



FAV chez l'enfant : microchirurgie à l'Hôpital Necker Enfants Malades

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Disclosure

Speaker name:

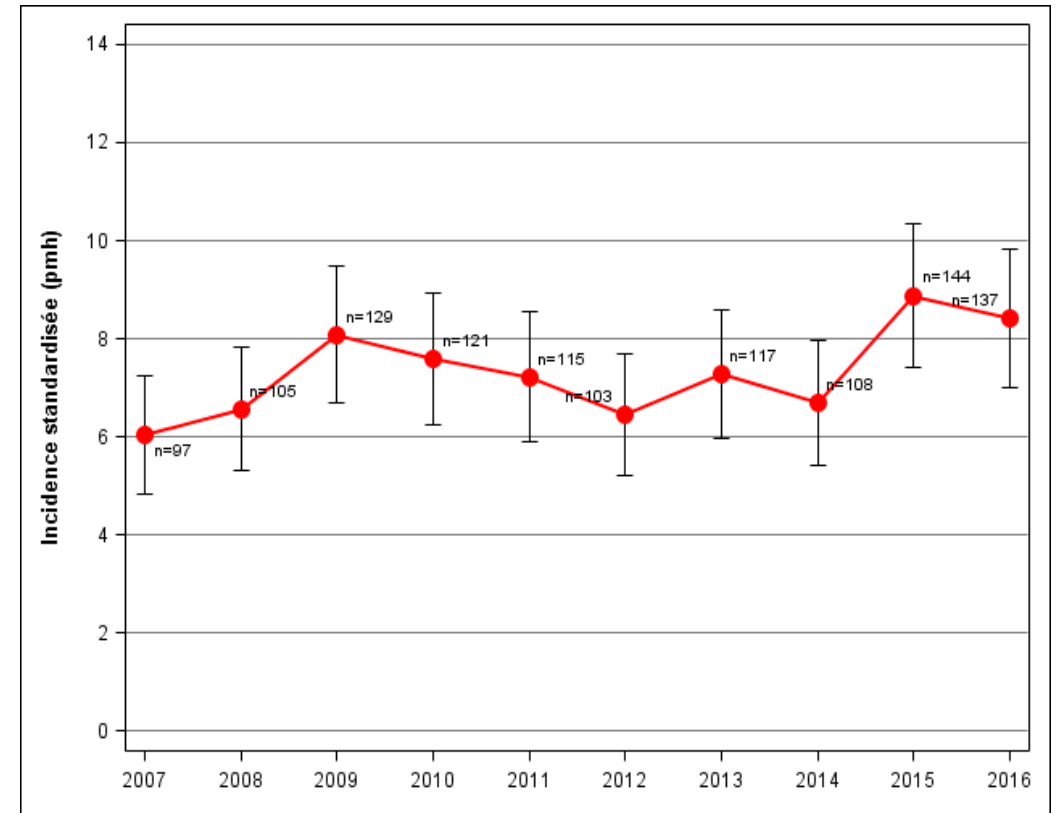
Stéphanie PANNIER

- I have the following potential conflicts of interest to report:
- Consulting
- Employment in industry
- Shareholder in a healthcare company
- Owner of a healthcare company
- Other(s)
- I do not have any potential conflict of interest



Introduction

- En 2016, incidence 137 new patients < 20 years with IRT (10 617 adults)
- Au 31/12/2016, prévalence dialysis 910 < 20 years in France (46 844 adults)



Annual report REIN 2016



Introduction

- Rare disease
- Microsurgery +++
- 1 year with PB : 2 orthopaedic surgeons !
- Collaboration with pediatric nephrologist and PB !



Arterio venous fistula in children 2010 - 2018

- 78 / 85 patients
 - 26 girls - 52 boys
 - 11,3 years (2 - 18)
 - 34,8 kg (10 - 115)
 - 19 < 20 kg
- Etiology
 - Parenteral nutrition : 2
 - Drépanocytosis : 1
 - Immune deficiency : 1
 - IRT : 74



Etiology IRT

- Congenital nephropathy 56 (72%)
 - Congenital anomalies of kidney and urinary tract 20
 - Genetic disease 36
 - Infantile corticoreistant nephrotic syndrom 8
 - Congenital nephrotic syndrom 7
 - Autosomal recessive polycystic kidney disease 2
 - Methylmalonic acidemia 2
 - Shimke syndrom 2 ...
 - Acquired nephropathy 19 (24%)
 - Typical haemolytic syndrom 4
 - Neonatal stress 2
 - Cystic fibrosis 1
 - Unknown reason 3 (4%)



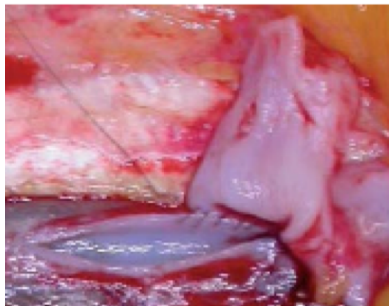
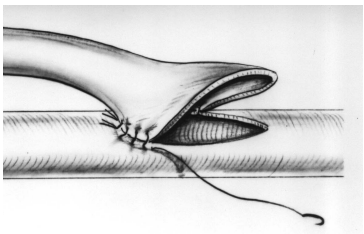
Before AVF

- 50 patients on renal replacement treatment (65%)
 - CVC 36 (72%)
 - PD 14 (28%)
- 8 patients: previous history of kidney transplantation

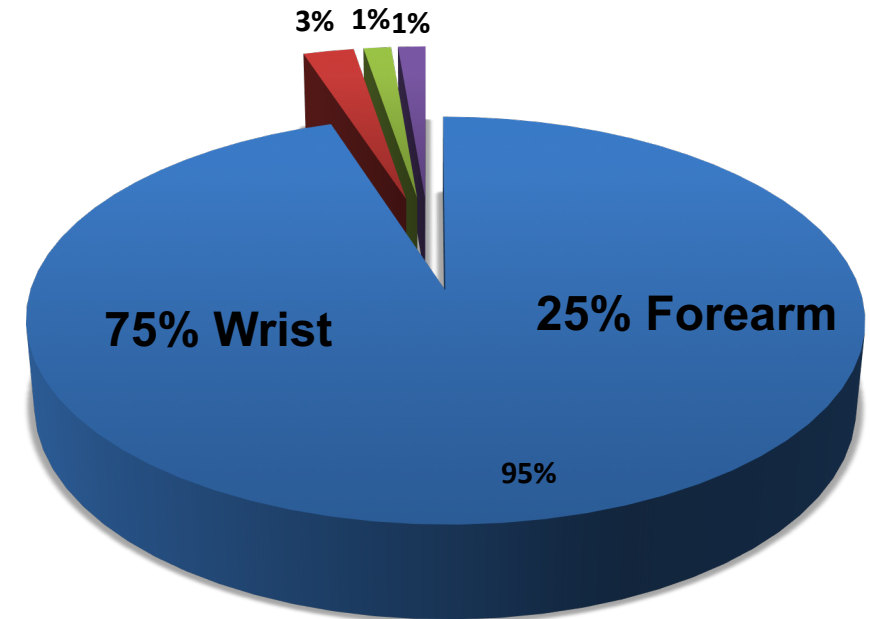


Surgical procedure

- Microsurgery
 - Termino-lateral anastomosis



- Artery = 1,5 mm (1-2,5)
- Vein = 2,1 mm (1-4)



■ Radial-cephalic ■ Ulna-basilic ■ Brachial-cephalic ■ Brachial-basilic

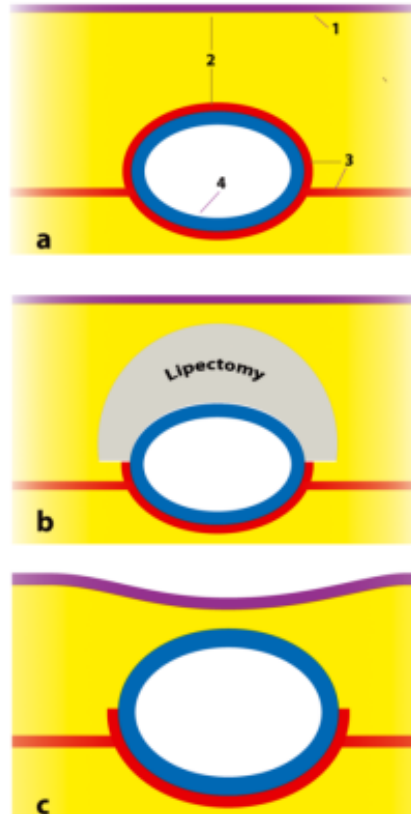


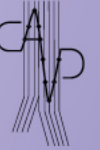
Surgical procedure

– Superficialization

- Brachio basilic AVF 1
- Radio cephalic AVF 5
(thick adipose tissue)

→ 5 Lipectomy





Surgical procedure : Anticoagulation prophylaxis

- If < 20 kg
 - Heparin IVSE 48 hours
- If high thrombotic risk : Anti vitamin K or low molecular weight heparin
 - Factor V or MTHFR mutation
 - Deficiency in Protein C or S
 - Nephrotic syndrome



Early failure

- Early Failure : 14 (18%)
 - Location :
 - Brachio cephalic 1
 - Radio cephalic 13
 - 13 thrombosis (16%)
 - 1 hématoma
- No correlation between early failure /age-weight (1<20 kg)
 - Etiology : Congenital nephropathy (11) or Unknown reason (2)
 - High thrombotic risk : 1
 - Duration of IRT
 - Location ?
 - Learning curve (orthopaedic surgeon !) ?



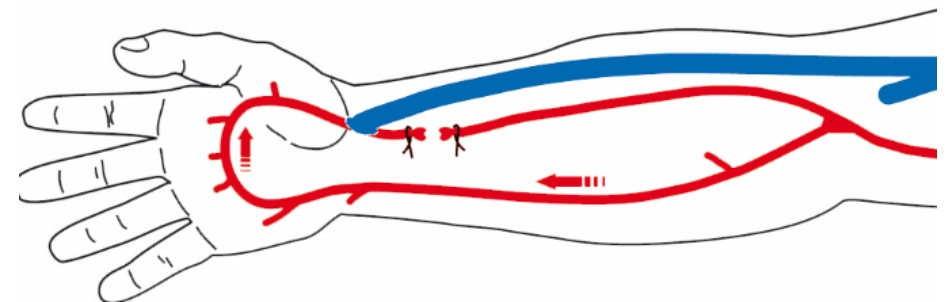
Primary maturation

- 24 / 78 cases (31%)
- 24 complementary procedures
 - 13 thrombectomies
 - 3 percutaneous transluminal angioplasties
 - 5 surgical revisions for stenosis
 - 6 superficializations



Late complications : 33 complementary procedures (42%)

- 12 thrombosis
 - 6 low flow
 - 8 stenosis
- 16 Stenosis
 - 5 AEP
 - 6 surgery
- 6 Flow > 1500 ml/min
 - 5 LARP
 - 1 banding
- 2 Aneurysm
- 1 infection
- 2 « big arm »





Long term outcomes of patients

- 50 kidney transplantation (68%)
- Delay : 18 month / FAV (1,5 m – 7,8 y)
- 3 patients died
- 14 closing FAV (18%)



Conclusion

- Education nurse
- Ultrasound
- Children guidelines
- Review
- DP ?