

# Landmark studies in Maintenance Immunosuppression in Kidney Transplantation



Ekberg et al

# **CAESAR** study

Calcineurin inhibitors (CNI)
withdrawal

Low-dose and standard cyclosporine (CsA) showed similar glomerular filtration rate (GFR) rates and lower biopsy-proven acute rejection (BPAR) compared to CSA withdrawal group Gaston et al

### **OPTICEPT** trial

MMF and CNI-sparing

Mycophenolate mofetil (MMF) in reduced CNI regimens resulted not inferior, low BPAR rates, and higher adverse events compared to standard therapy.

Weir MR et al

# Spare-the-Nephron

SRL based vs MMF/ CNI regimen

A 2-year regimen of MMF/CNI compared to MMF/SRL treatment resulted in similar measures of renal function but with fewer deaths and a trend to less BPAR and graft loss. Flechner et al

# **ORION study**

Two SRL-based regimens vs TAC/ MMF

The SRL-based regimens showed similar estimated GFR (eGFR), higher BCAR rates at one year follow up, delayed wound healing and hyperlipidemia.

de Fijter et al

#### **ELEVATE Trial**

**EVR** conversion vs CNI therapy

EVR conversion showed no difference in eGFR after 1 year. However, higher BPAR rates compared to TAC group. .

2007



2009



09

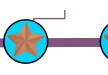


2011

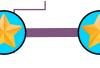


2011

2012



2017



2019

2007

Ekberg et al

#### **ELITE SYMPHONY**

Reduced exposure to CNI

Low-dose tacrolimus (TAC) patients had higher GFR, lower BPAR and increased allograft survival rates compared to other groups.

2009

Schena et al

#### **CONVERT** trial

Conversion from CNI to SRL

In selected cases, sirolimus (SRL) conversion had excellent patient and graft survival and no difference in biopsy-confirmed acute rejection (BCAR) compared with CNI.

Budden et al

## **ZEUS** study

Everolimus (EVR)-based with CNI withdrawal

CSA withdrawal to undergo EVR-based regimen improved GFR with higher BPAR, slightly increased urinary protein excretion, and lower hemoglobin concentrations. Chadban et al

#### **SOCRATES**

2014

EVR after steroid or CSA withdrawal

Noninferiority in eGFR, but higher trend towards composite treatment failure (BPAR, graft loss, death, loss to follow-up). de Fijter et al

#### TRANSFORM study

EVR with reduced CNI therapy noninferiority study

EVR + rCNI was non inferior in eGFR and BPAR endpoints. Also, de novo DSA and viral infections were lower compared to standard regimen after 24 months follow up.