THE 11th ANNULAL CONFERENCE OF
FACULTY OF MEDICINE
SOHAG UNIVERSITY

المؤتمر السنوي الحادي عشر لكلية الطب جامعة سوهاج

24 APRIL 2024

SOHAG - EGYPT

SOHAG DIABETES FORUM

منتدى داء السكري

Dr. A.M.Abodahab, MD


A Journey in The History of Radiology & D.M. Research
THE 11th ANNUAL CONFERENCE OF FACULTY OF MEDICINE

Dr. Ahmad Mokhtar Abodahab, MD

Lecturer of Radiology Faculty of Medicine Sohag University

Certified Trainer, Supreme Council of Egyptian Universities

History is Not only Wars & Kingdoms

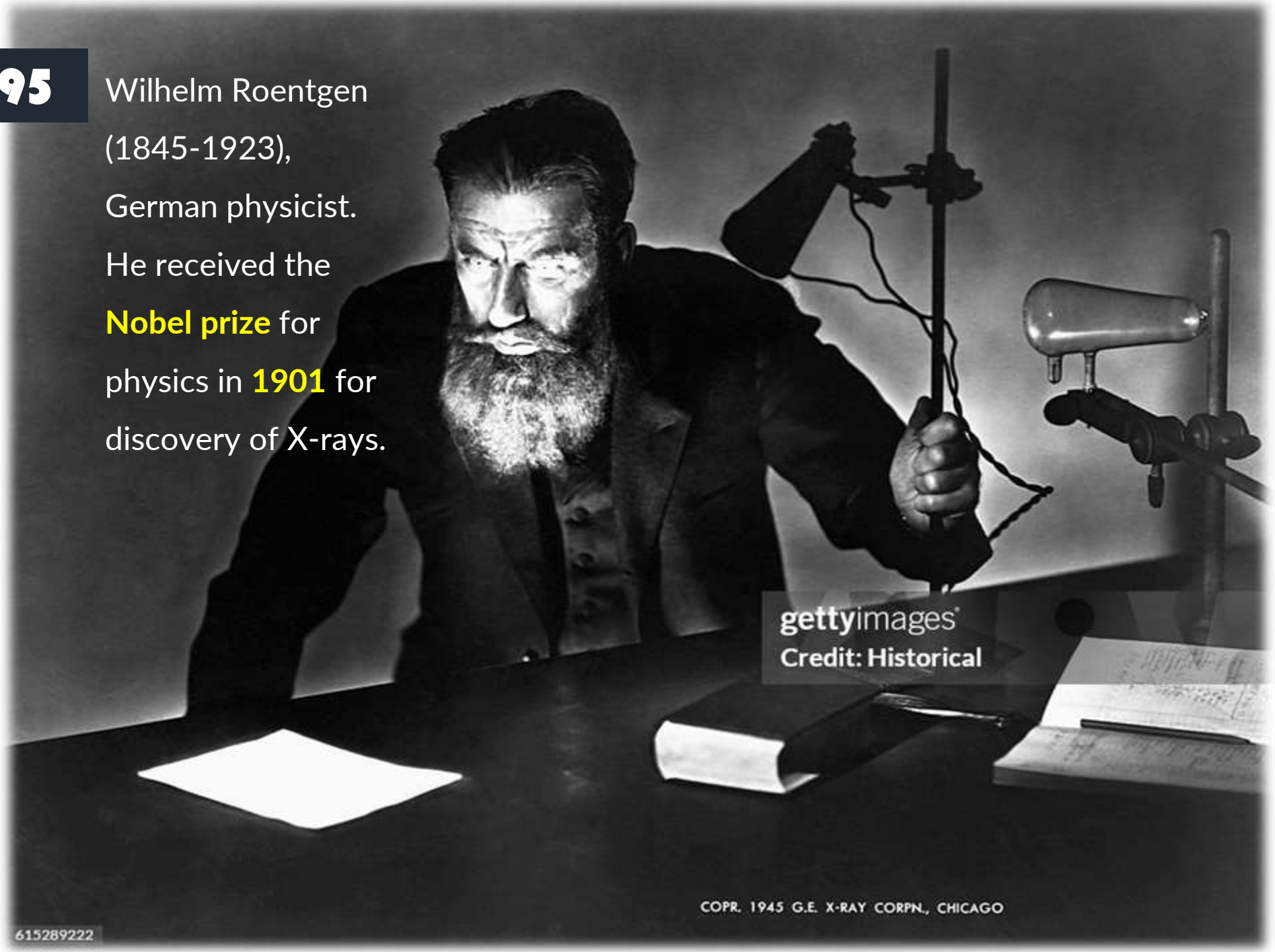
YEARS & DECADES of RESEARCHES

A Journey in Few Minutes

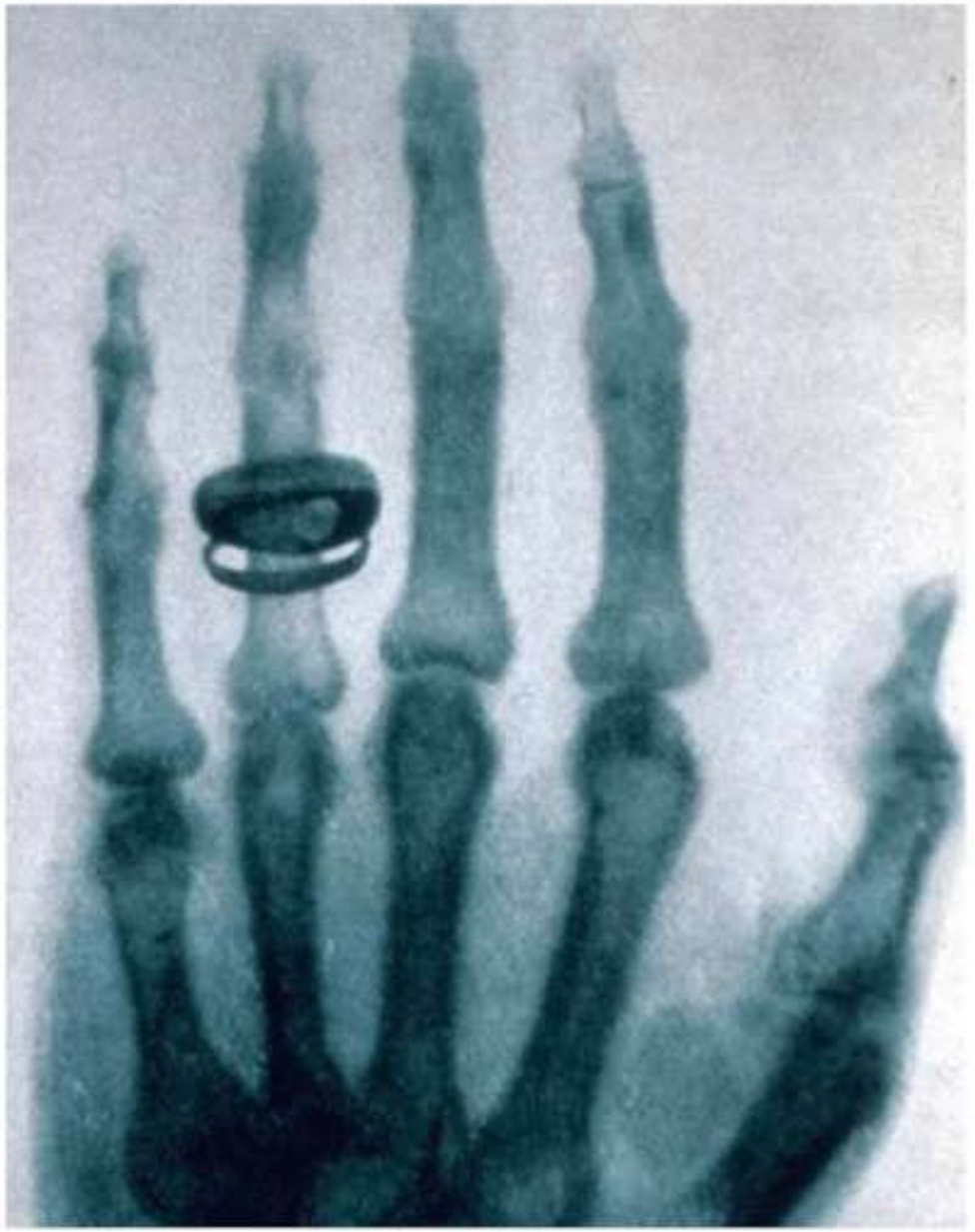
..... Lets Go

1895

Wilhelm Roentgen (1845-1923), German physicist. He received the **Nobel prize** for physics in **1901** for discovery of X-rays.

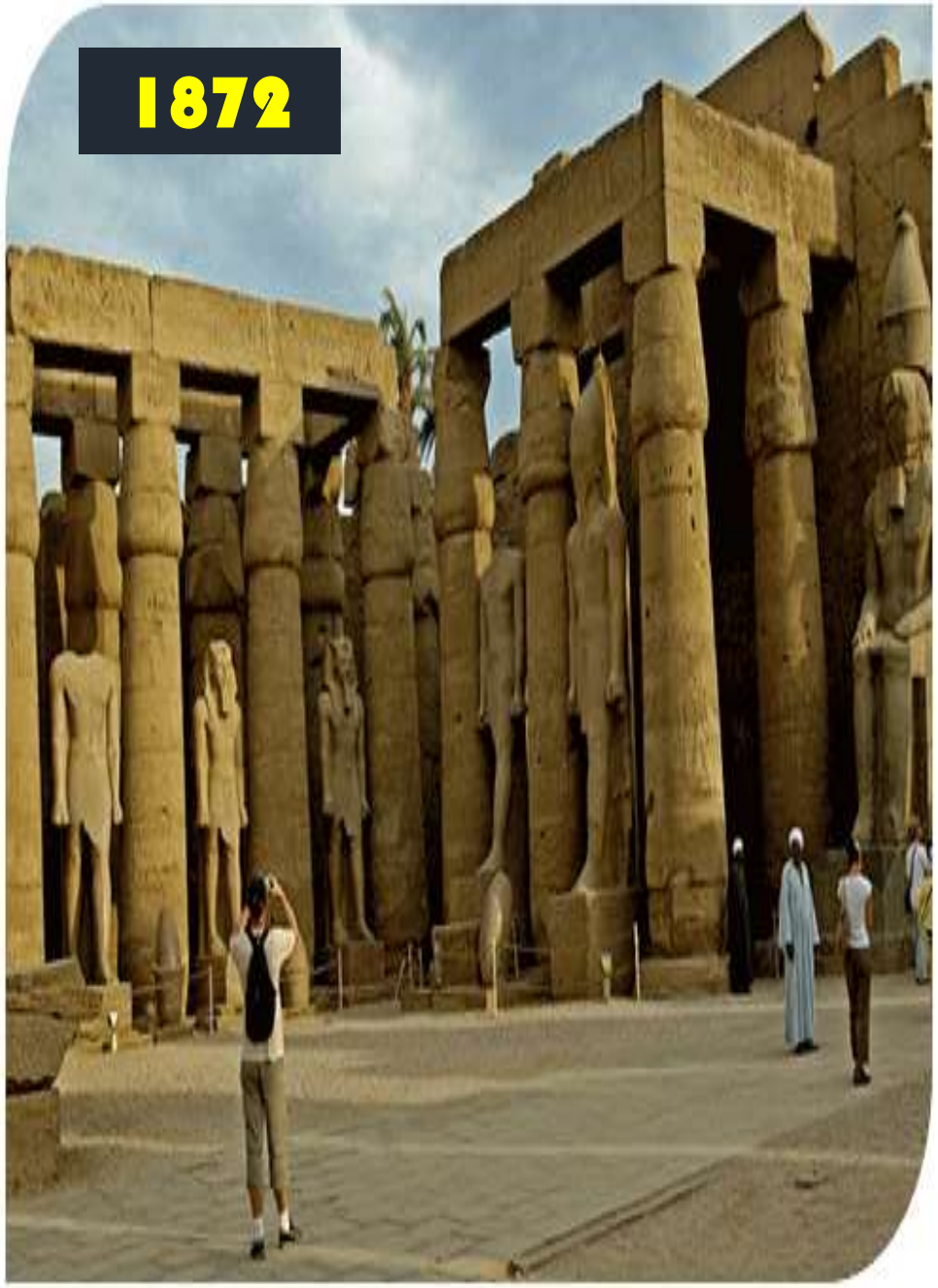


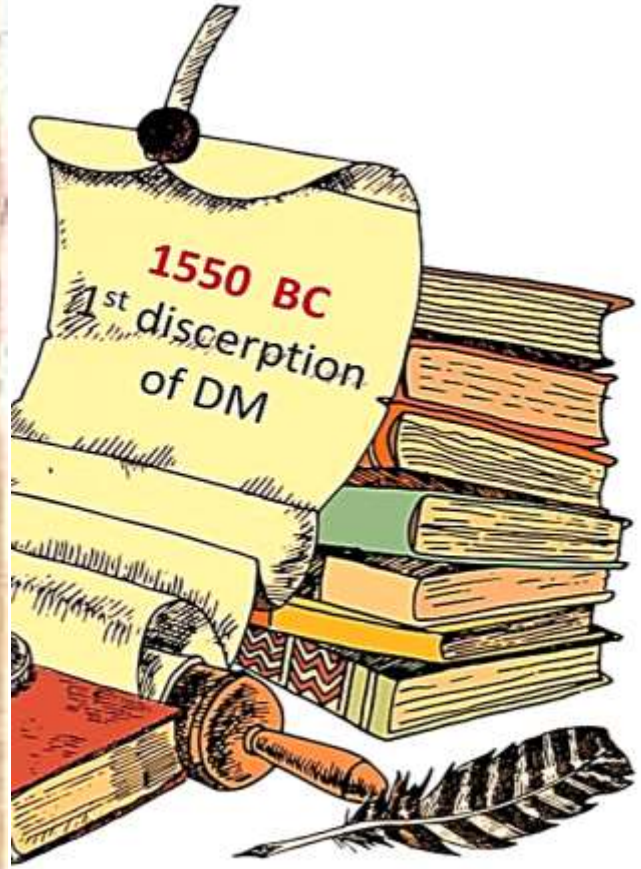
FREE PALESTINE



- **1900** – The Mount Sinai Hospital purchased its **first X-ray machine**.
- **1920** – Approved a **one-year internship in radiology** for medical students.
- **1923** –published ***Clinical Roentgenology of Diseases of the Chest***, **tubes.**
- **1929** –formulated **uroselectan**, a contrast of urinary tract without cystoscopy.
- **1937** – **Columbia University** established the **requirement radiology internship** to earn their degree of Doctor in **Medical Sciences in Radiology**.
- **1939** –the first **Angiocardiogram** to diagnose heart disease at Mount Sinai.

FREE PALESTINE





FREE PALESTINE

1794

Johann Peter Frank
was a German physician and hygienist.

1869

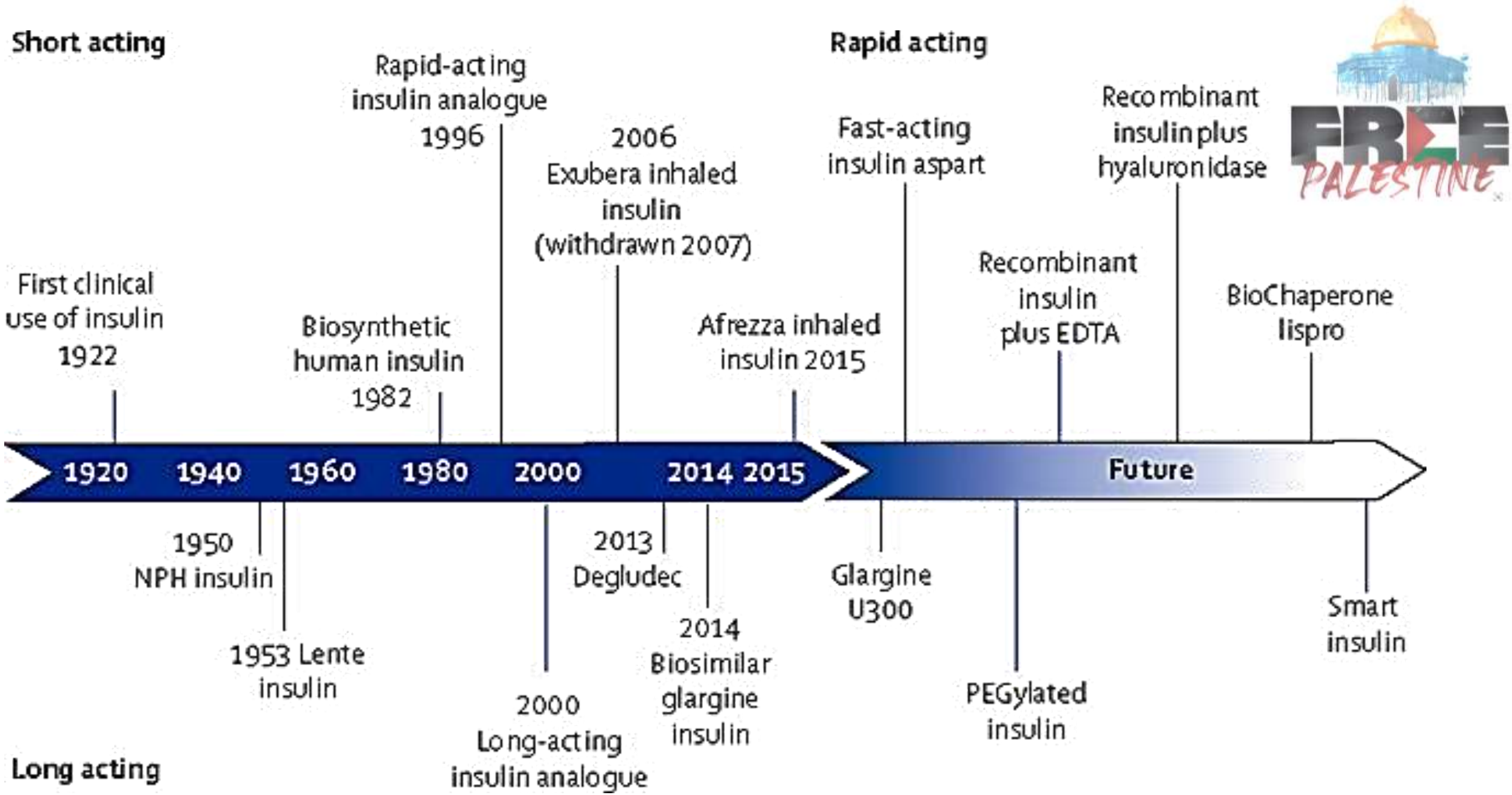
Paul Langerhans
a German pathologist

1889

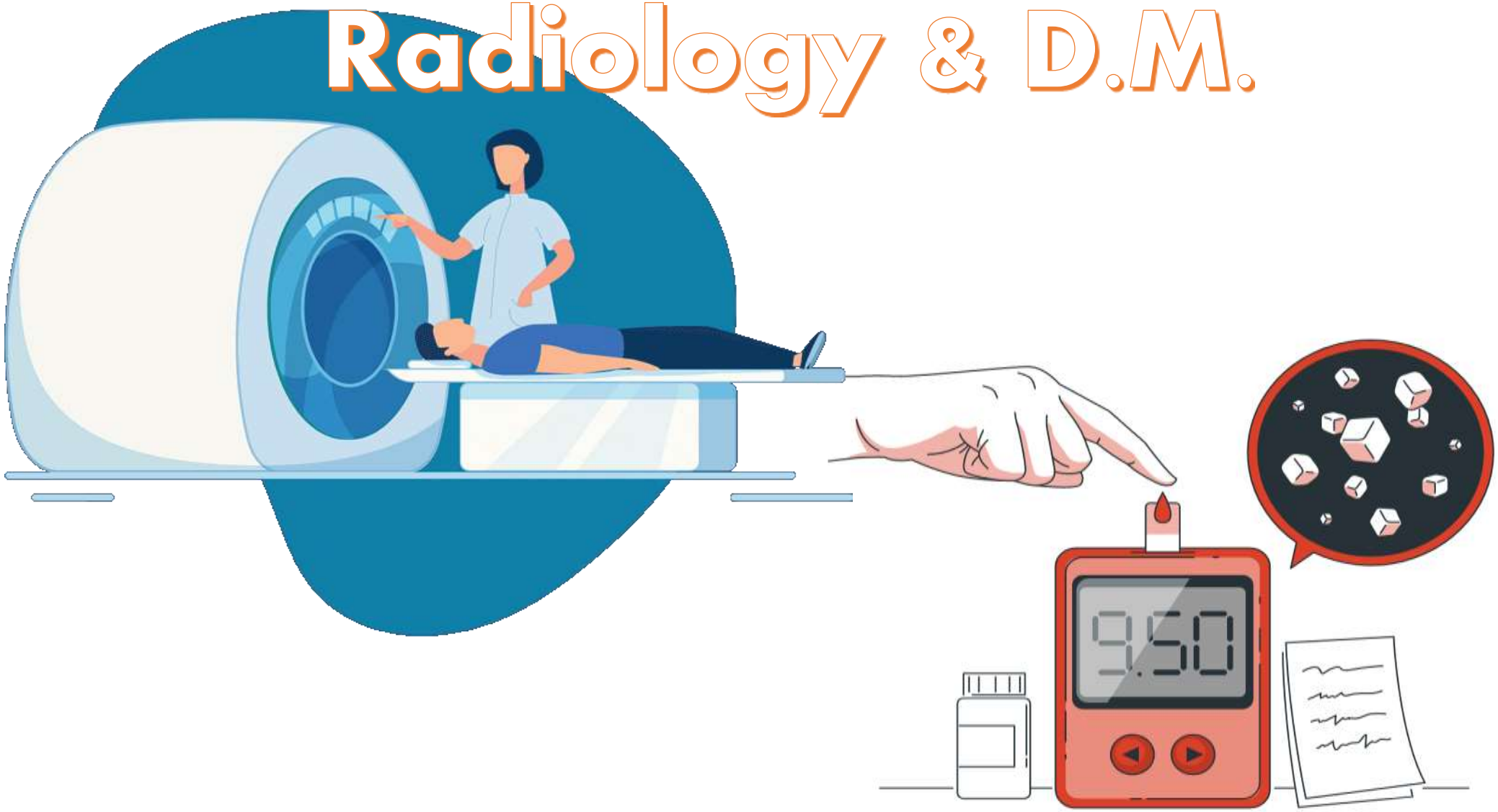
Josef, Baron von Mering
a German physician.

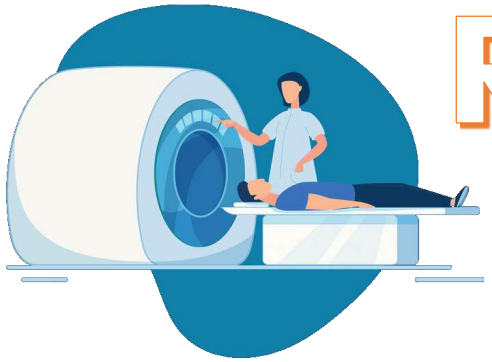
1893

Gustave-Édouard Laguesse
a French pathologist and histologist


Short acting
Rapid acting
Rapid-acting insulin analogue 1996
2006 Exubera inhaled insulin (withdrawn 2007)
Fast-acting insulin aspart
Recombinant insulin plus hyaluronidase
First clinical use of insulin 1922
Biosynthetic human insulin 1982
Afrezza inhaled insulin 2015
Recombinant insulin plus EDTA
BioChaperone lispro
1920
1940
1960
1980
2000
2014
2015
Future
1950 NPH insulin
1953 Lente insulin
2000 Long-acting insulin analogue
2013 Degludec
2014 Biosimilar glargine insulin
Glargine U300
PEGylated insulin
Smart insulin
Long acting

Radiology & D.M.





Radiology & D.M.

- Vascular Imaging
- Renal Imaging
- CNC
- MSK

ResearchGate

FREE PALESTINE

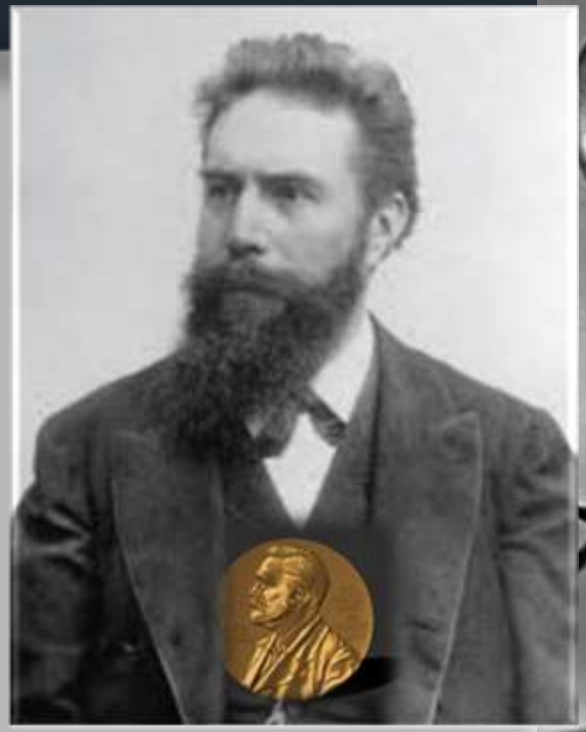
Radiology & D.M. Researches

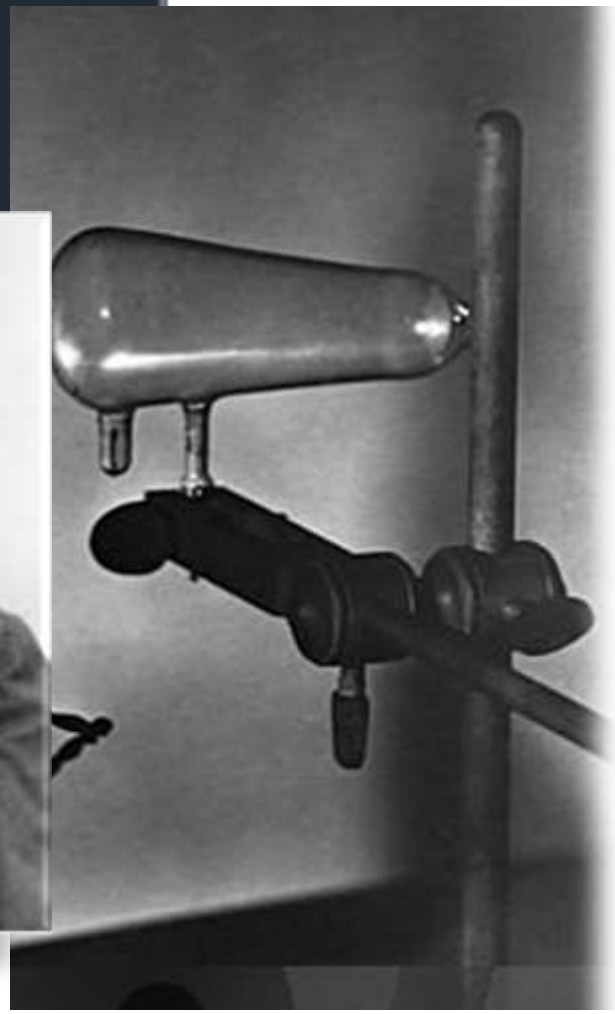
1901

ON THE RELATION OF CHRONIC INTERSTITIAL PANCREATITIS TO THE ISLANDS OF LANGERHANS AND TO DIABETES MELLITUS.

By EUGENE L. OPIE, M. D.,

Instructor in Pathology, Johns Hopkins University.





1901

Published January 15, 1901

ON THE RELATION OF CHRONIC INTERSTITIAL PANCREATITIS TO THE ISLANDS OF LANGERHANS AND TO DIABETES MELLITUS.

By EUGENE L. OPIE, M. D.,

Instructor in Pathology, Johns Hopkins University.

(*From the Pathological Laboratory of the Johns Hopkins University and Hospital.*)

PLATES XXVII AND XXVIII.

2023

World Journal of Clinical Cases

Submit a Manuscript: https://www.f6publishing.com

World J Clin Cases 2023 October 26; 11(30): 7268-7276

DOI: 10.12998/wjcc.v11.i30.7268

ISSN 2307-8960 (online)

MINIREVIEWS

Magnetic resonance imaging for acute pancreatitis in type 2 diabetes patients

Yan-Hui Ni, Ling-Ji Song, Bo Xiao

1960s

1. Azerad, E., Stuhl, L., Lubetzki, J., and Slotting, M. Étude radiologique des ostéopathies du diabète sucré, "le pied diabétique." *Ann. de radiol.* 1963, *6*, 421–436.
2. Bobechko, W. P., and Harris, W. R. Radiographic density of avascular bone. *J. Bone & Joint Surg.*, 1960, *42-B*, 626–632.
3. Boehm, H. J. Diabetic Charcot joint: report of case and review of literature. *New England J. Med.*, 1962, *267*, 185–187.
4. Dolman, C. L. Morbid anatomy of diabetic neuropathy. *Neurology*, 1963, *13*, 135–142.
5. Ellenberg, M. Diabetic neuropathy: consideration of factors in onset. *Ann. Int. Med.*, 1960, *52*, 1067–1075.

1974

MAY, 1974

DIABETIC OSTEOARTHROPATHY*

CLINICAL AND ROENTGENOGRAPHIC OBSERVATIONS IN 90 CASES

By MELVIN E. CLOUSE, M.D., HERBERT F. GRAMM, M.D.,
MERLE LEGG, M.D., *and* THOMAS FLOOD, M.D.
BOSTON, MASSACHUSETTS

* From the Departments of Radiology and Pathology, New England Deaconess Hospital and the Joslin Clinic, Boston, Massachusetts.

1980s

Radiology & D.M.

1987

Practical DIABETES March/April 1987 Vol 4 No 2

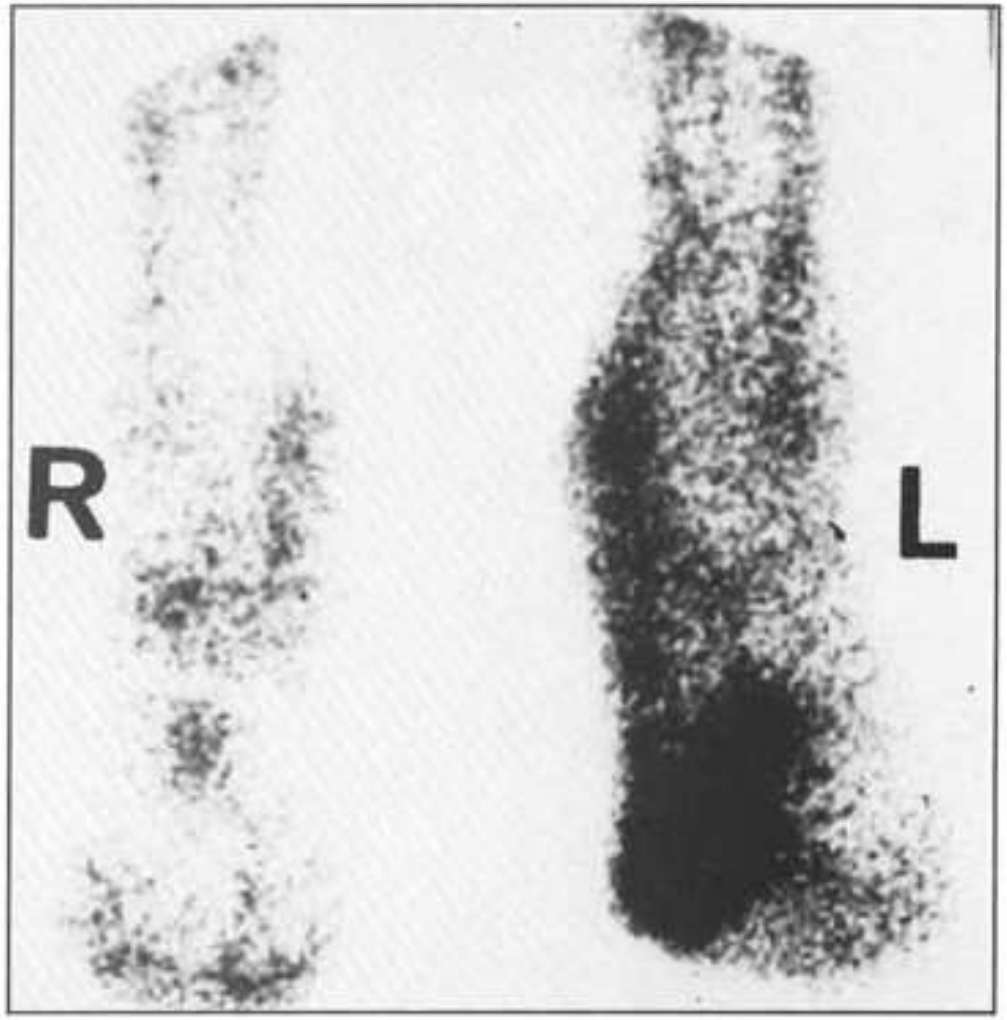
Review Articles

Radiology for diabetics

Elisabeth M Watkin FRCR
Consultant Radiologist
Leicester General Hospital, Gwendolen Road, Leicester, LE5 4PN

Figure 3. *Aortogram. There is atheroma in aorta and iliac arteries*

Figure 4. *Radiosotope image of both feet. Increased radioactivity in the left great toe indicates bone infection here*



2015


ResearchGate
Home 1
Questions
Jobs
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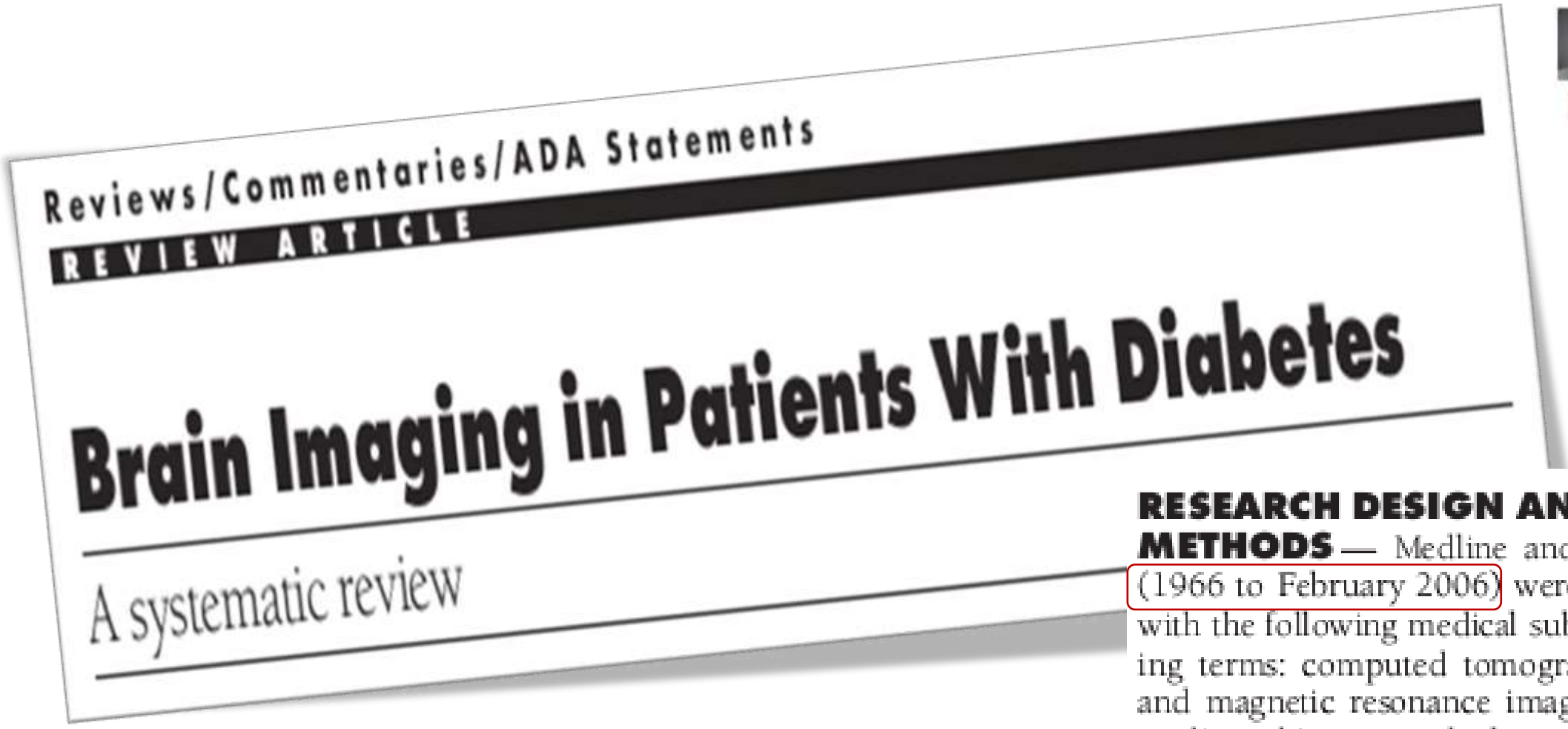
Article
Radiology and Diabetes Mellitus
April 2015 · Journal of the Pakistan Medical Ass... 65(4):435-9
Source · PubMed
Vikas Chaudhary · Shahina Bano · Sanjay Kalra

2006



Reviews/Commentaries/ADA Statements

REVIEW ARTICLE

Brain Imaging in Patients With Diabetes

A systematic review

RESEARCH DESIGN AND METHODS — Medline and EMBASE (1966 to February 2006) were searched with the following medical subject heading terms: computed tomography (CT) and magnetic resonance imaging (MRI) studies: white matter, leukoaraiosis, lacunar infarction, subcortical, periventricular, brain, cerebral, hippocampus,

CONCLUSIONS — The CT and MRI studies reviewed herein show a relation between diabetes and cerebral atrophy and lacunar infarcts but no consistent relation with WMLs. The MRS studies report elevated *myo*-inositol–to–creatine ratios and reduced *N*-acetylaspartate–to–creatine ratios in diabetic patients. The PET and SPECT studies reveal regional alterations in CBF. None of the studies assessed the relation between imaging findings and cognition, and data on the relation between imaging findings and disease variables were scarce.

2011

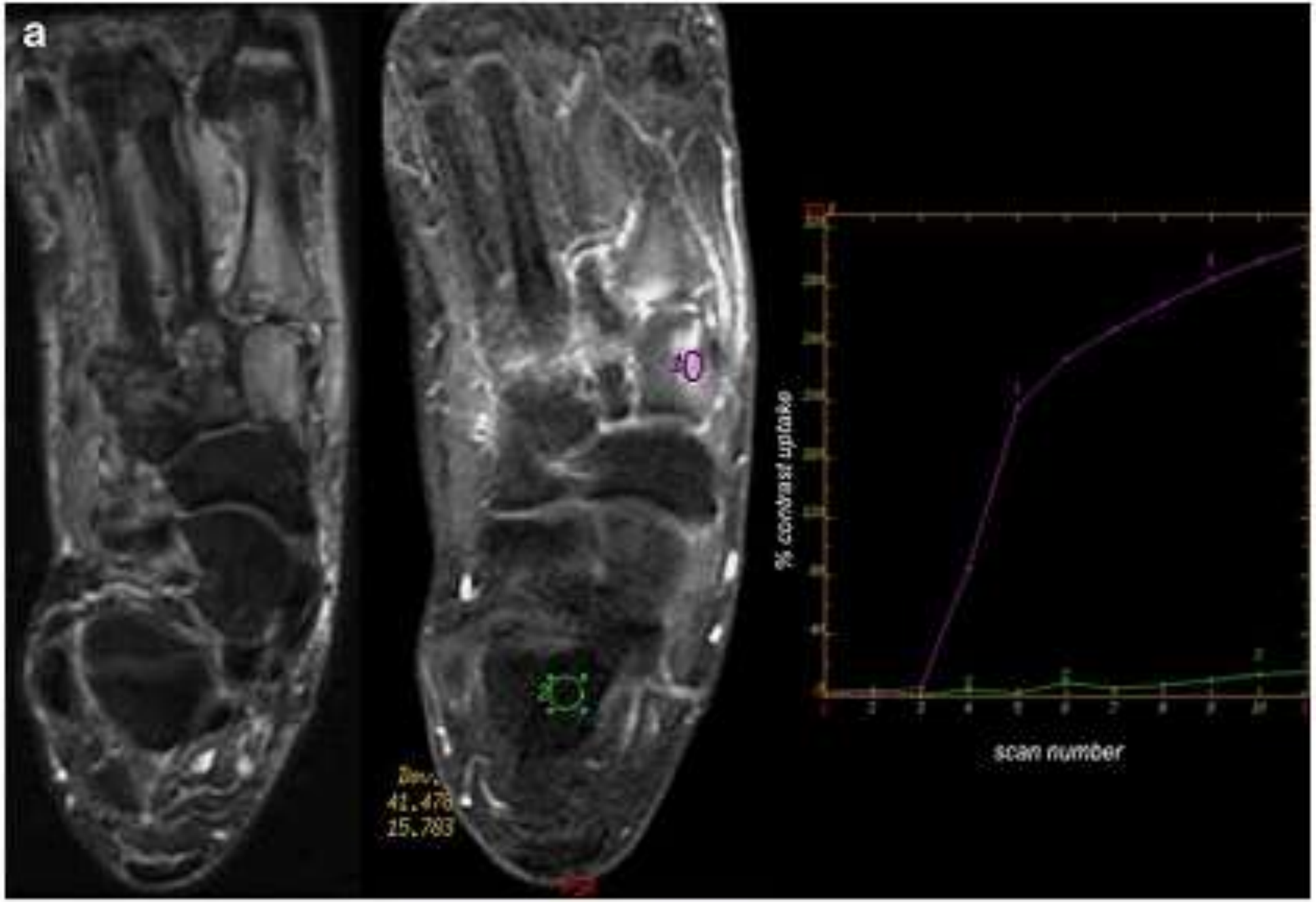
Skeletal Radiol (2011) 40:991–999
DOI 10.1007/s00256-010-1092-0

SCIENTIFIC ARTICLE

Role of Dynamic MRI in the follow-up of acute Charcot foot in patients with diabetes mellitus

Virna Zampa · Irene Bargellini · Loredana Rizzo · Francesca Turini · Simona Ortori · Alberto Piaggesi · Carlo Bartolozzi

Received: 1 November 2010 / Revised: 21 December 2010 / Accepted: 27 December 2010 / Published online: 28 January 2011



- Agreement between
- modifications of the signal in-tensity (SI) index and the con-trast medium uptake ratio
- (CUR) at 3 months' follow-up.
- A 61-year-old man with **type 2** diabetes and acute Charcot af-fecting the mid-foot.

The Egyptian Journal of Hospital Medicine (October 2018) Vol. 73 (11), Page 7869-7882

Role of Recent Imaging Modalities in Diagnosis of Diabetic Foot

Mohamed Kamal Hamed Elsharkawy, Mokhtar Ragab Ramadan, Mostafa Mahrose Abd Elhamed

Department of Radiodiagnosis, Faculty of Medicine, Alazhar University

Corresponding author: Mostafa Mahrose Abd Elhamed, **Mobile:** 00200102313693 6, **E-Mail:** sheeekooo2030@gmail.com

2019

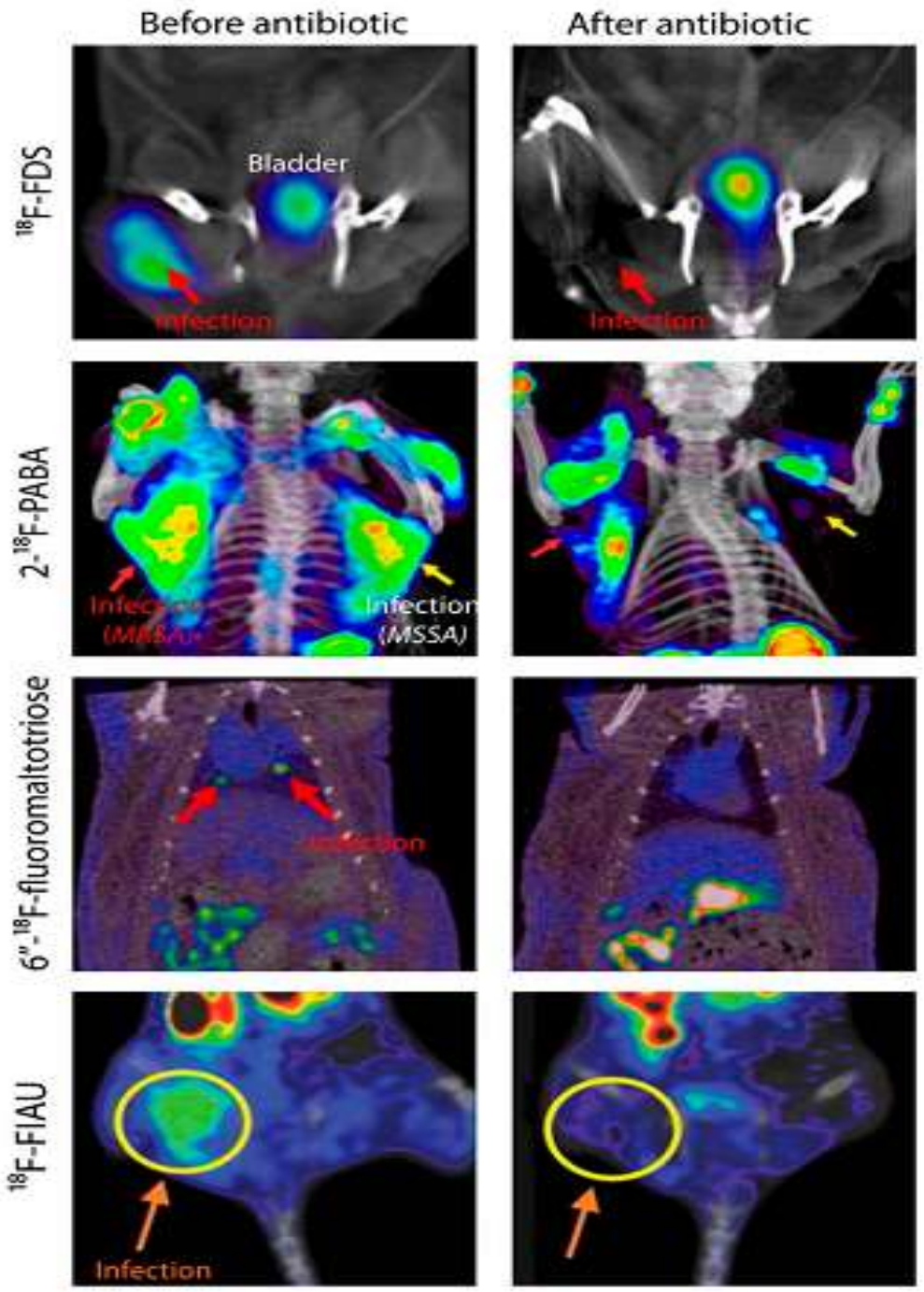
International Journal of
Molecular Sciences

MDPI

Review

Molecular Imaging of Diabetic Foot Infections: New Tools for Old Questions

Camilo A. Ruiz-Bedoya [1,2,3], Oren Gordon [1,2,3], Filipa Mota [1,2,3], Sudhanshu Abhishek [1,2,3], Elizabeth W. Tucker [1,2,4,5], Alvaro A. Ordonez [1,2,3] and Sanjay K. Jain [1,2,3,6,*]



- Monitoring **Antibiotic Efficacy** using bacteria-specific **PET** agents. Animal models of infection

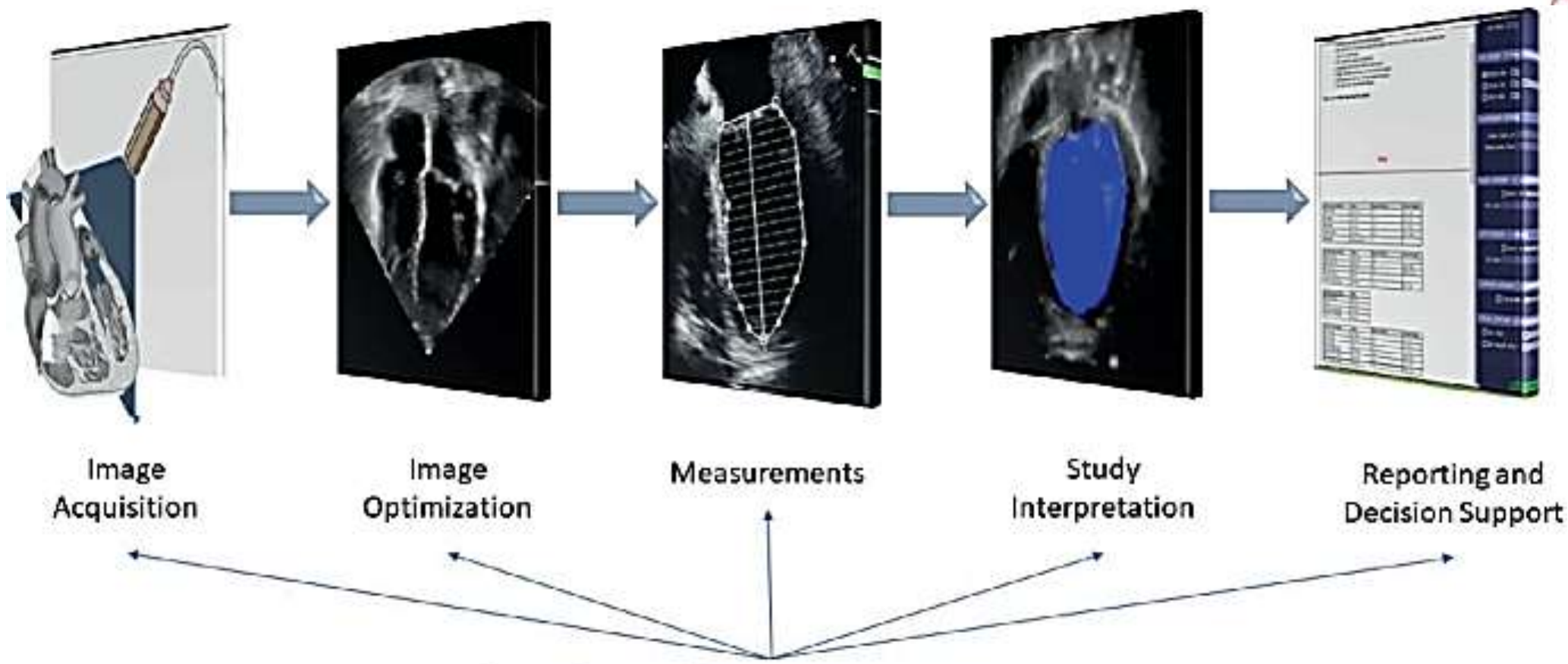


Image Acquisition
Image Optimization
Measurements
Study Interpretation
Reporting and Decision Support
Artificial Intelligence Target Areas

2022

ORIGINAL RESEARCH • GASTROINTESTINAL IMAGING

Radiology

Fully Automated Abdominal CT Biomarkers for Type 2 Diabetes Using Deep Learning

Hima Tallam, BSE ▪ *Daniel C. Elton, PhD* ▪ *Sungwon Lee, MD, PhD* ▪ *Paul Wakim, PhD* ▪ *Perry J. Pickhardt, MD** ▪ *Ronald M. Summers, MD, PhD**

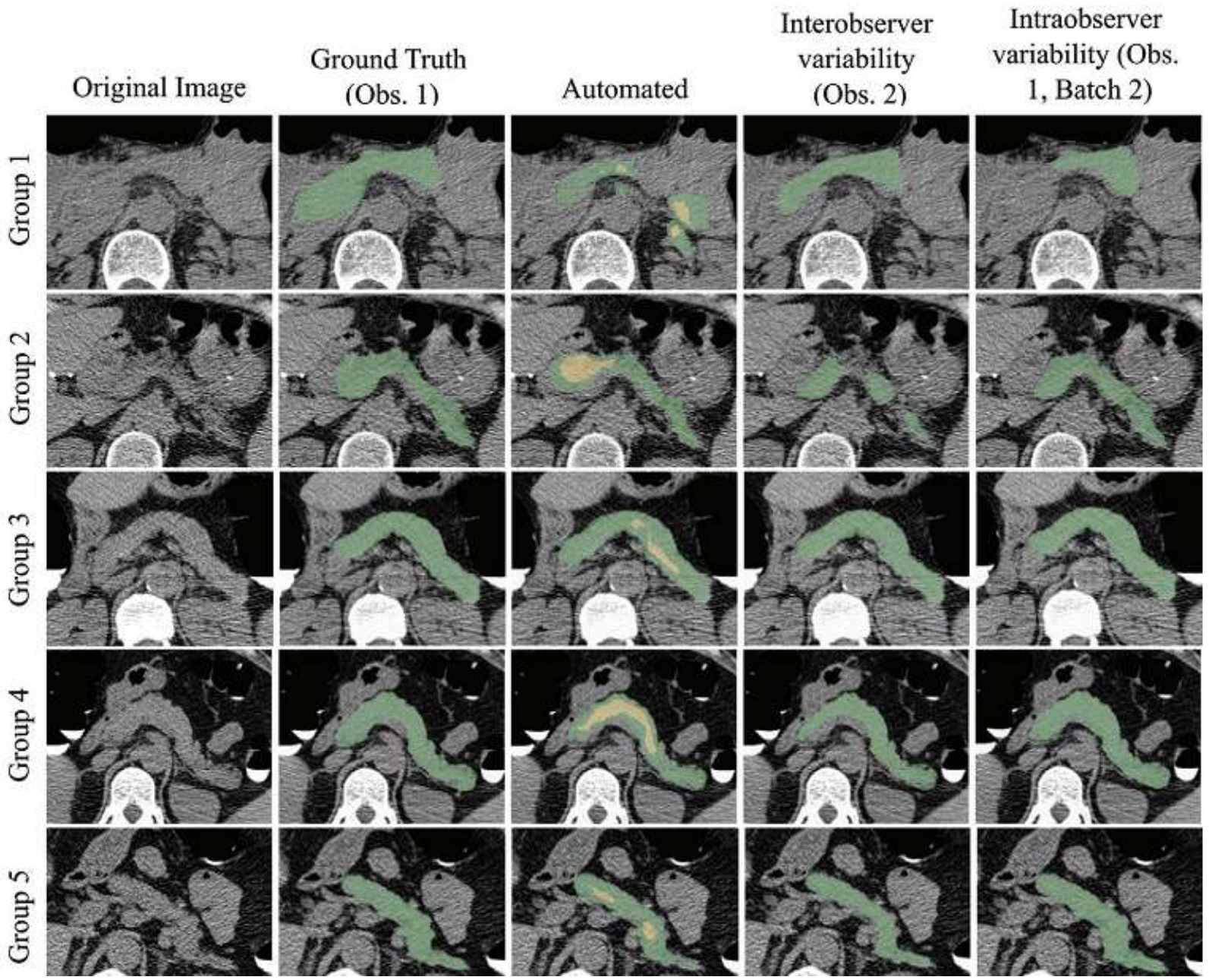
From the Department of Radiology and Imaging Sciences (H.T., D.C.E., S.L., R.M.S.) and Department of Biostatistics and Clinical Epidemiology Service (P.W.), Clinical Center, National Institutes of Health, 10 Center Dr, Bldg 10, Room 1C224D, MSC 1182, Bethesda, MD 20892-1182; and Department of Radiology, University of Wisconsin School of Medicine and Public Health, Madison, Wis (P.J.P.). Received August 7, 2021; revision requested October 5; revision received December 3; accepted January 27, 2022. Address correspondence to R.M.S. (e-mail: *rms@nih.gov*).

Supported by the Intramural Research Program of the National Institutes of Health, Clinical Center.

* P.J.P. and R.M.S are co-senior authors.

Conflicts of interest are listed at the end of this article.

Radiology 2022; 304:85–95 • https://doi.org/10.1148/radiol.211914 • Content codes: GI CT



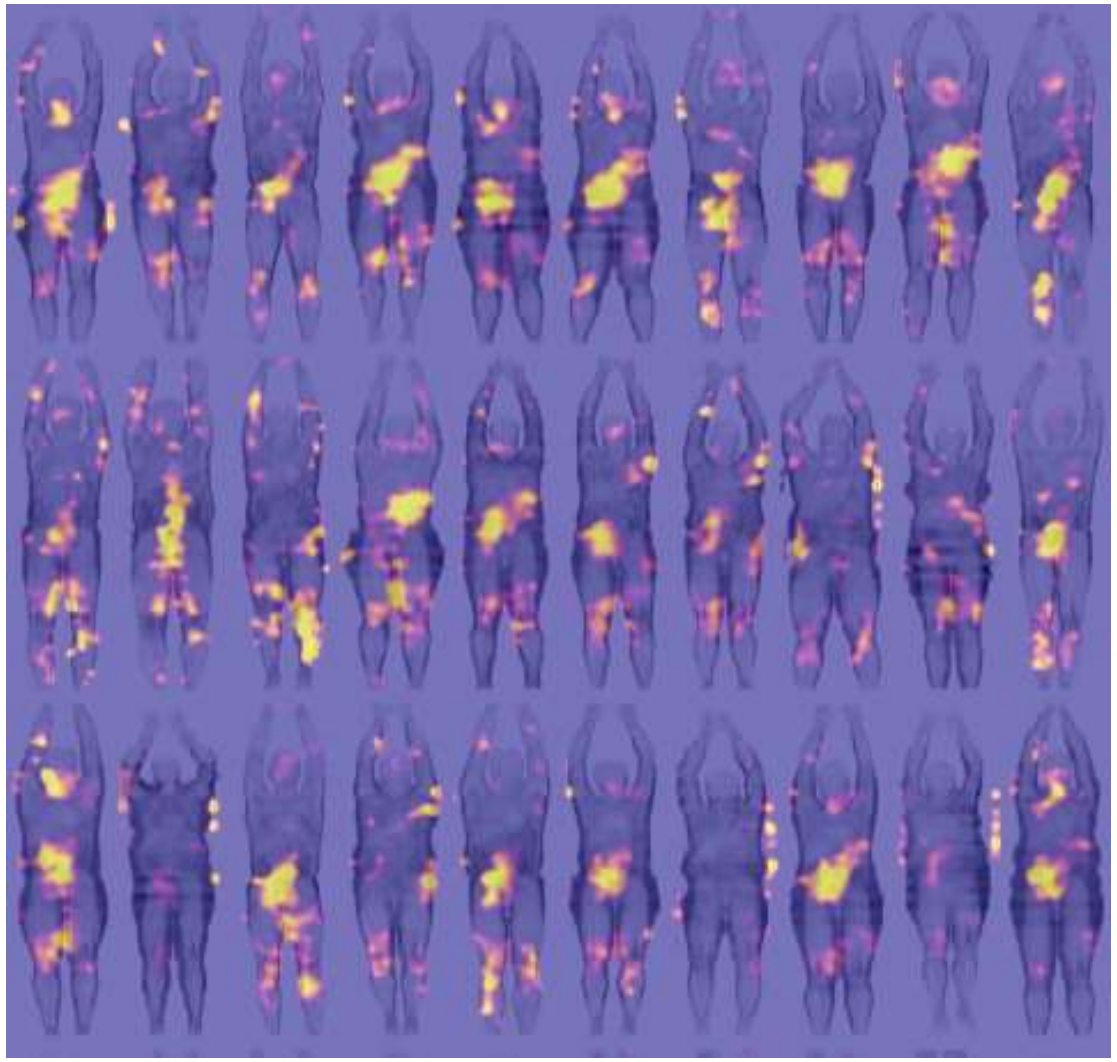
- **The pancreas was segmented using a deep learning method that outputs measurements of interest, including CT attenuation, volume, fat content, and pancreas fractal dimension.**

Conclusion: The diagnosis of type 2 diabetes mellitus was associated with abdominal CT biomarkers, especially measures of pancreatic CT attenuation and visceral fat.

Online supplemental material is available for this article.

2024

Detecting Diabetes with Whole-Body MRI



They used

Deep learning methods

and data from more

than 2000 MRIs to

identify patients with

(pre-) diabetes.

2023

The Journal of Clinical Endocrinology & Metabolism, 2023, 108, 281–294
https://doi.org/10.1210/clinem/dgac602
Advance access publication 17 October 2022
Clinical Research Article

Utility of In Vivo Magnetic Resonance Imaging Is Predictive of Gestational Diabetes Mellitus During Early Pregnancy

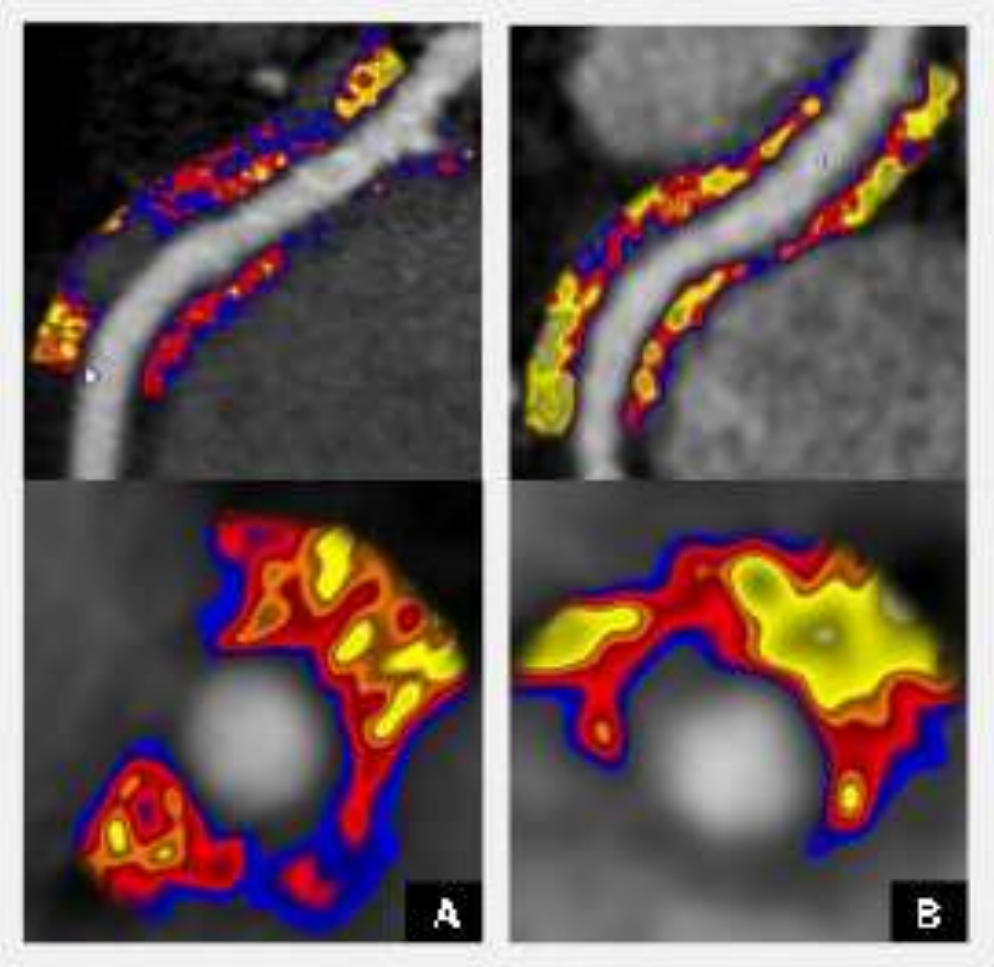
Brian Lee,[1] Carla Janzen,[2] Holden Wu,[3] Sitaram S. Vangala,[4] Sherin U. Devaskar,[1] and Kyunghyun Sung[3]

[1]Department of Pediatrics, David Geffen School of Medicine, University of California, Los Angeles, CA 90095, USA
[2]Department of Obstetrics and Gynecology, Division of Perinatology Maternal Fetal Medicine, David Geffen School of Medicine at UCLA, Los Angeles, CA 90095, USA
[3]Department of Radiological Sciences, David Geffen School of Medicine, University of California, Los Angeles, CA 90095, USA
[4]Department of Medicine, David Geffen School of Medicine, University of California, Los Angeles, CA 90095, USA

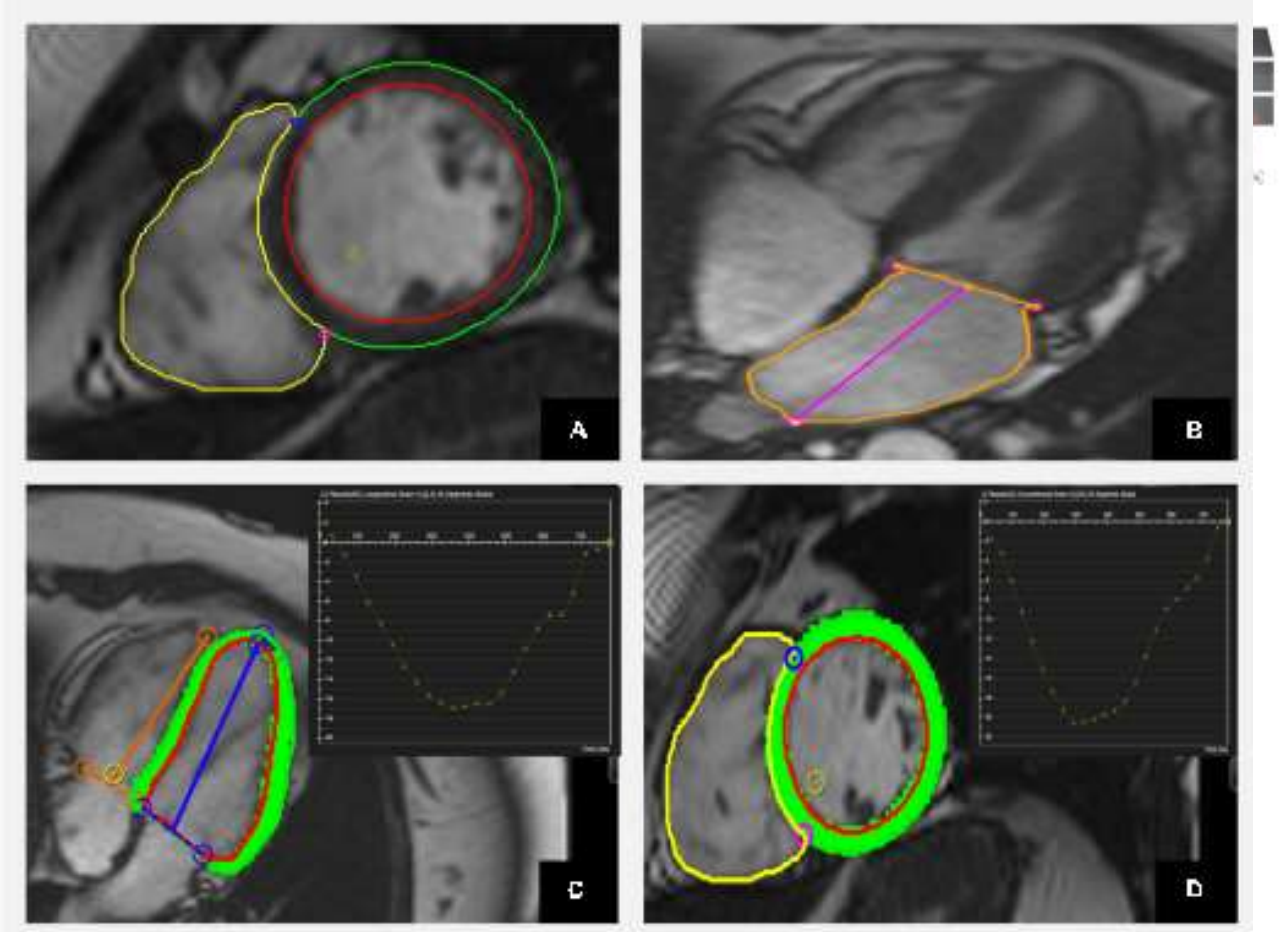
Correspondence: Sherin U. Devaskar, MD, Department of Pediatrics, David Geffen School of Medicine, University of California Los Angeles, 10833, Le Conte Avenue, Los Angeles, CA 90095-1752, USA. Email: sdevaskar@mednet.ucla.edu.

2024

Advanced Cardiovascular Imaging Techniques For Diabetic Patients



CT coronary angiography derived Fat Attenuation Index (FAI) & analysis of Perivascular Adipose Tissue



Characterisation of diabetic heart disease with cardiac MRI anatomical and functional assessment

CONCLUSION

Radiology & D.M.

Both are

- MULTISYSTEMIC

Wide Field of Research

- Continuous Advancement
- New Emerging Techniques

Journey End

References & Further Reading

- https://www.researchgate.net/
- https://www.mountsinai.org/care/radiology/history
- **Imaging and Metabolism** - © Springer International Publishing AG 2018
- Benedikt Dietz, Stefan Bauer, Robert Wagner, et al **Detection of diabetes from whole-body MRI using deep learning JCI Insight**. 2021;6(21):e146999. https://doi.org/10.1172/jci.
- **PET/CT FDG Scan for Patients with Diabetes**
  UWMC Imaging Services | Box 357115
  1959 N.E. Pacific St., Seattle, WA 98195 | 206.598.6200

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0:59

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Thank You

Dr. A.M. Abodahab, MD

Apr 2024