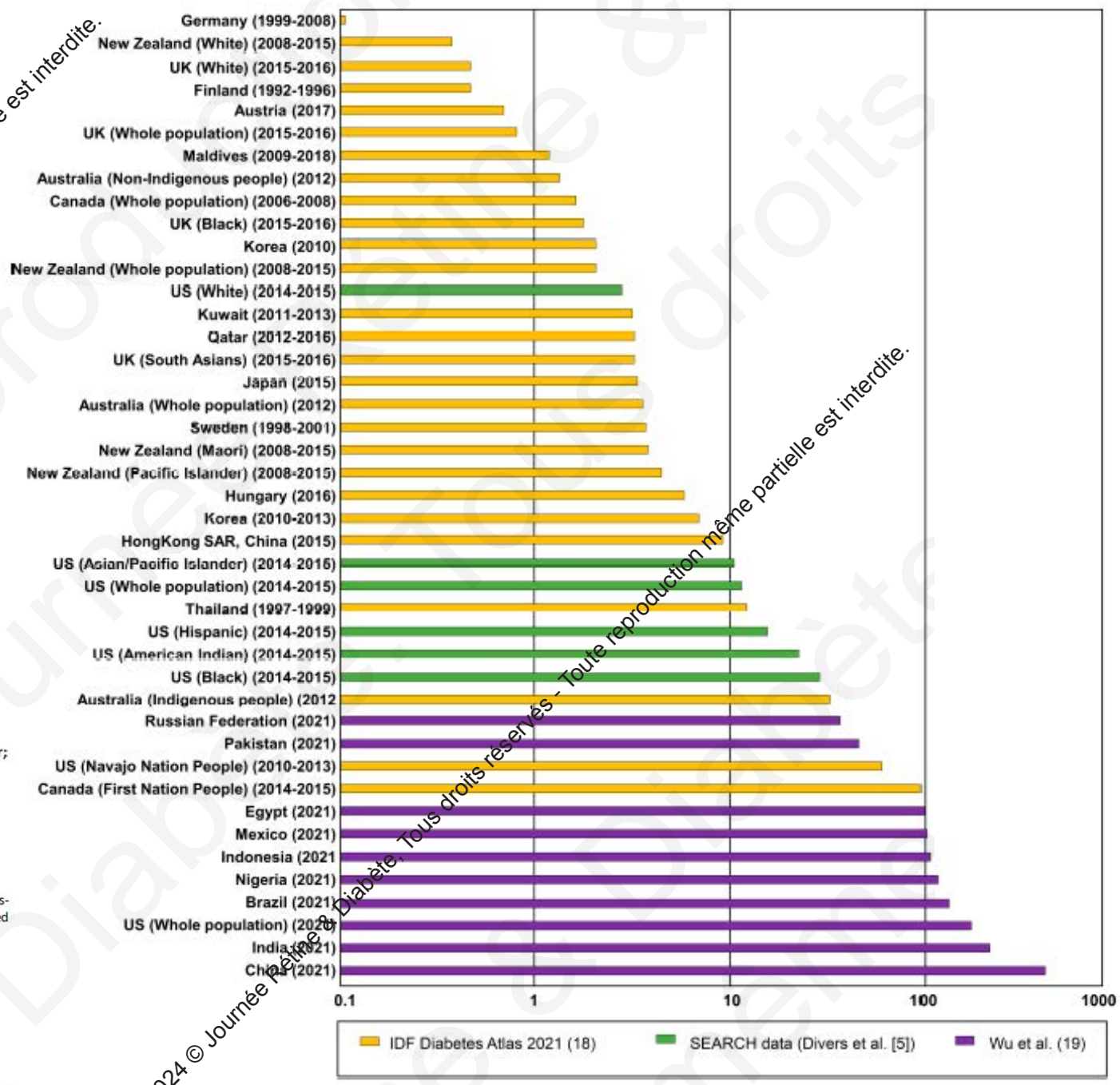


Figure 2—Global incidence of type 2 diabetes among children and adolescents (age <20 years), per 100,000.

The SEARCH and TODAY Studies

- **The SEARCH for Diabetes in Youth (SEARCH)** study:
  an observational study initiated in 2000 at five sites across the U.S., designed to estimate the prevalence, incidence, & complications of both type 1 (T1D) & type 2 diabetes (T2D) in youth

- The **Treatment Options for T2D in Adolescents and Youth (TODAY) study:**
- An interventional study on adolescents with T2D, aimed at assessing the effectiveness of various treatment options for managing the disease in this age group

2024 © Journée Rétine & Diabète, Tous droits réservés - Toute reproduction même partielle est interdite.
2024 © Journée Rétine & Diabète, Tous droits réservés - Toute reproduction même partielle est interdite.

Trends in Incidence of Youth-Onset Type 1 and Type 2 Diabetes, 2002–2018: Results from the US Population-Based SEARCH for Diabetes in Youth Study

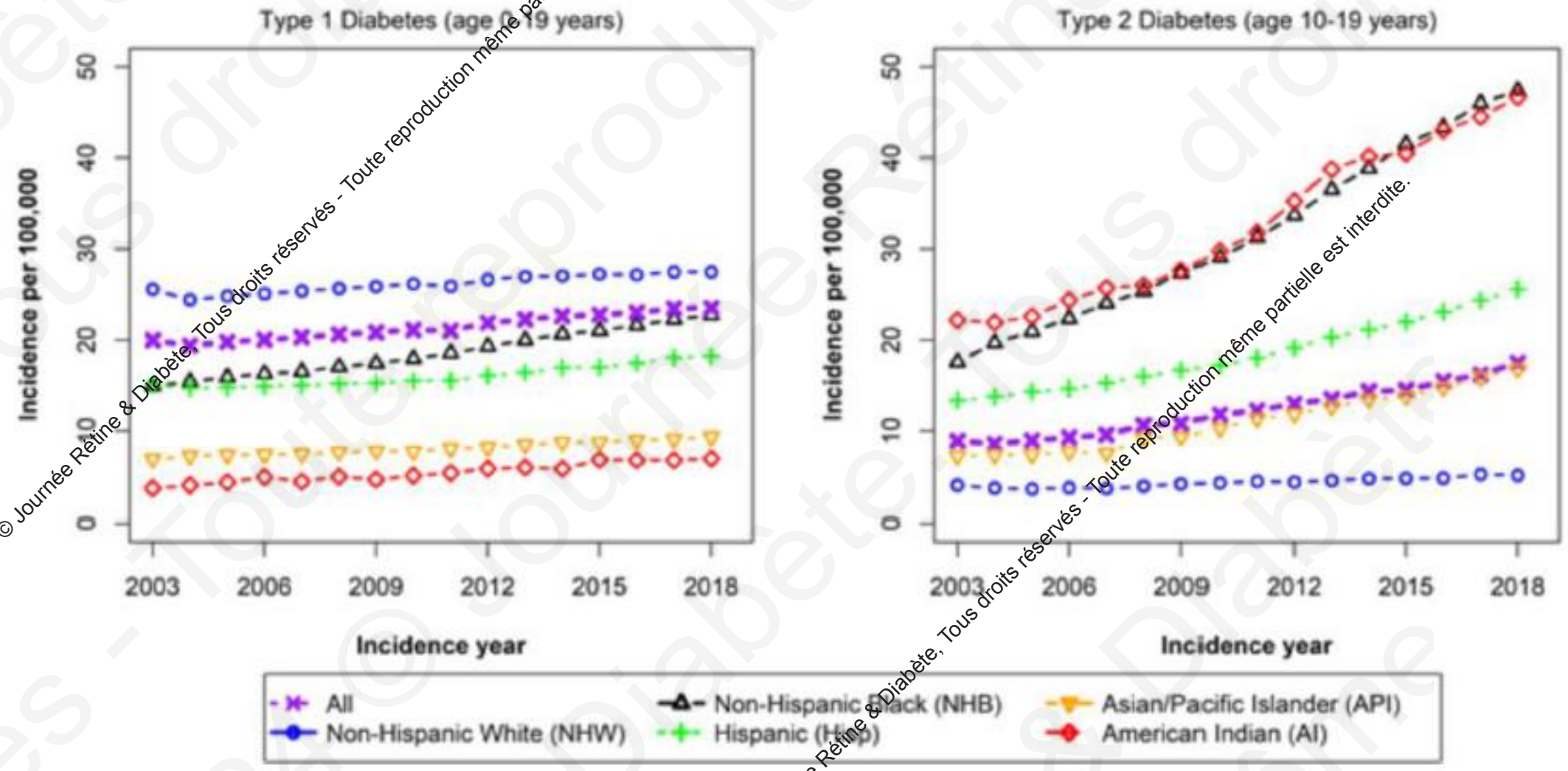


Figure 1. Annual adjusted incidence rates for type 1 and type 2 diabetes

Lancet Diabetes Endocrinol. 2023 April ; 11(4): 242–250. doi:10.1016/S2213-8587(23)00025-6.

Le diabète de type 2 chez l'enfant et l'adolescent

Elise Bismuth-Reisman

Med Mal Metab 2020; 14: 401-407

en ligne sur / *on line on*
www.em-consulte.com/revue/mmm
www.sciencedirect.com

- Projet d'observatoire national

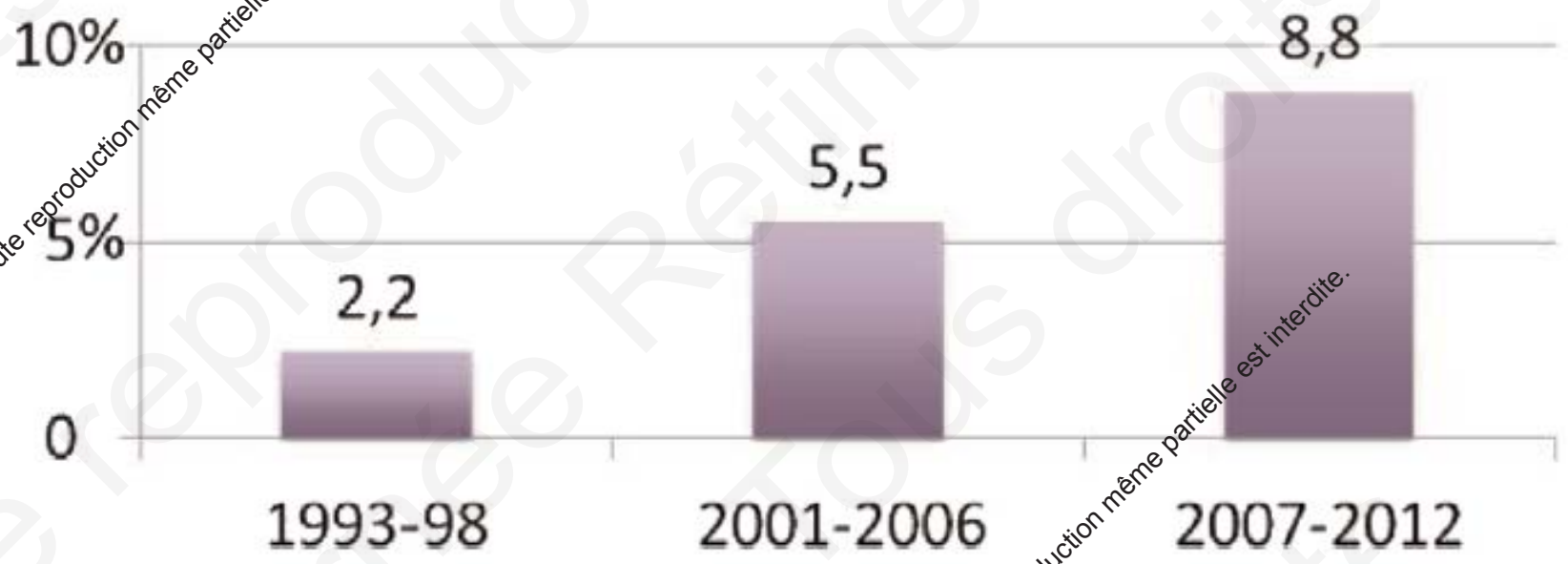


FIGURE 1

Évolution de la proportion de patients diabétiques de type 2 (DT2) parmi les nouveaux cas de diabète pris en charge au CHU Robert-Debré (AP–HP, Paris) entre 1993 et 2012. Données de cohorte, CHU Robert-Debré, AP–HP, Paris. Dr Nadia Tubiana-Rufi, 2016

Sur cette période de 20 ans, la proportion de patients DT2 parmi les nouveaux cas de diabète a été multipliée par 4.

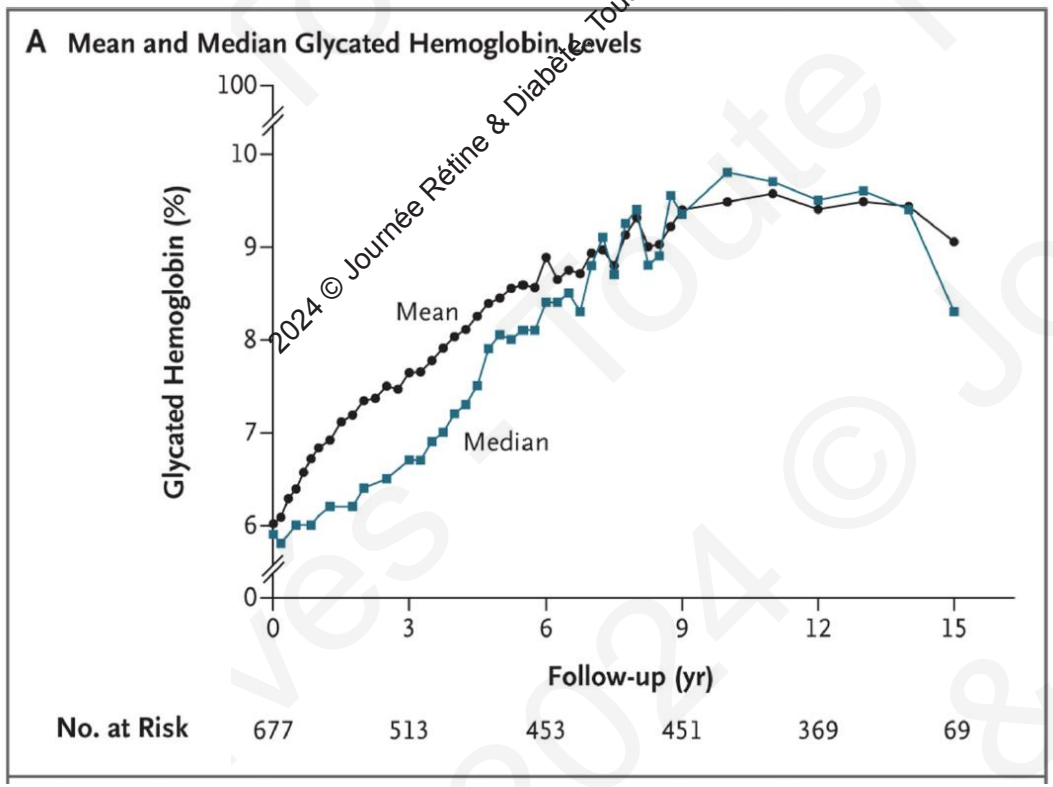
Long-Term Complications in Youth-Onset Type 2 Diabetes

N Engl J Med. 2021 July 29; 385(5): 416–426. doi:10.1056/NEJMoa2100165.

TODAY Study Group*

The cumulative incidence of long-term diabetic complications was assessed in **500 adolescents** who had participated in the TODAY study

Their mean age was 26.4±2.8 years
The mean time since the diagnosis of T2D was 13.3±1.8 years



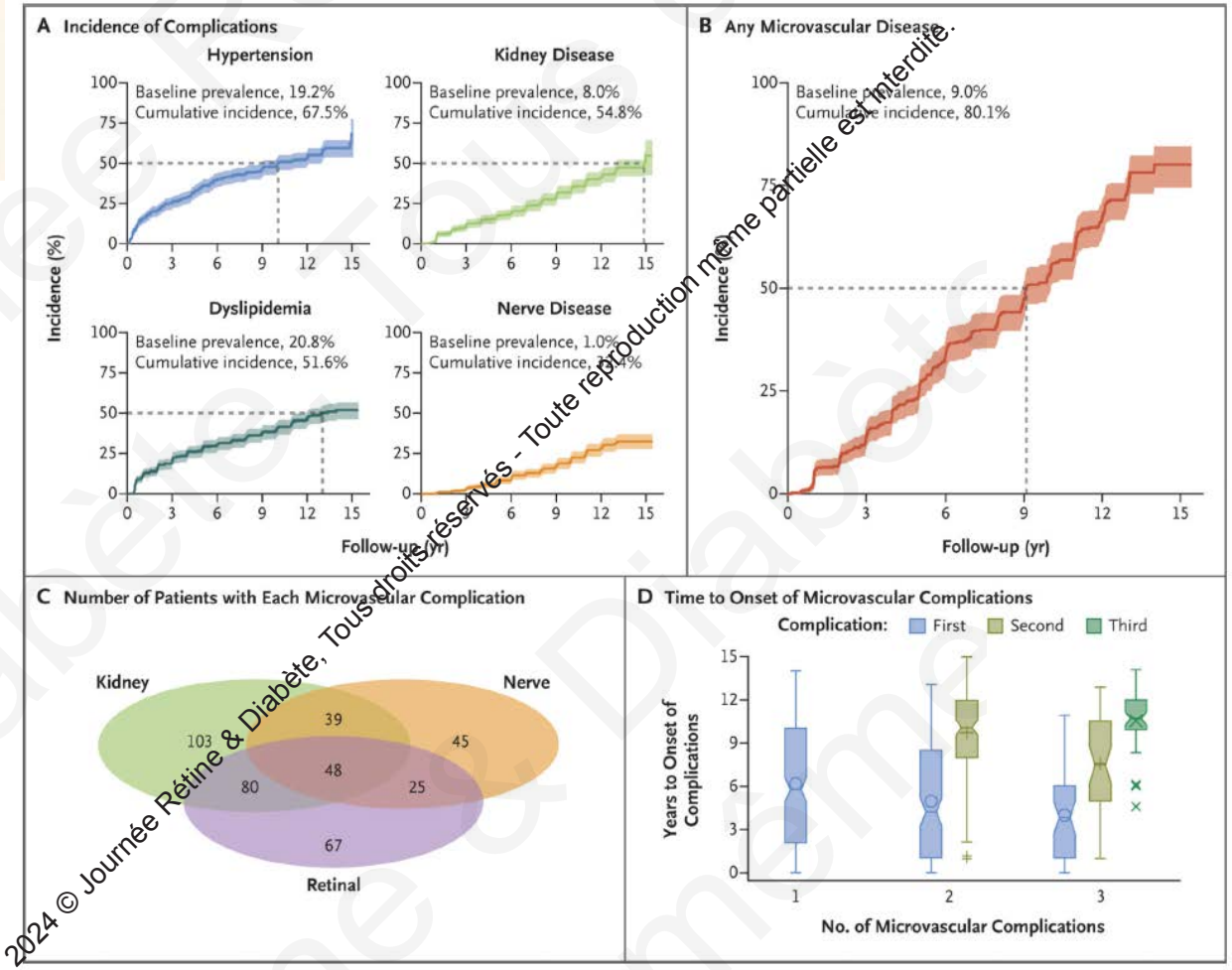


Figure 2. Diabetes-Related Complications That Occurred during the Study.

Diabetic Nephropathy

- In the SEARCH study, after a duration of 8 years, the prevalence was **19.9%** among adolescents with T2D compared with **5.8%** in those with T1D

Diabetic Retinopathy

- Diabetic retinopathy was present in 50% of TODAY participants by age 25 years, after 12 years of disease duration

- In The SEARCH study, 56% of youth had diabetic retinopathy after 12.5-year diabetes duration

Bjornstad P, et al. N Engl J Med 2021;385:416

2024 © Journée Rétine & Diabète, Tous droits réservés - Toute reproduction même partielle est interdite.

JAMA Network Open

JAMA Network Open. 2023;6(3):e231887. doi:10.1001/jamanetworkopen.2023.1887

Original Investigation | Diabetes and Endocrinology

Global Prevalence of Diabetic Retinopathy in Pediatric Type 2 Diabetes

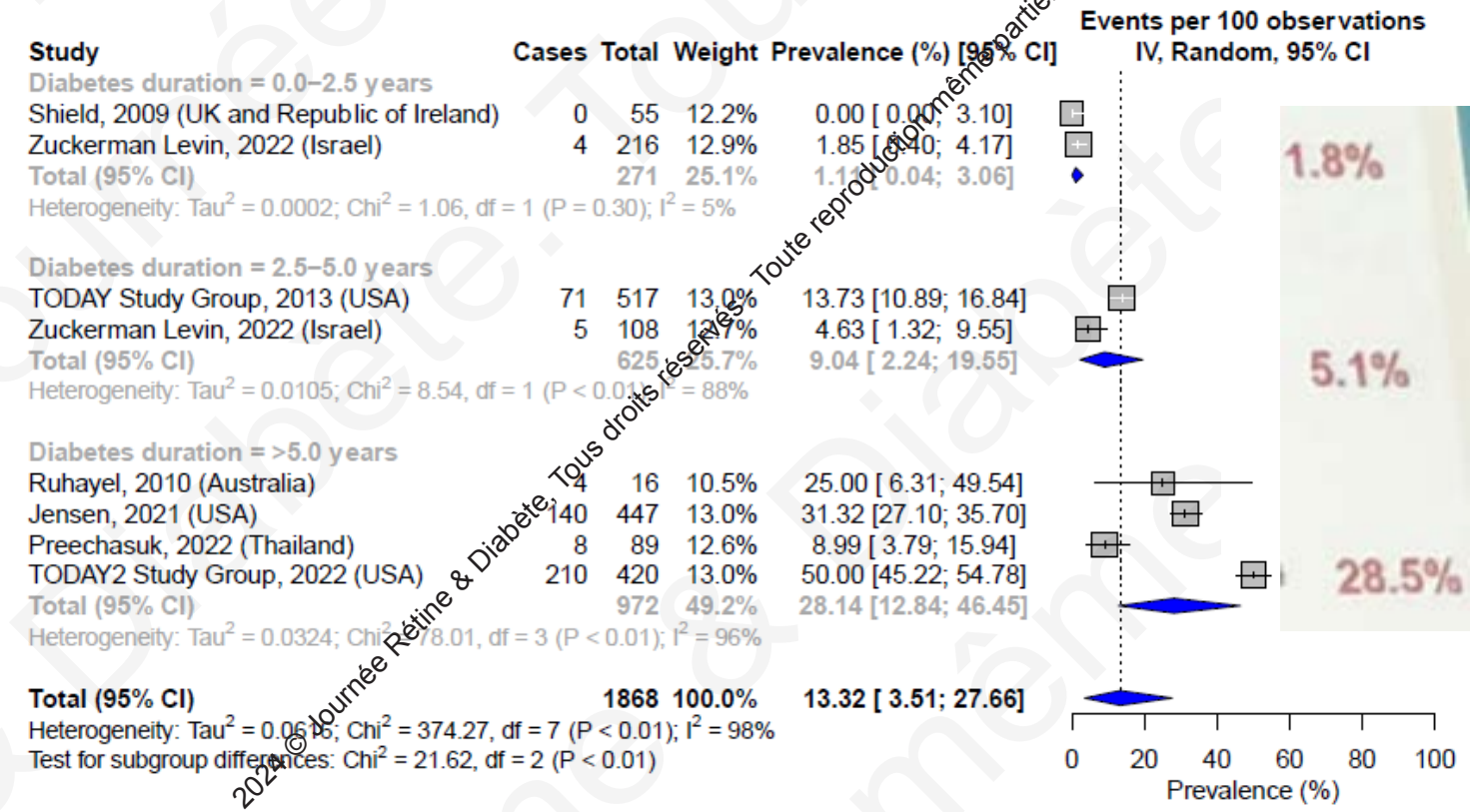
A Systematic Review and Meta-analysis

Milena Cioana, BHSc; Jiawen Deng, BHSc; Ajantha Nadarajah, MSc; Maggie Hou, BHSc; Yuan Qiu, MD; Sondra Song Jie Chen, MD; Angelica Rivas, MD; Parm Pal Toor, BHSc; Laura Banfield, MLIS, MHSc; Lehana Thabane, PhD; Varun Chaudhary, MD; and Constantine Samaan, MD, MSc

In a meta-analysis study including 2,234 children, age range at T2D diagnosis, 6.5-21.0 yrs

Prevalence of retinopathy increased with age, with no differences based on sex, race, or obesity

eFigure 2. Forest Plot of Prevalence of Diabetic Retinopathy in Pediatric Type 2 Diabetes by Diabetes Duration in Prospective Cohort Studies



The cumulative incidence of long-term diabetic complications was assessed in **500 adolescents** who had participated in the TODAY study

Their mean age was 26.4±2.8 years
The mean time since the diagnosis of T2D was 13.3±1.8 years

Cardiovascular Disease (CVD)

- In the TODAY study, there were 17 serious cardiovascular events:
  - Myocardial infarction [4 events]
  - Congestive heart failure [6 events]
  - Coronary artery disease [3 events]
  - Stroke [4 events]

2024 © Journée Rétine & Diabète, Tous droits réservés - Toute reproduction même partielle est interdite.

Demographic Correlates of Short-Term Mortality Among Youth and Young Adults With Youth-Onset Diabetes Diagnosed From 2002 to 2015: The SEARCH for Diabetes in Youth Study

Diabetes Care 2021;44:2691–2698 | https://doi.org/10.2337/dc21-0728

➢ According to a life expectancy model, it was predicted that youth with T2DM lose approximately 15 years

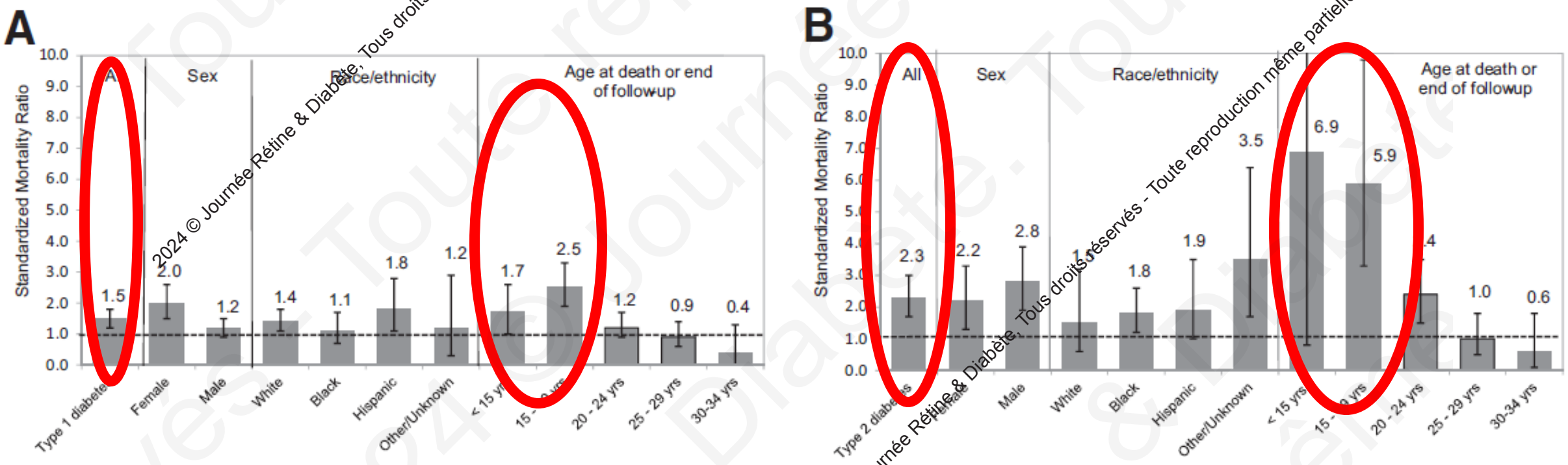


Figure 1—SMRs and 95% CIs for type 1 (*A*) and type 2 (*B*) diabetes overall and by sex, race/ethnicity, and age at death or end of follow-up. The number on the top of or beside the bar is the SMR. The error bars show the range of the 95% CI. The top of the error bar for <15 years in *B* is 24.9.

- Actualisation 2024 attendue incluant
  - objectif HbA1c < 6,5%
  - iSGLT2
  - Tirzepatide
  - chirurgie métabolique
  - pompes et BFH

ISPAD Clinical Practice Consensus Guidelines 2022: Type 2 diabetes in children and adolescents

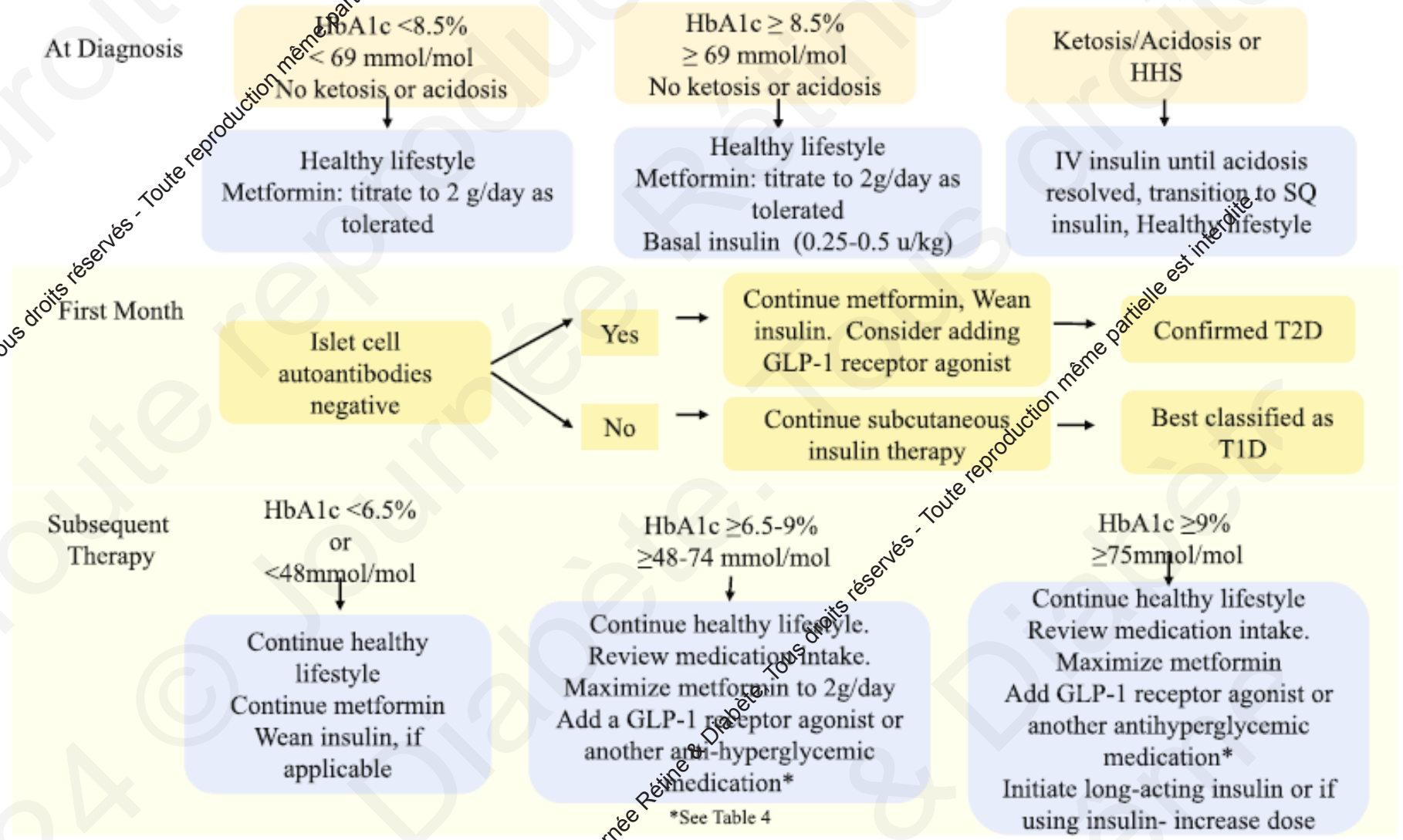


FIGURE 1 Management of T2D in Children and Adolescents. Initial management and subsequent therapy. Adapted from ADA Position Statement "Evaluation and Management of Youth-Onset Type 2 Diabetes". GLP-1, glucagon like peptide-1.

Julie M. Rosenthal, MD, MS
Department of Ophthalmology and Visual Sciences, W. K. Kellogg Eye Center, University of Michigan, Ann Arbor.

Jennifer K. Sun, MD, MPH
Department of Ophthalmology, Harvard Medical School, Boston, Massachusetts; and Beetham Eye Institute, Joslin Diabetes Center, Beth Israel Lahey Health, Boston, Massachusetts.

Risa M. Wolf, MD
Division of Pediatric Endocrinology, Johns Hopkins University School of Medicine, Maryland.

VIEWPOINT

Diabetic Retinopathy in Youths—A Potentially Unappreciated Public Health Catastrophe

JAMA Ophthalmology Published online October 3, 2024

-Dépistage dès le diagnostic puis annuellement

-Vigilance / RDV manqués et rupture de suivi (transition)

-Communication++ avec pédiatre puis diabéto « adulte »