Université Paris Cité

Diabetes complications in CF

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CFRD

Peripheral resistance to insulin s/t pulmonary exacerbations (DT2)

Impaired insulin synthesis s/t pancreatic toxicity (DT1)

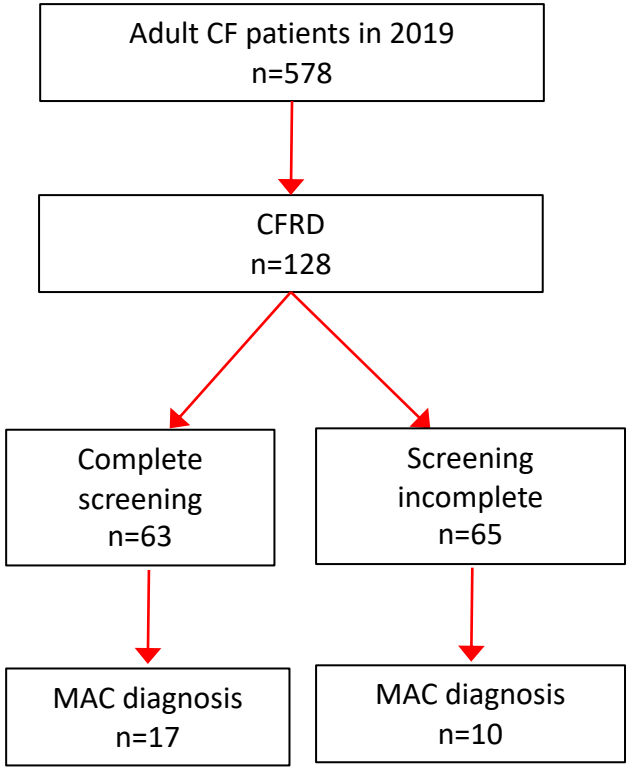
Age at diagnosis : 20

Treatment : insulin

Microangiopathic complications – Estimated prevalence = 2% (Registry data)

- s/t exposure to prolonged hyperglycaemia – oxidative stress and microvascular impairment of the retina, nephron and peripheral neurons

Cardiovascular risk



Methods : cross-sectional study comparing patients with complete screening to those without

COCHIN CF centre, Paris, France

2019 : CFRD prevalence = 25%

LTx recipients : 46%

no transplant : 16%

Complications prevalence : n=27

4.3% of overall population

19% in CFRD patients

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Prevalence of microangiopathic complications

	Nephropathy	Retinopathy	Neuropathy
Not documented	39 (33%)	34 (29%)	51 (43%)
Documented	79 (67%)	85 (72%)	68 (57%)
Positive (n, % documented)	17 (22%)	14 (16%)	5 (7,4%)

Nephropathy : microalbuminemia or attributable lesions on a renal biopsy
Retinopathy : retinal ischemia, neovascularization, altered retinal permeability and macular oedema
Neuropathy : Filament test (sensitivity to touch) or lower limb paresthesia

Probability of having at least one microvascular complication for selected variables and cardiovascular risk factors, in patients with complete documentation of screening (n=63)

	OR (95%CI)	χ^2
Transplant recipient	1.56 (0.49 – 4.95)	p=0.445
Age ≥40 years	0.36 (0.08– 1.71)	p=0.180
Diabetes for ≥10 years	1.26 (0.38 – 4.13)	p=0.705
Glycated haemoglobin ≥7%	1.52 (0.48 – 4.81)	p=0.468
Serum creatinine ≥100 micromol/L	6.51 (1.64 – 25.87)	p=0.002
SBP ≥140 mmHg	6.16 (1.30 – 29.20)	p=0.009
HDL-c <1.0 mmol/L	1.79 (0.48 – 6.65)	p=0.381
LDL-c ≥1.4 mmol/L	1.88 (0.49 – 7.14)	p=0.348
TG >1.5 g/L	1.97 (0.63 – 6.15)	p=0.233

ESC European Society of Cardiology

EASD European Association for the Study of Diabetes

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Evolution since Kaftrio ?

Non transplanted patients only (n=48)
Months since initiation, mean, (min-max) : 12 (2-36)

	Before Kaftrio (2019)	**After (2022)**
HbA1c, % (mean ± SD)	6.97 (±1.14)	6.93 (±1.26)
BMI	21.75 (±3.07)	22.96 (±3.79)

Overall : No change in HbA1c
but increased weight
reduced number exacerbations
steady or decreased insulin needs

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How do we ensure patients are screened on an annual basis?

Is it necessary to start talking about cardiovascular risk?