ISIS-DIAB - French Multicentric Cohort on Genetic, Epigenetic and Environmental Risk Factors of Autoimmune Diabetes and its Complications.

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General

Identification

Detailed name	French Multicentric Cohort on Genetic, Epigenetic and Environmental Risk Factors of Autoimmune Diabetes and its Complications.
Sign or acronym	ISIS-DIAB
CNIL registration number, number and date of CPP agreement, AFSSAPS (French Health Products Safety Agency) authorisation	CNIL n°909186, DR-2010-0035 / CPPn°DC-2008-693, NI 2620 09/12/2008 / CCTIRS n°08.402 11/09/2008

General Aspects

Medical area	Endocrinology and metabolism
Health determinants	Climate Genetic Geography Nutrition Occupation Pollution Social and psychosocial factors
Keywords	Genetic environment

Scientific investigator(s) (Contact)

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Collaborations

Funding

Funding status	Mixed
Details	Inserm/NovoNordisk (ALLIANCE)

Governance of the database

Sponsor(s) or organisation(s) responsible	INSERM - Institut National de la Santé et de la Recherche Médicale
Organisation status	Public

Additional contact

Main features

Type of database

Type of database	Study databases

Study databases (details)	Cohort study
Database recruitment is carried out by an intermediary	A selection of health institutions and services
Database recruitment is carried out as part of an interventional study	No
Additional information regarding sample selection.	Cases are recruited from paediatric or diabetology departments who agreed to participate in the study.

Database objective

Main objective	To conduct gene-environment studies on a large scale, with a "data driven" methodology (GWAS for the genetic portion, questionnaires with no preconceived ideas and French environmental databases for the environmental portion), in order to identify risk factors of type 1 diabetes as well as its acute (severe hypoglycaemia, ketoacidosis) and chronic (retinopathy, nephropathy) complications. To conduct epigenetic studies by investigating methylation development (candidate genes or the entire genome) according to different phenotypic traits (glycaemic control, onset of complications, insulin dosage).To be the basis of immune modulation studies for all early diabetes, or for patients resistant to autoimmune attack, and to keep a significant reserve of functional beta cells for 1-5 years (European project DF-IL2, through collaboration with D. Klatzman, funded by FP7 clinical trial tender). ISIS provides the infrastructure to enable the recruitment of newly diagnosed diabetes cases (149 new cases of diabetes recruited in 2008, 136 in 2009, 143 in 2010 and 191 in 2011). To investigate the beginning of microangiopathic complications in a significant number of children and to study the medical, genetic, epigenetic and environmental determinants of these complications by an integrated and multi-factorial approach. Patients currently in the ISIS cohort have had diabetes for an average of 10.8 years and a mean HbA1c of 8.4%. Background retinopathy is expected in approximately 20% of those that have had diabetes over 10 years (at present: 1,581 cohort patients have had diabetes for more than 10 years, approximately 300 patients are expected to develop complications). We also wish to initiate a strategy for prospective primary prevention trials for retinopathy in 2012 in collaboration with Prof. P. Massin. To conduct studies on conventional

	treatment and improvements that can be initiated. Our main focus is to test therapeutic education procedures that can limit inequalities in treatment quality and promote "minimally disruptive" medical practice (May C, Montori VM, Fair FS: We need minimally disruptive medicine, BMJ 2009; 339: b2803) capable of minimising the therapeutic burden added to chronic disease, in contrast with the rampant intensification of treatment practised by some that we believe now threatens the quality of psychological development of a significant proportion of young children with diabetes. To conduct prospective studies on sudden death syndrome, "dead in bed" characteristics of adolescents with diabetes (O'Reilly M, O'Sullivan EP, Davenport C, Smith D: « Dead in bed » : a tragic complication of type 1 diabetes mellitus, Ir J Med Sci 2010, 179 (4): 585-7), risk factors for mortality and morbidity in severe ketoacidosis (special youth complications). Such studies do not exist in the literature: important case-based reasoning is necessary to answer these two questions. This explains the limited nature of the studies in the literature that relied on a small series of anecdotal and retrospective cases. To conduct humanities and social science studies in the field of psychological consequences of childhood diabetes, including the frequency of depressive syndromes (patients and parents) and to analyse health care access disparities (incorporating geographical, medical and sociological analyses). To broaden the scope of cohort-related work by screening case families for diabetes (there are about 5,200 brothers or sisters under 7 years of age related to diabetic children already included in ISIS).
Inclusion criteria	French people with type 1 diabetes
Population type	
Age	Infant (28 days to 2 years) Early childhood (2 to 5 years) Childhood (6 to 13 years) Adolescence (13 to 18 years) Adulthood (19 to 24 years) Adulthood (25 to 44 years) Adulthood (45 to 64 years) Elderly (65 to 79 years) Great age (80 years and more)
Population covered	Sick population

Gender	Male Woman
Geography area	National
Detail of the geography area	France

Data collection

Dates

Date of first collection (YYYY or MM/YYYY)	2006

Size of the database

Size of the database (number of individuals)	[10 000-20 000[individuals
Details of the number of individuals	10000

Data

Database activity	Current data collection
Type of data collected	Clinical data Declarative data Biological data
Clinical data (detail)	Direct physical measures
Declarative data (detail)	Paper self-questionnaire Phone interview
Biological data (detail)	DNA
Presence of a biobank	Yes
Contents of biobank	Plasma DNA
Details of biobank content	Blood samples were pretreated: separation of plasma for plasma bank and lymphocytes for DNA extraction. Biobank is kept at -80°C.
Health parameters studied	Health event/morbidity Health event/mortality

Procedures

Data collection method	Clinical data are collected in patient clinical records

	every 6 months from enrolment date Biological data collected at baseline (blood sample for DNA extraction and plasma bank, transportation at +4°C by a professional carrier, treatment and storage) environmental data collected through a questionnaire sent to patients in the month following their enrolment (+ telephone follow-up if needed)
Participant monitoring	Yes
Details on monitoring of participants	Clinical parameter follow-up
Links to administrative sources	No

Promotion and access

Promotion

Link to the document	http://tinyurl.com/Pubmed-ISIS-DIAB
Description	List of publications in Pubmed

Access

Terms of data access (charter for data provision, format of data, availability delay)	Contact the scientist in charge
Access to aggregated data	Access on specific project only
Access to individual data	Access on specific project only