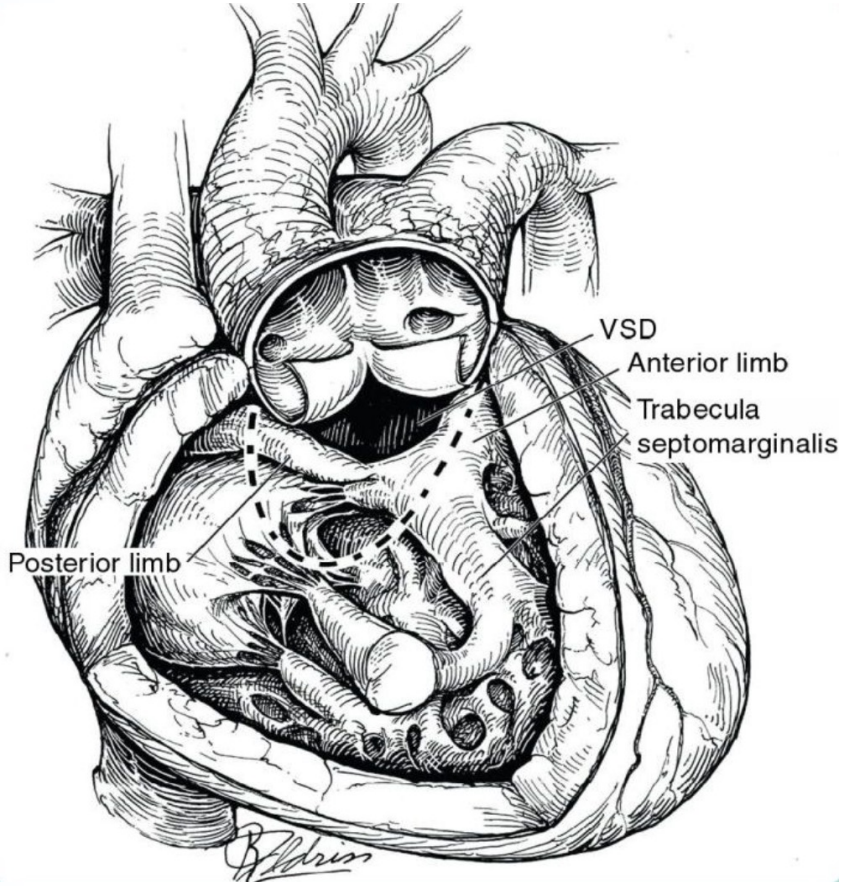
TRONC ARTERIEL COMMUN

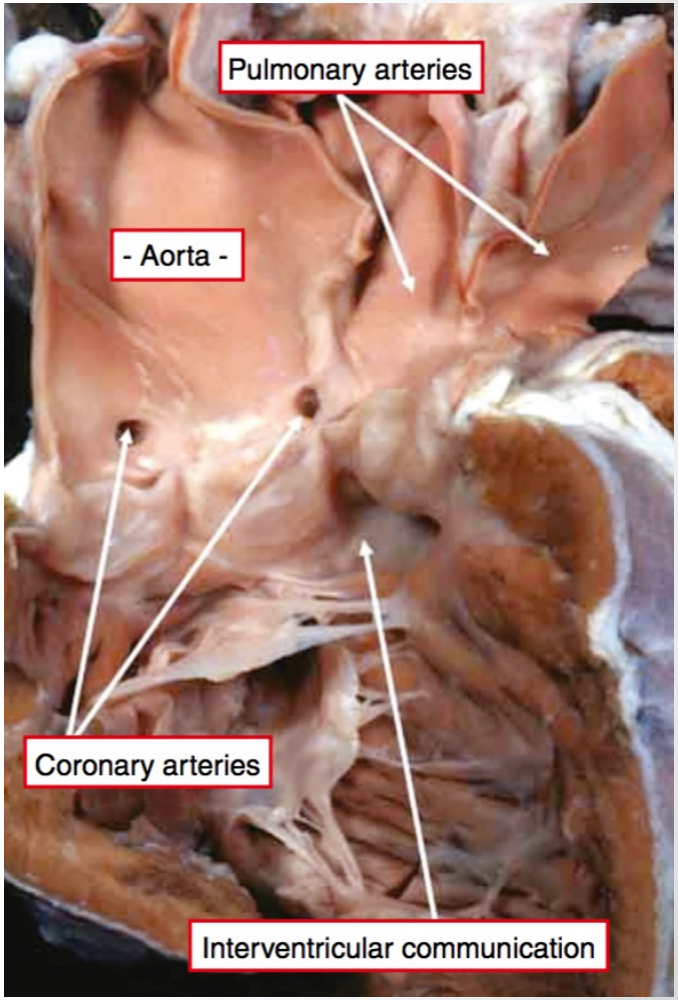


Zakaria Jalal

Cardiopathies congénitales de l'enfant et de l'adulte
Hôpital cardiologique Haut Lévêque Pessac

DEFINITION

- 1.4% des cardiopathie congénitales
- Cardiopathie conotroncale
- Echec de septation conale et aorticopulmonaire
- Diagnostic anténatal
- Souvent associé à un 22q11



EMBRYOLOGIE

- Cellu
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- Expe
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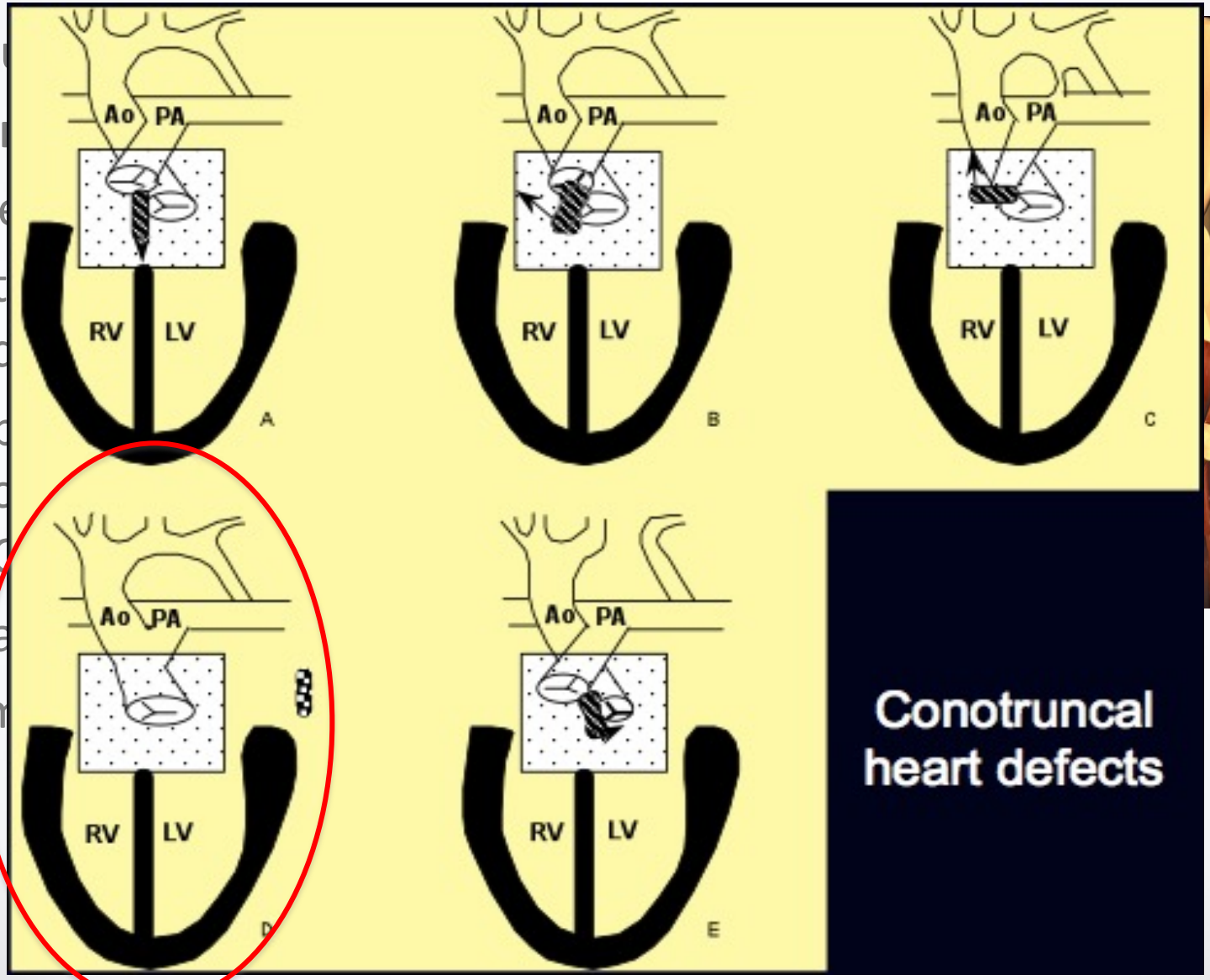
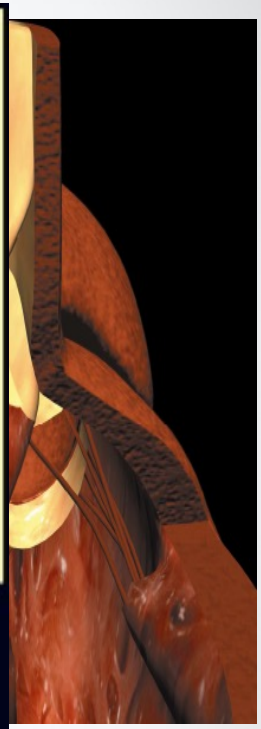
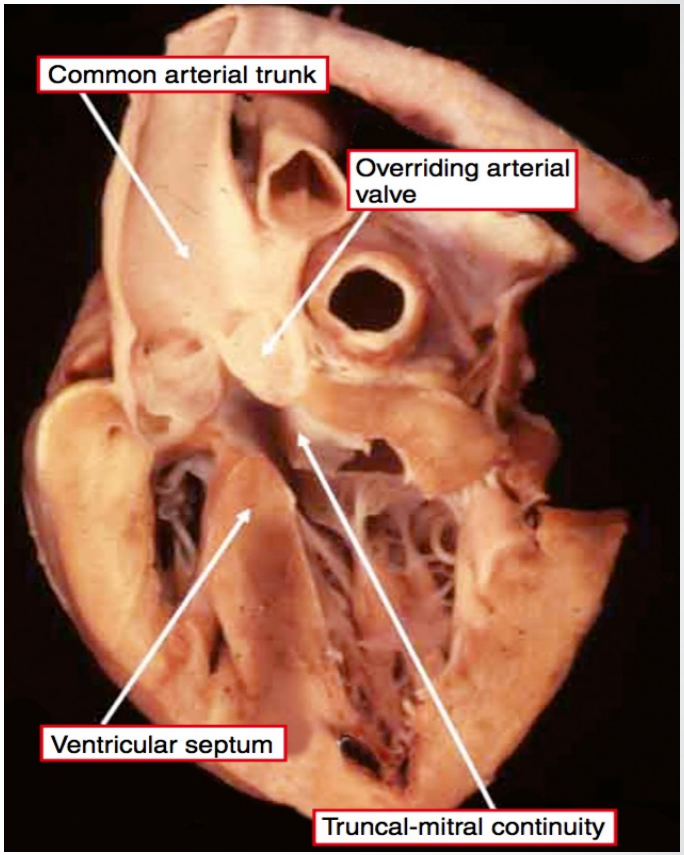
  - a
- Hom

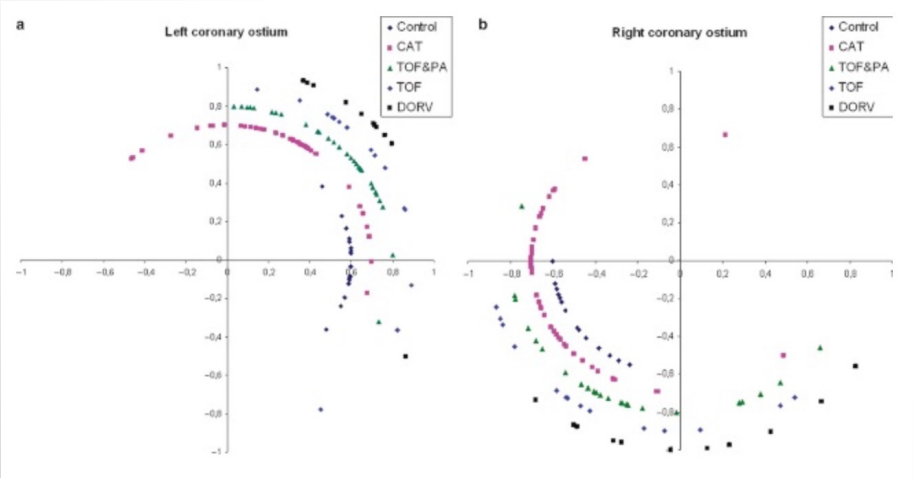




ANATOMIE

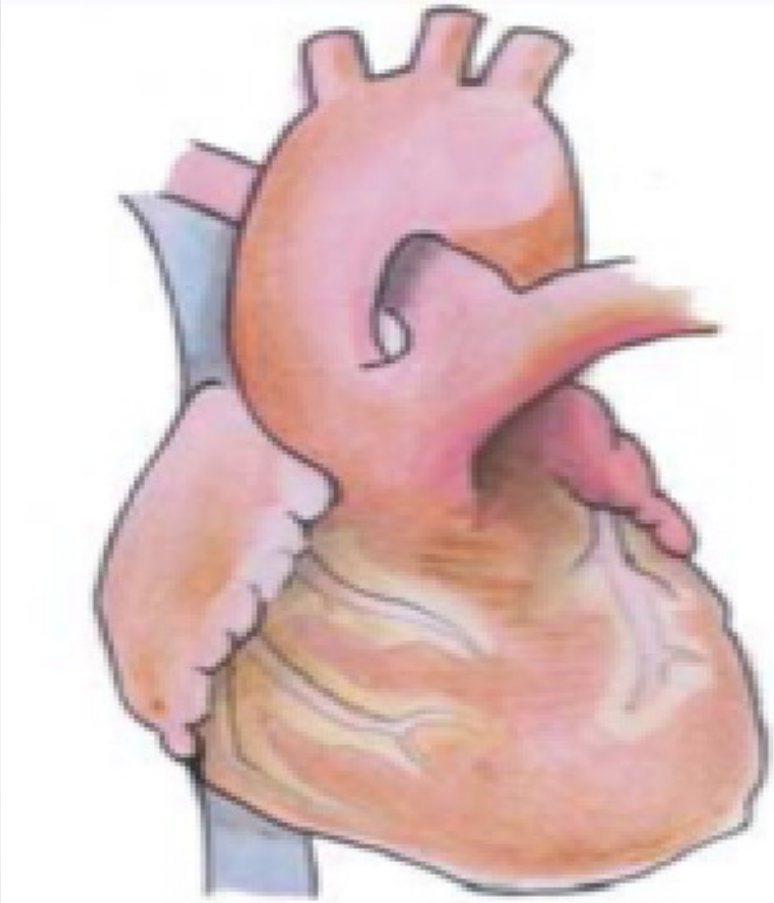
- CIV large cono-troncale
- Valve troncale avec tronc commun
  - Tricuspide 2/3
  - Bi ou Quadricuspide 1/3
- Naissance branches pulmonaires variable = Classification de Van Praagh
- Anomalies coronaires
- Crosse aortique droite



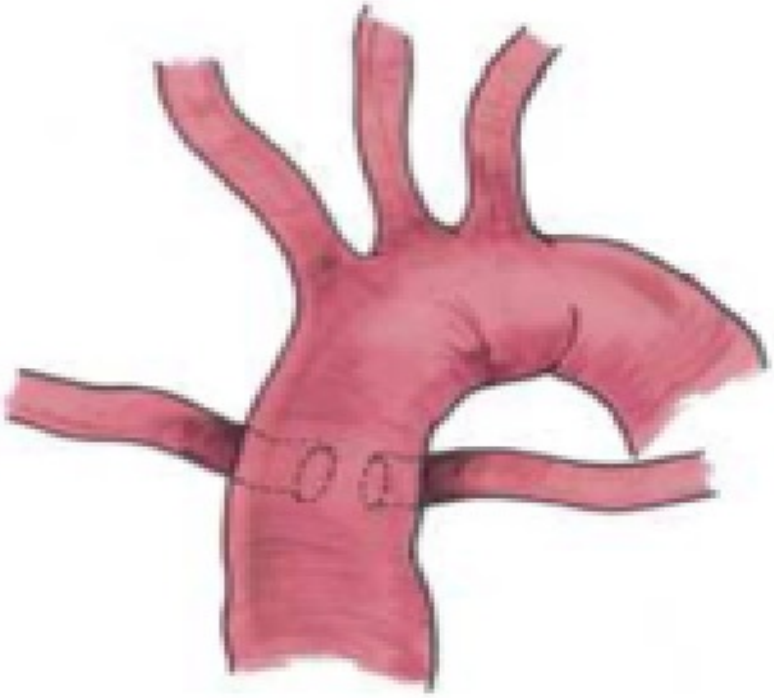


Houyel et al. J Anat 2013

FORMES ANATOMIQUES

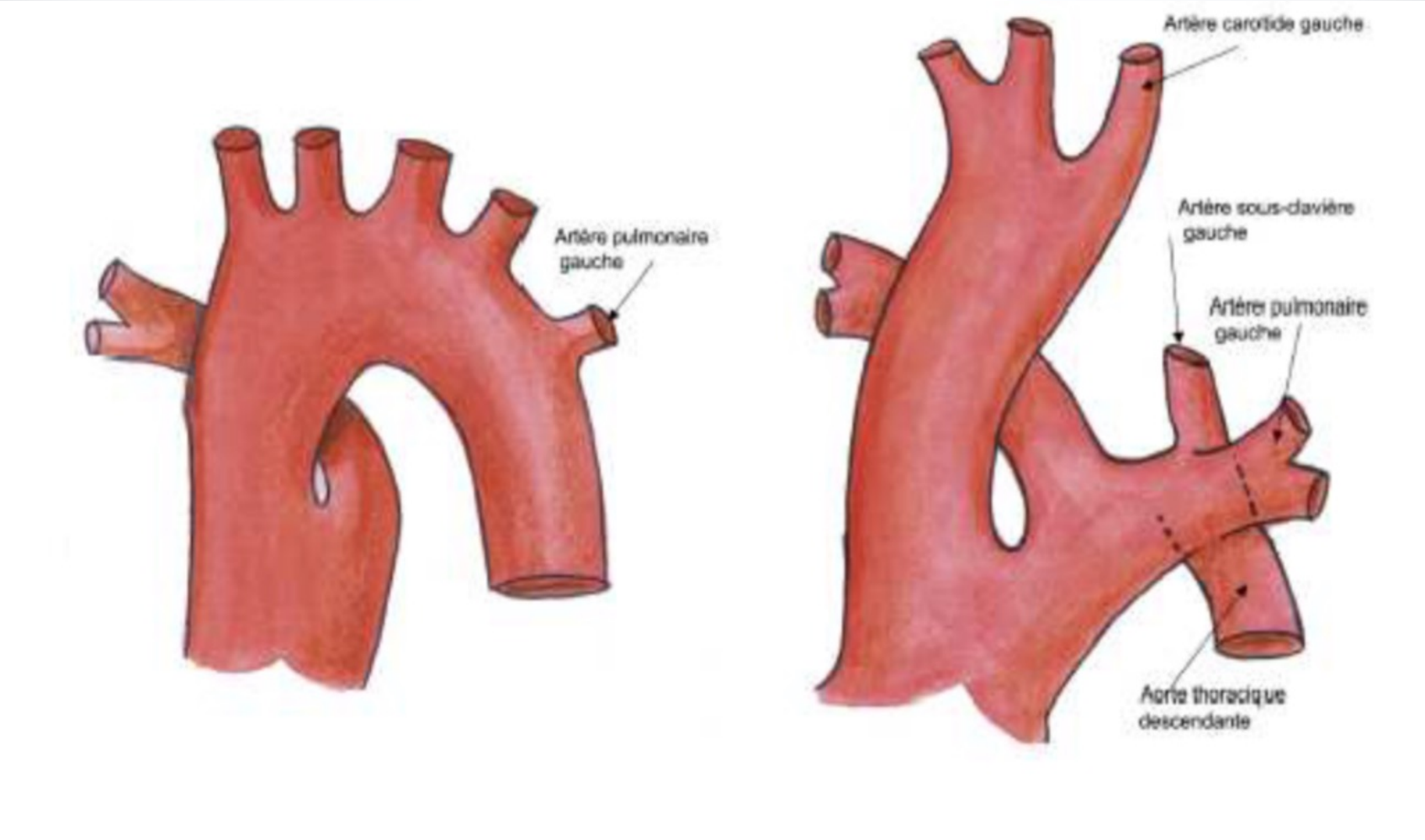


Type I
Présence d'un TAP
65 %



Type II
Branches naissant séparément
25 %

FORMES ANATOMIQUES

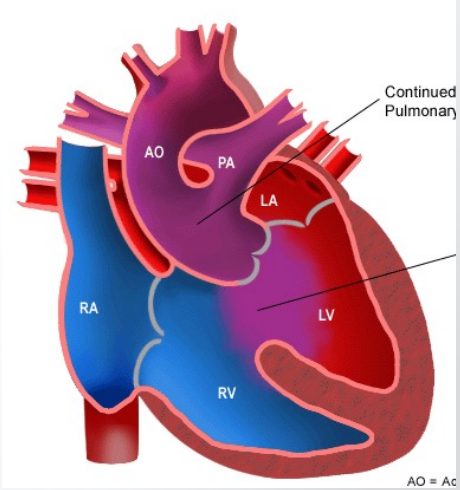


Type III
APG de l'Ao desc

Type IV
I + IAAo
90 % del 22q1.1

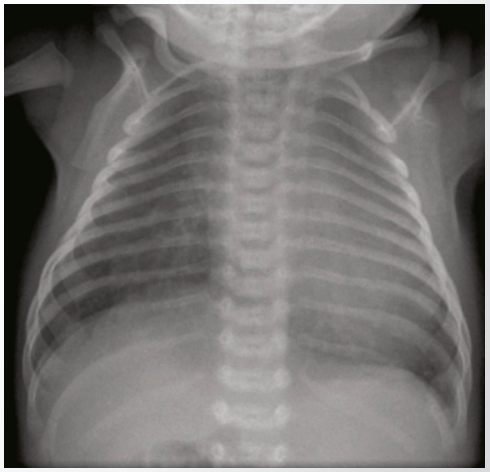
PHYSIOPATHOLOGIE

- **Cardiopathie à sang mélangé**, Sat Ao = Sat AP
- Qp/qs évalué de manière non invasive
- **Qp/Qs = Sat Ao – Sat SVM / Sat VP – Sat AP**
- Shunt: ratio résistances systémiques/pulmonaires
- Cyanose modérée à la naissance
- Augmentation du débit pulmonaire avec baisse des RVP
- Artériolite pulmonaire à partir de 6 mois

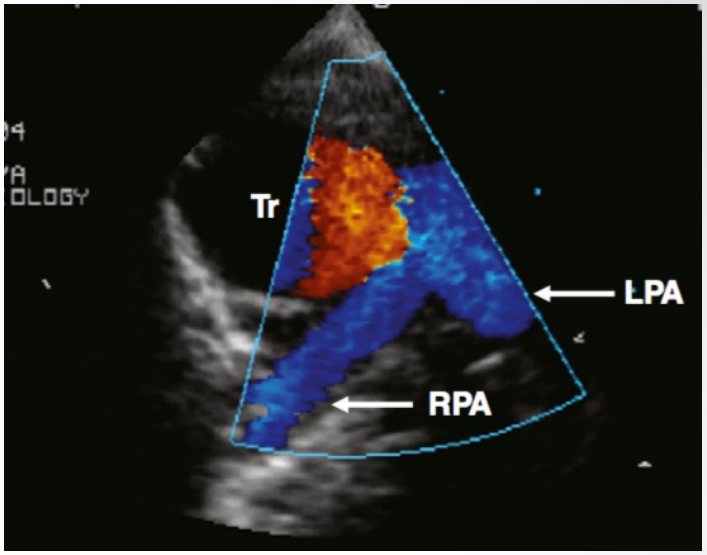


CIRCONSTANCES DE DECOUVERTE

- Diagnostic anténatal : fish 22q1.1
- Discrète cyanose ou désaturation
- Souffle systolique (double souffle si fuite valve troncale)
- Signes d' hyperdébit pulmonaire ++
- Dysmorphie faciale, autres signes 22q1.1

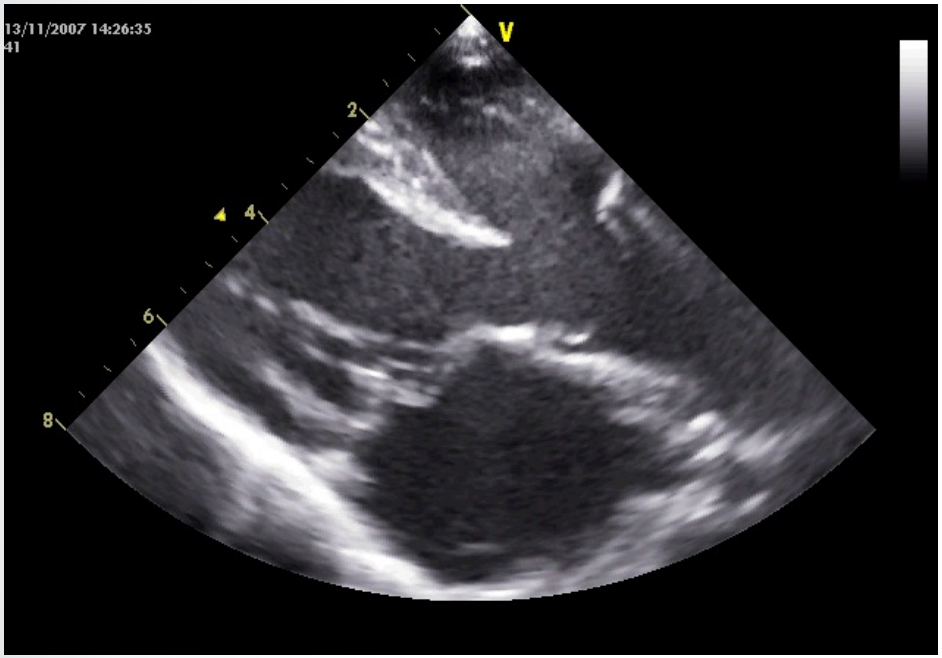


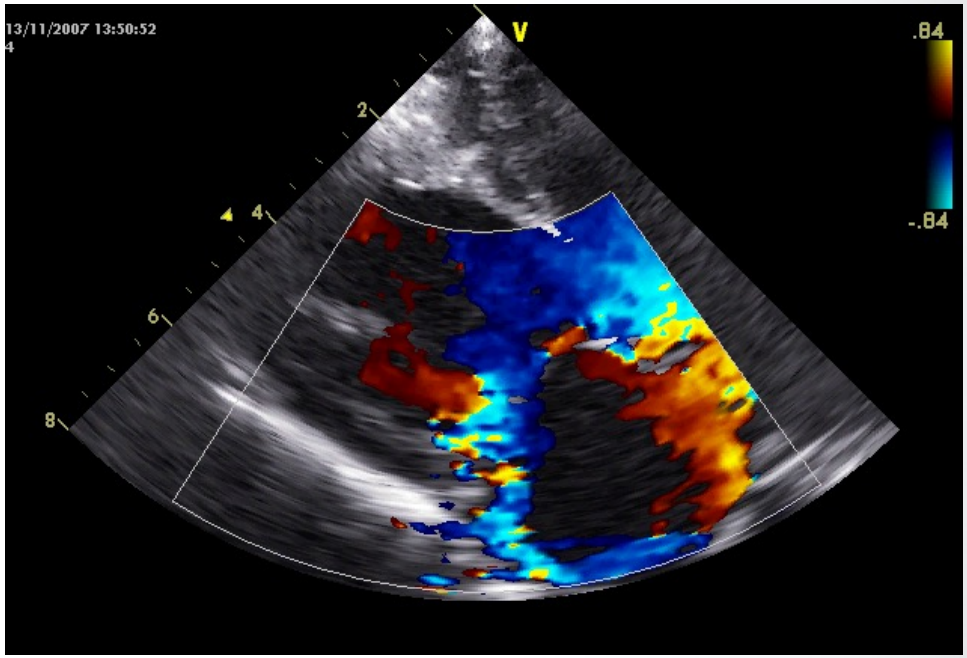
ETT



- Diagnostic positif
  - CIV conotroncale
  - Tronc commun Ao - AP
- Analyse de la valve troncale (nbr feuillets, fonction)
- Disposition coronaire
- Retentissement (dilatation cavités gauches)
- Lésions associées

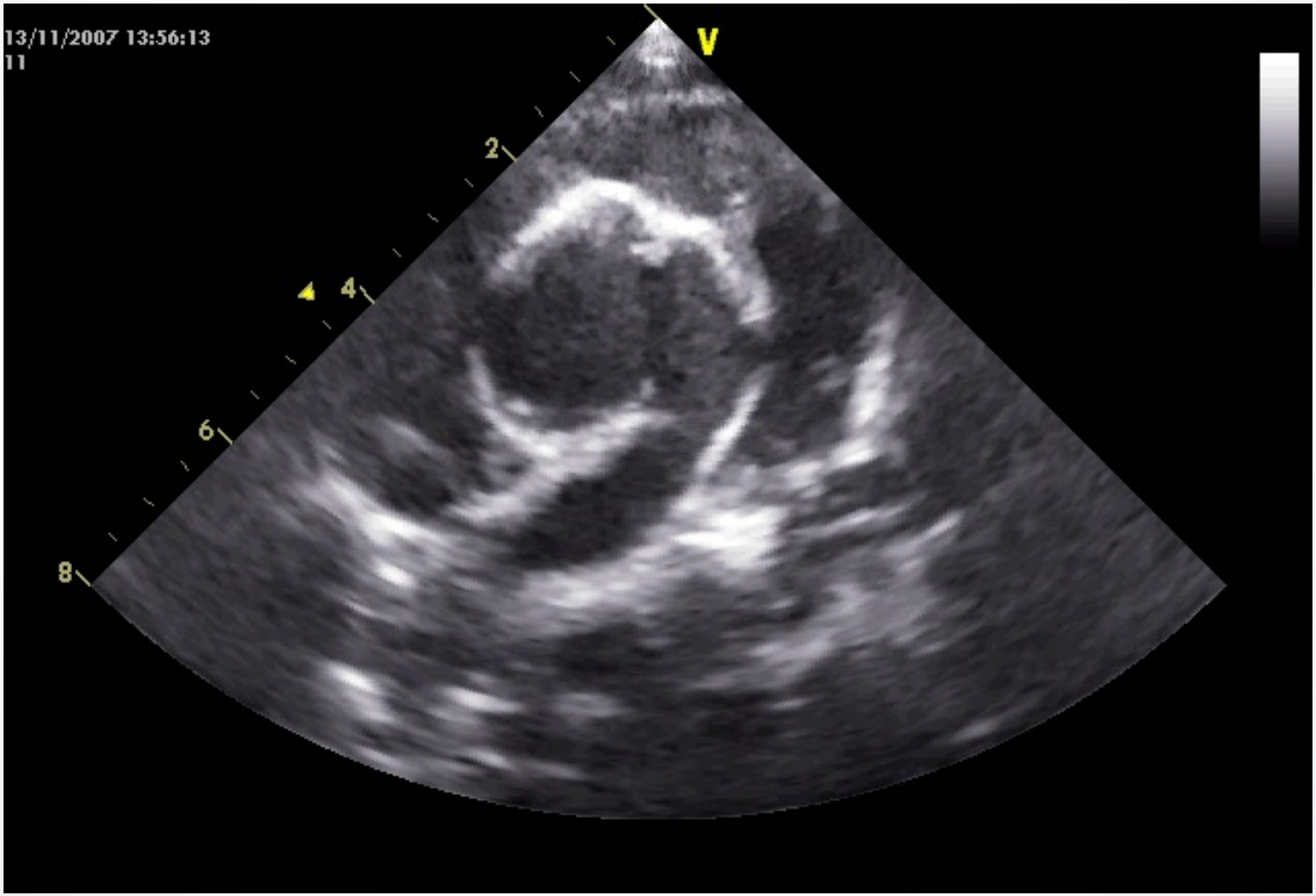
ETT



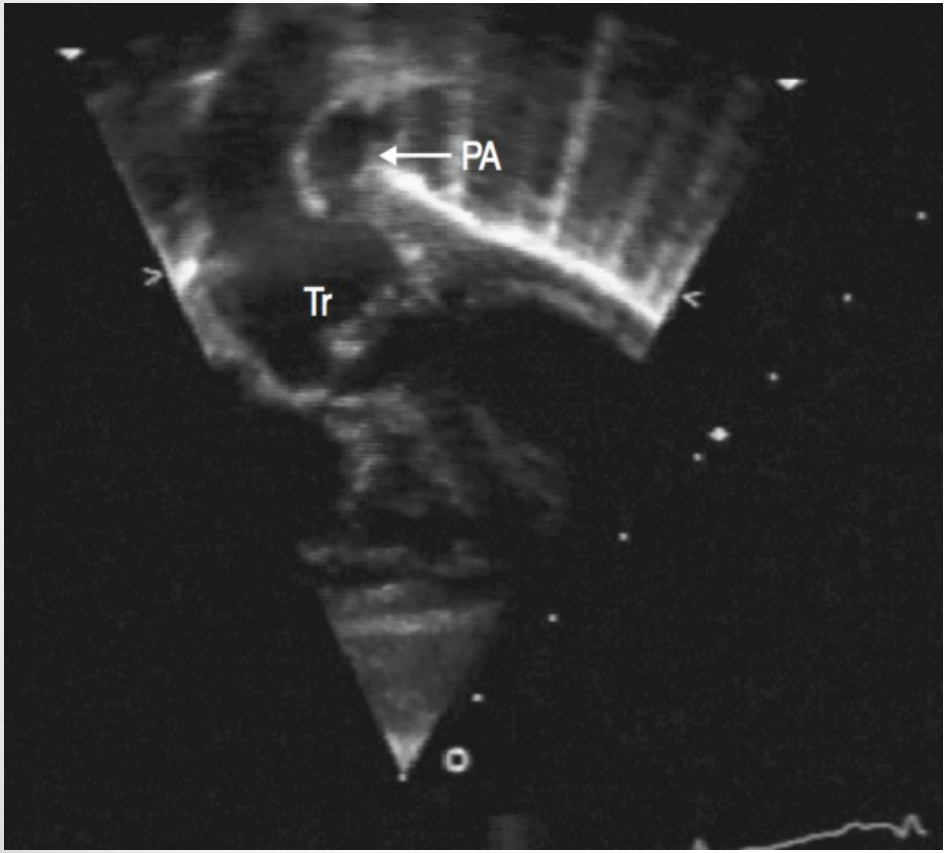


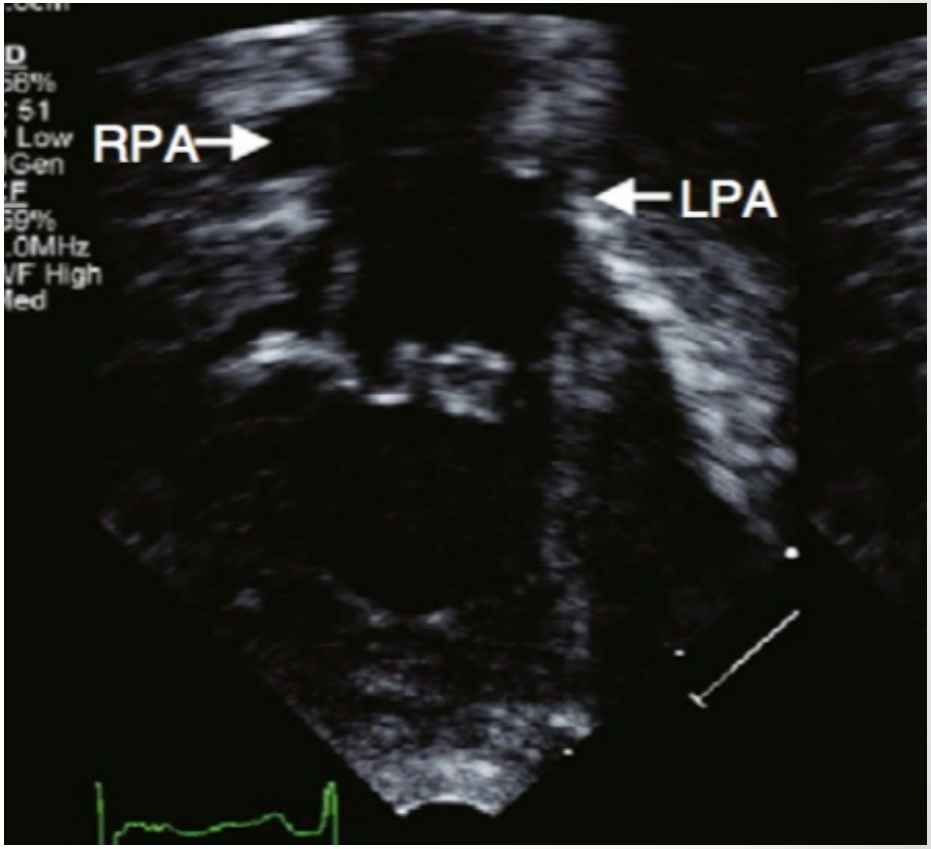
CIV conotroncale

ETT



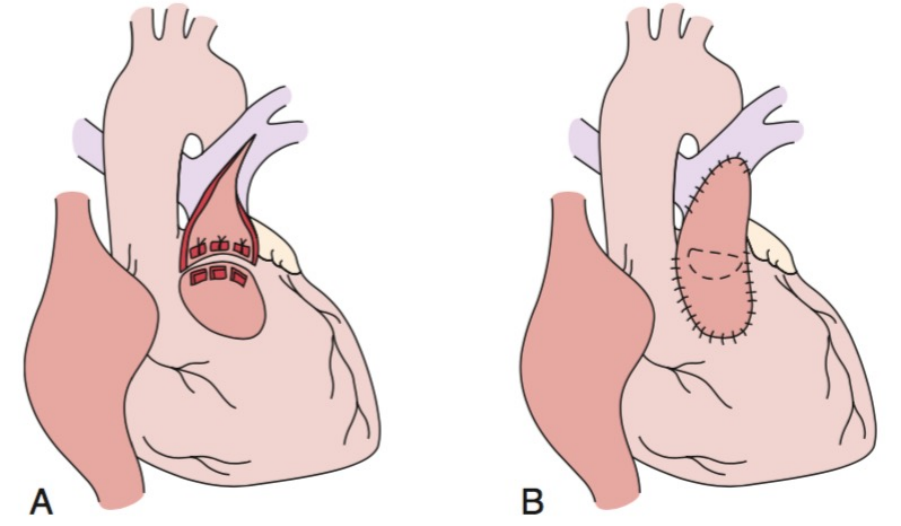
ETT



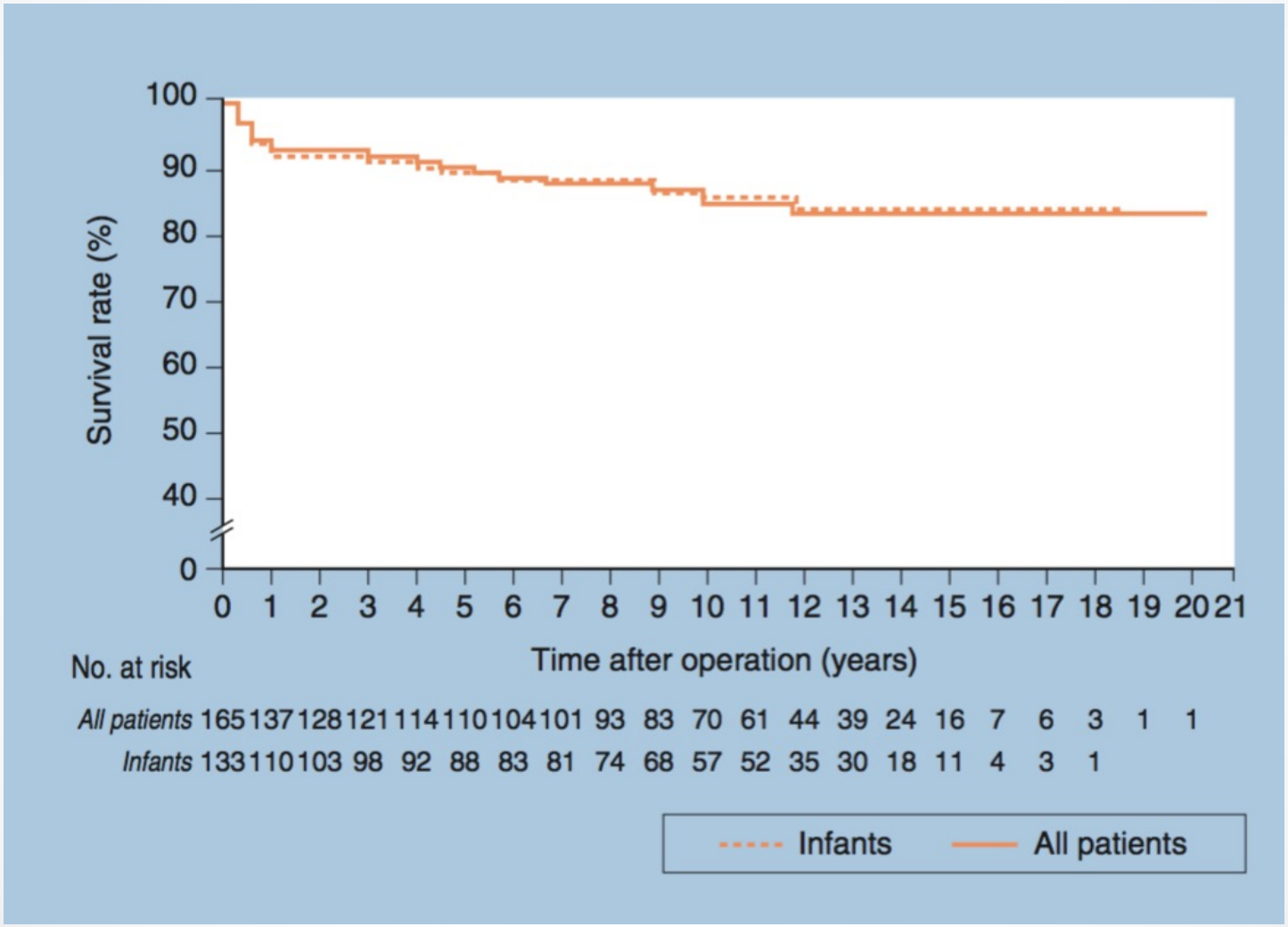


PRISE EN CHARGE PRÉOPÉRATOIRE

- Gestion du shunt en jouant sur les RVS / RVP
- Diurétiques si signes congestifs
- Chirurgie pour cure complète avant 1 mois



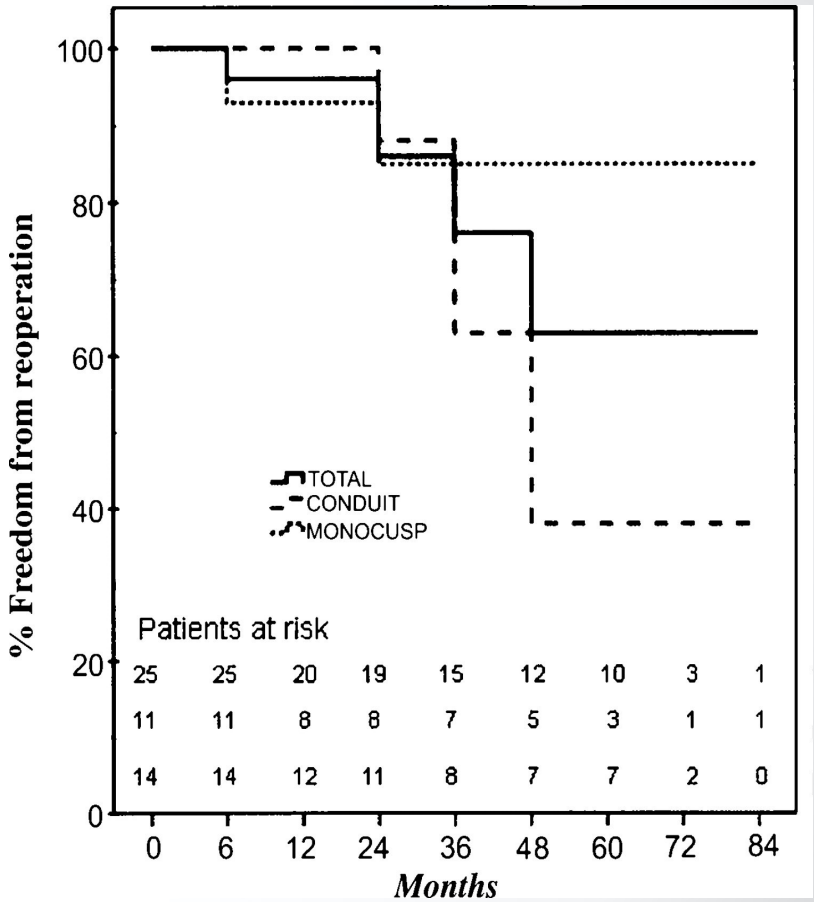
DEVENIR À LONG TERME



Rajasinghe et al. JTCS 1997

COMPLICATIONS

- Dysfonction voie droite
- Sténose branches pulmonaires
- Valve troncale
- CIV résiduelle
- Dilatation aorte ascendante
- Dysfonction VG
- Arythmies
-

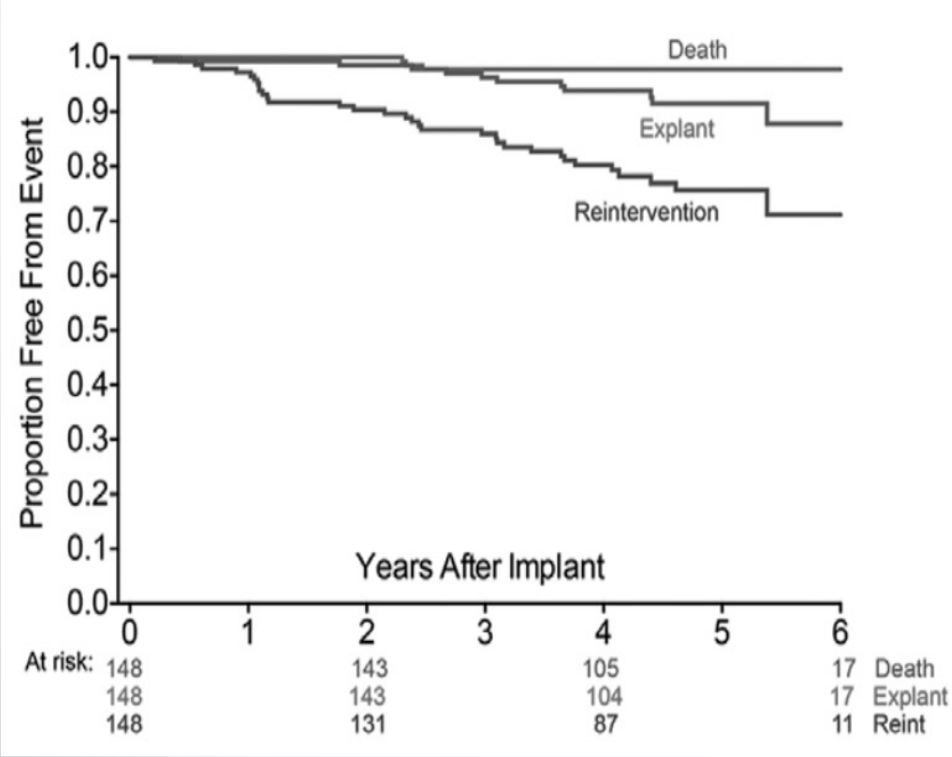


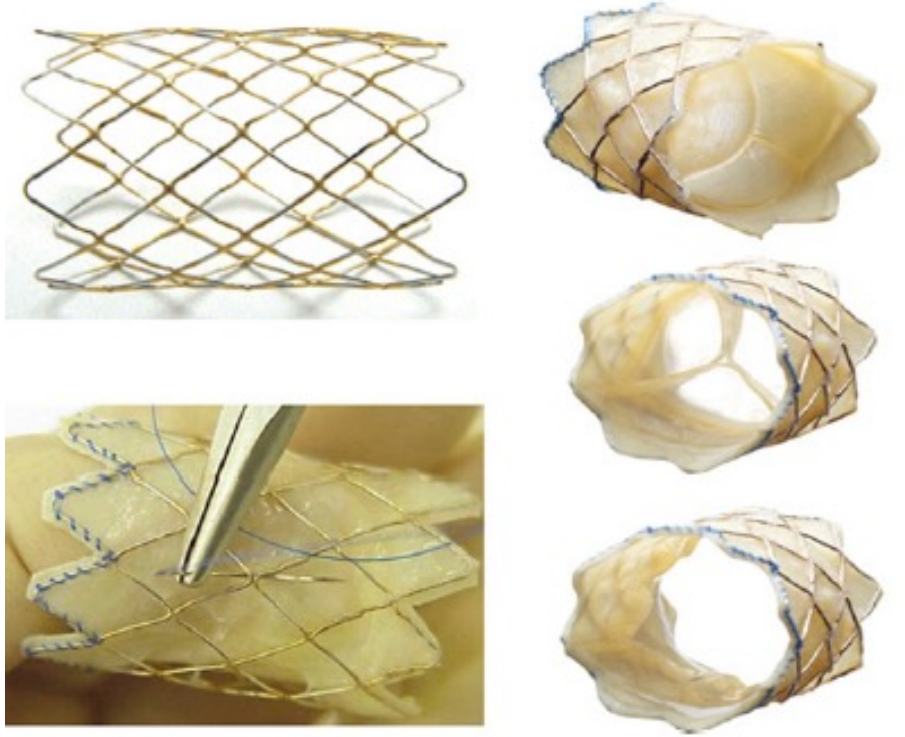
Raisky et al. EJCTS 2009

VALVULATION PERCUTANEE

Clinical and Hemodynamic Outcomes up to 7 Years After Transcatheter Pulmonary Valve Replacement in the US Melody Valve Investigational Device Exemption Trial

John P. Cheatham, MD; William E. Hellenbrand, MD; Evan M. Zahn, MD;
Thomas K. Jones, MD; Darren P. Berman, MD; Julie A. Vincent, MD; Doff B. McElhinney, MD

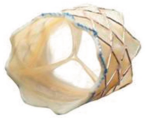




MELODY VALVE

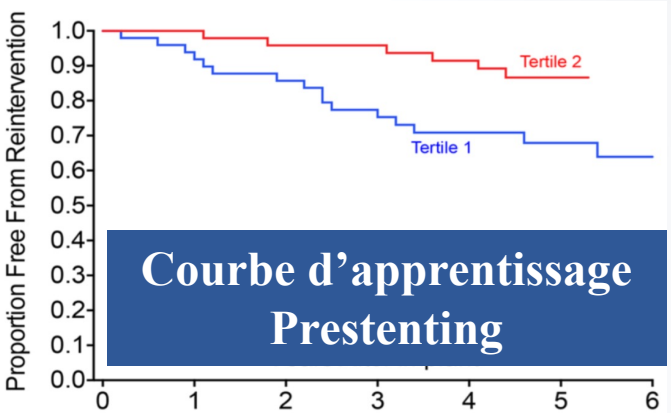
Cheatham et al. Circulation 2015

RESULTATS MELODY

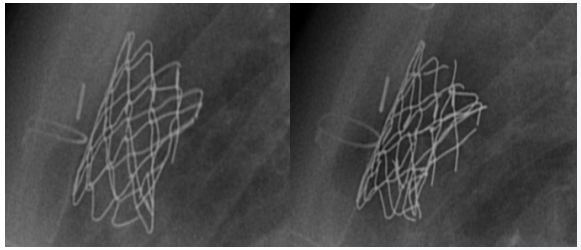


- **150 pts**, 2007 – 2010, multicentrique
- **Succès 95%**
- 2 décès per-procédure (rupture, dissection coronaire)
- **Suivi médian 4.9 ans** (0.4 – 7)

- 4 décès (1 EI, 3 non cardiaque)
- 14 bactériémie / endocardites
- 113 patients sans réintervention:
  - **Grdt inchangé** (15 vs 17 mmHg)
  - **Fuite triviale ou absente**: 112/113



Courbe d'apprentissage Prestenting



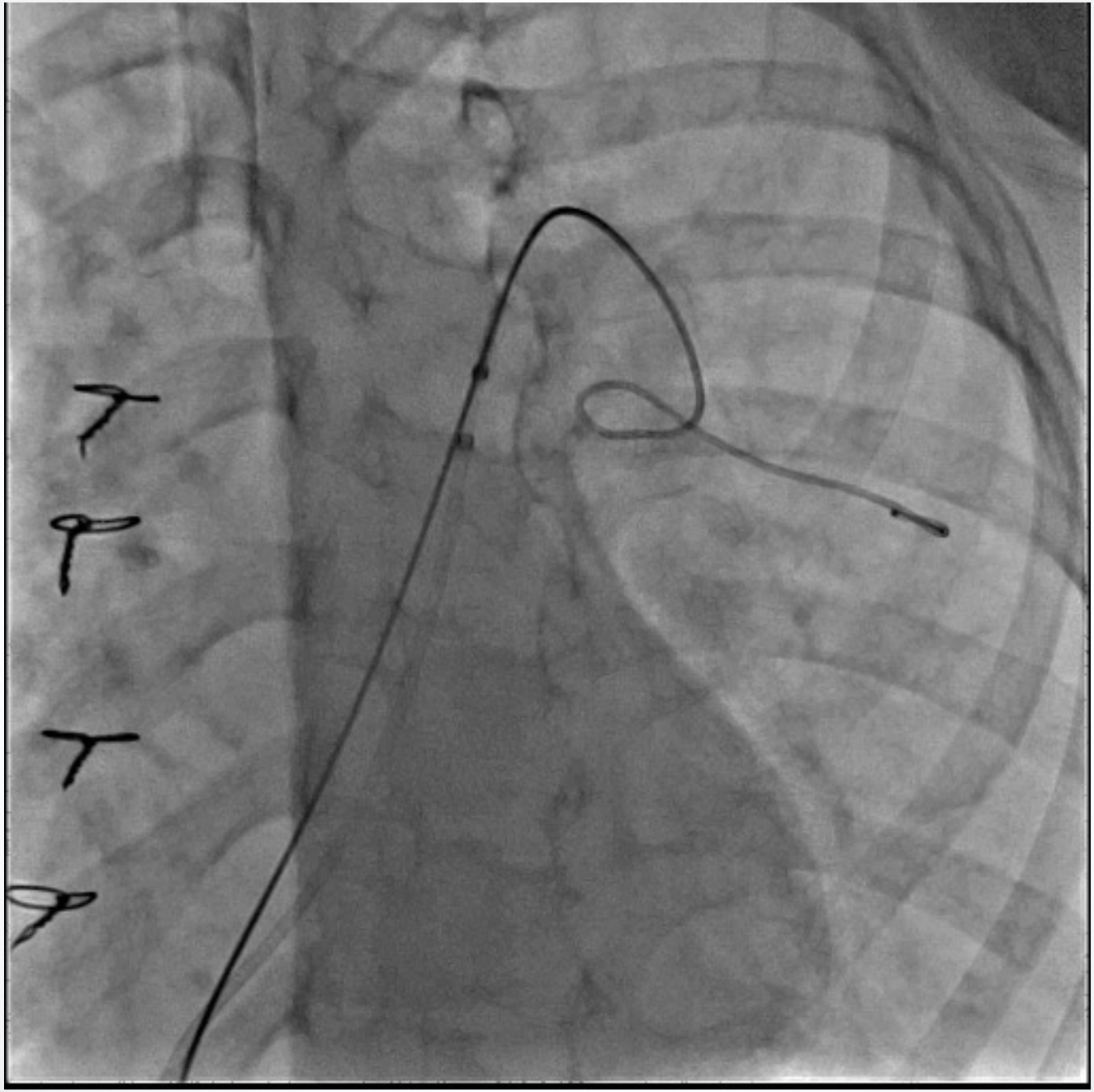
Survie sans réintervention à 5 ans

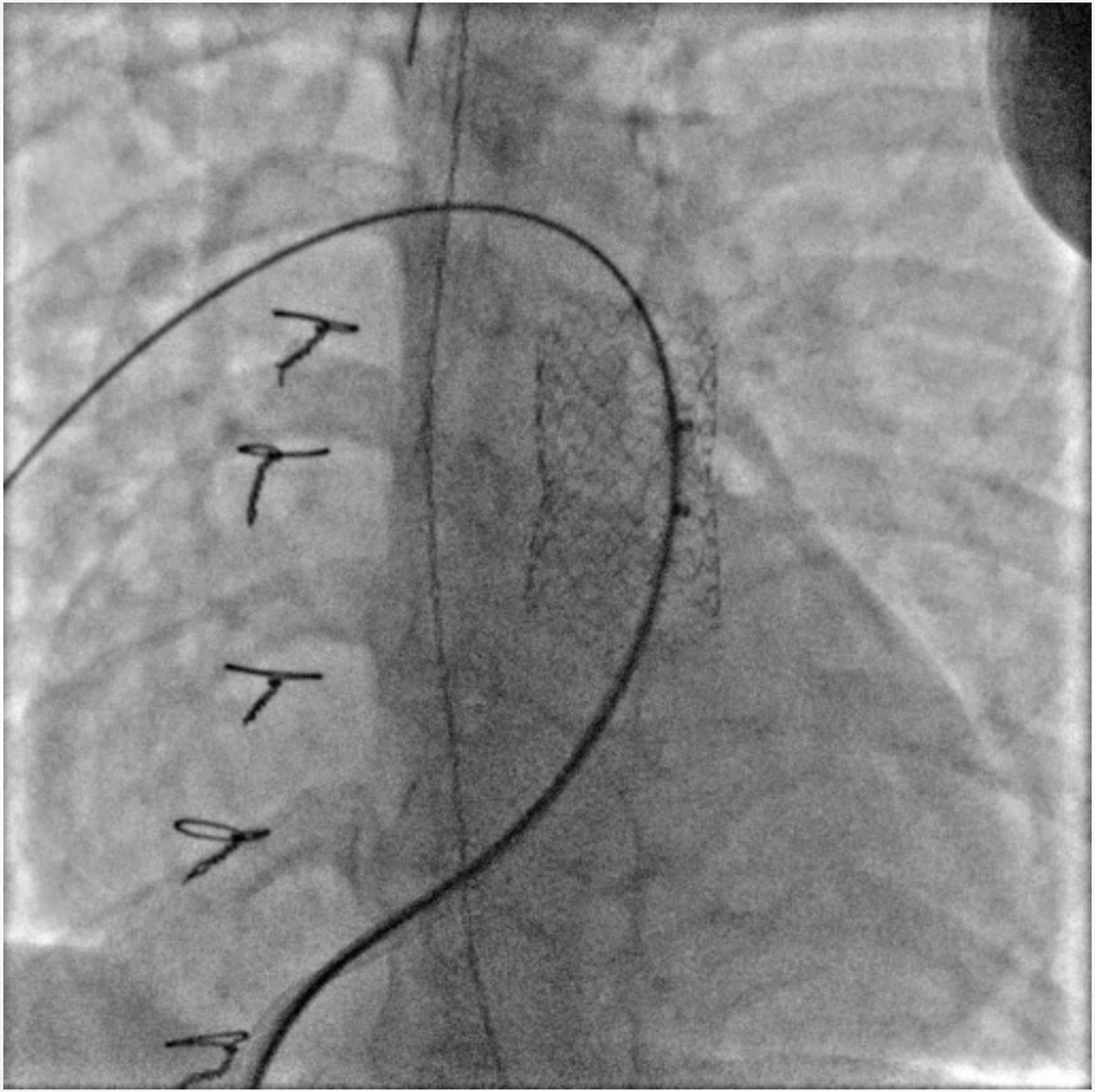
76%

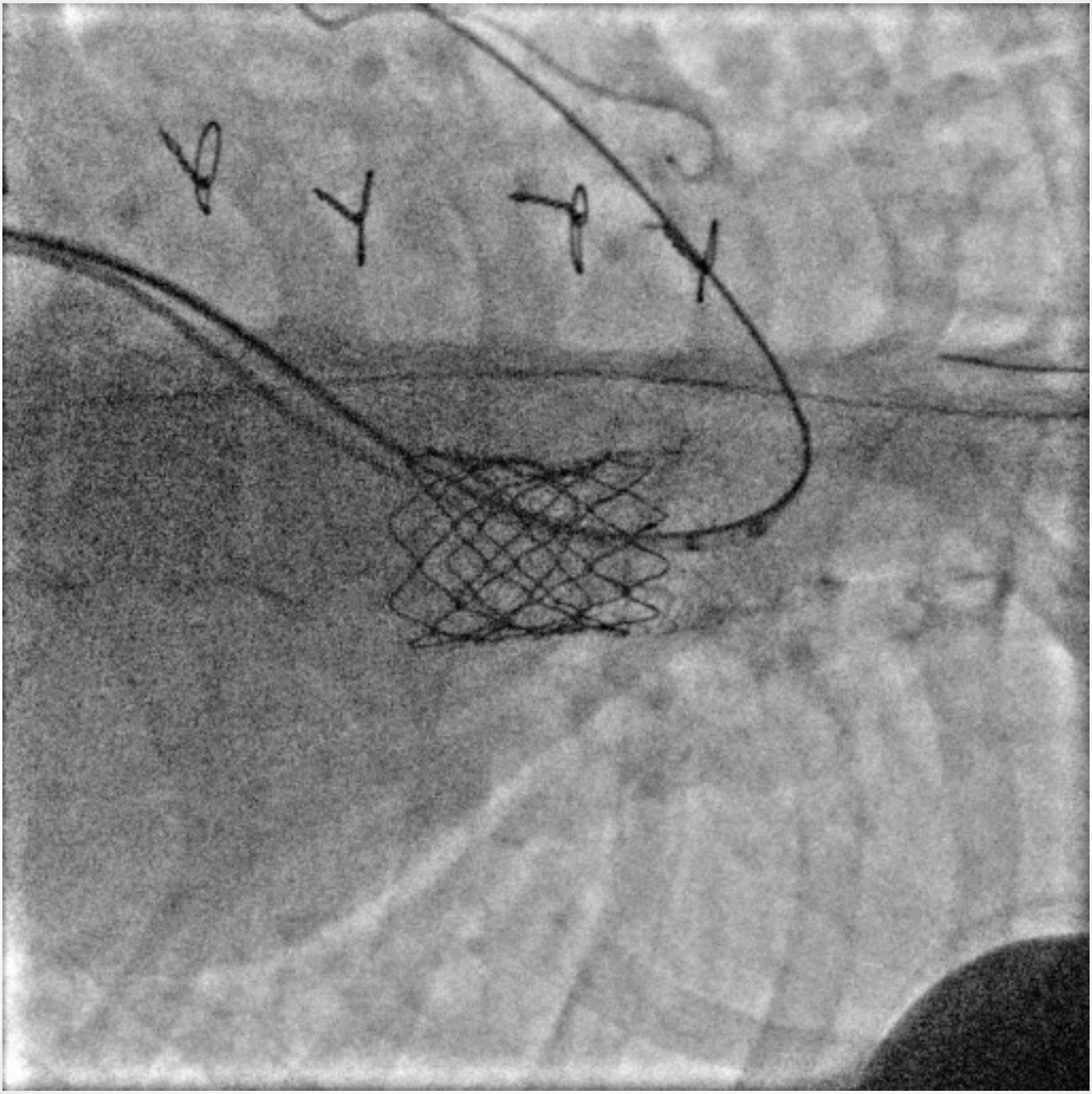
↓

91% en excluant fracture de stents

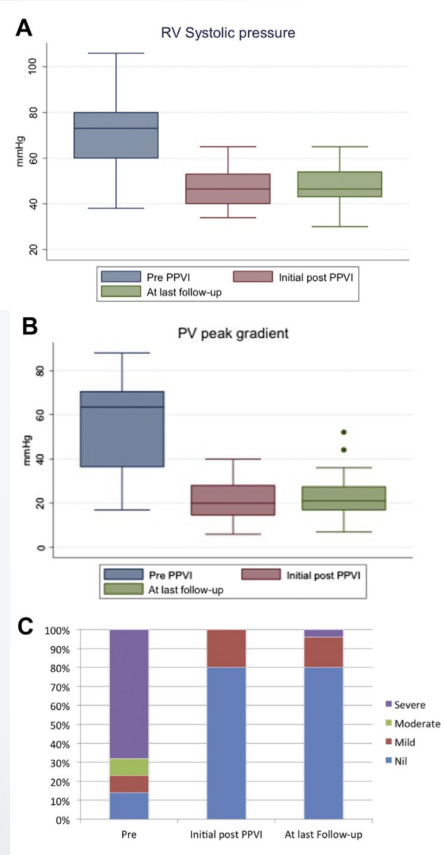
ation 2015





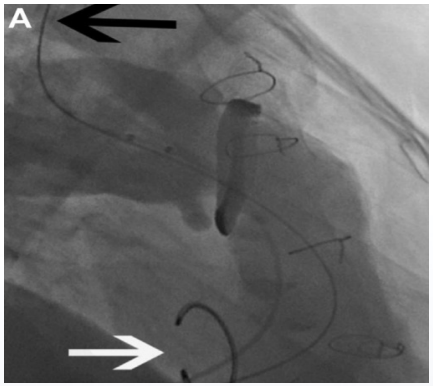


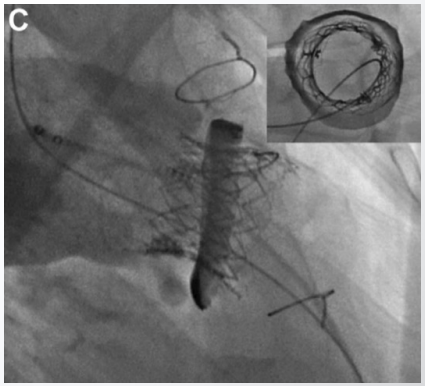
RESULTATS SAPIEN



Wilson et al. JACC 2015

- **25 pts**, 2007 – 2014, monocentrique : **24/25 succès**
- 3 complications majeures (embolisation, fuite para, hémoptysie)
- **Suivi moyen 3.5 ± 2.1 ans** (0.3 – 7.2)
- 0 décès, 0 fracture de stent, 0 endocardite
- **1 réintervention** (dégénérescence précoce à 1 an)



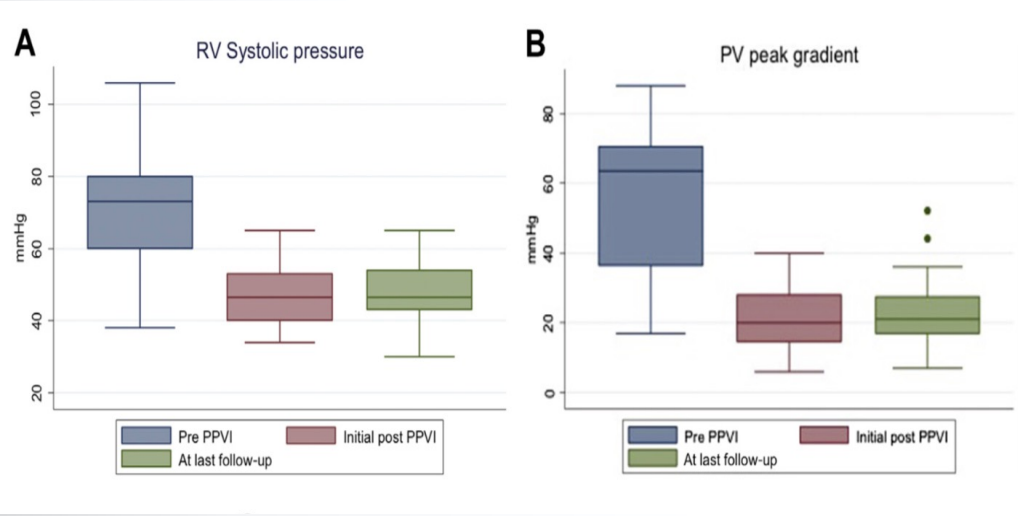


VALVULATION PERCUTANEE

Transcatheter Pulmonary Valve Replacement With the Edwards Sapien System

The Toronto Experience

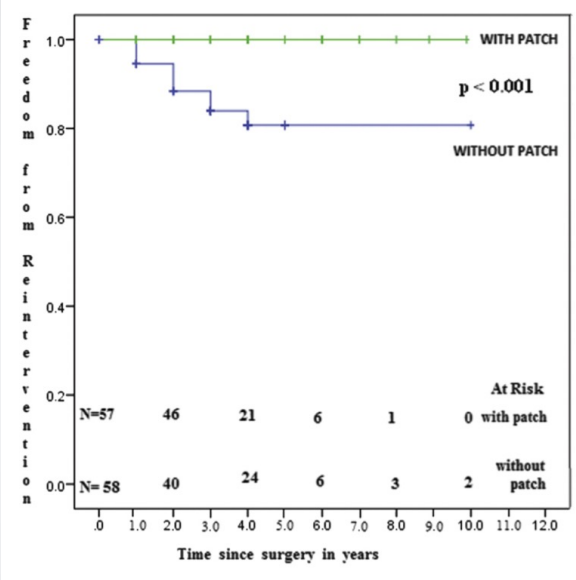
William M. Wilson, MBBS,* Lee N. Benson, MD,† Mark D. Osten, MD,* Ashish Shah, MD,* Eric M. Horlick, MDCM*

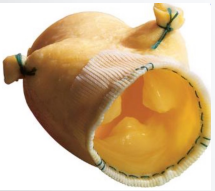


SAPIEN VALVE

Wilson et al. JACC 2016

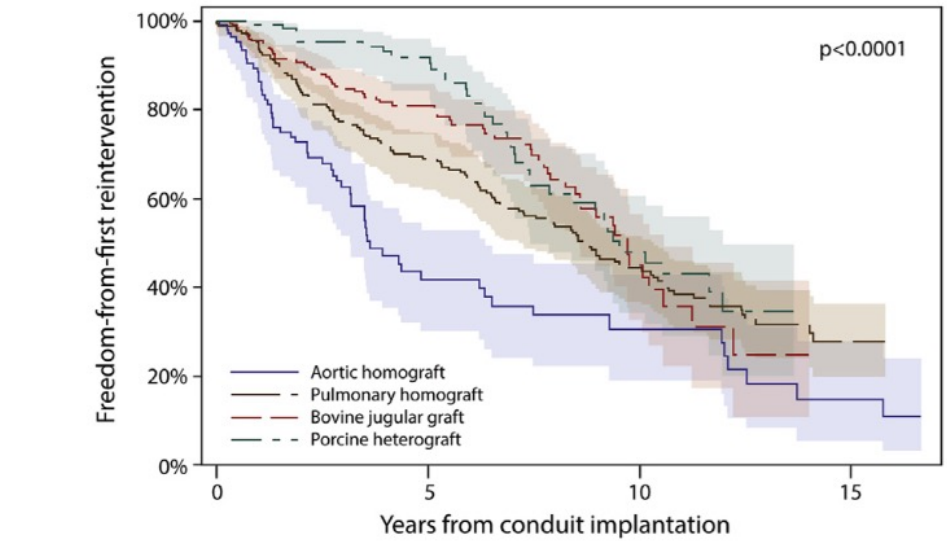
SUBSTRATS CHIRURGICAUX





Ramanan et al.
Mery et al. JTCS 2016

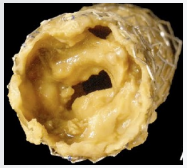
115 patients
Survie sans réintervention:
87% à 5 ans

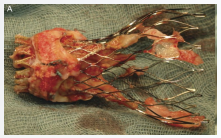


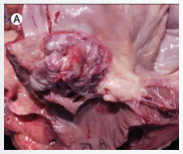
Aortic homograft	121	23	10	4
Pulmonary homograft	289	128	61	10
Bovine jugular graft	245	101	18	0
Porcine heterograft	137	65	20	0

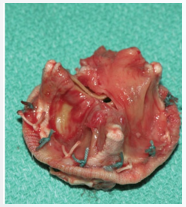
586 patients
Survie sans réintervention:
73% à 5 ans

EI - INCIDENCES COMPAATIVES









Valve Melody : **0.8 – 3% pt-année**

Valves/conduits pulmonaire chir : **0.5 - 3% pt-année**

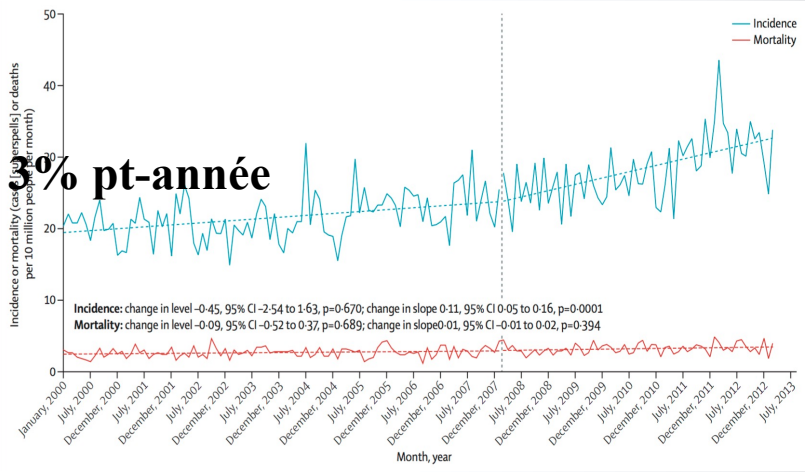
TAVI: **0.67 – 2.1% pt-année**

Valves Ao/mitrale chir : **0.3 – 1.2% pt-année**

Dispositifs electroniques implantables : **1.9/1000 device-année**

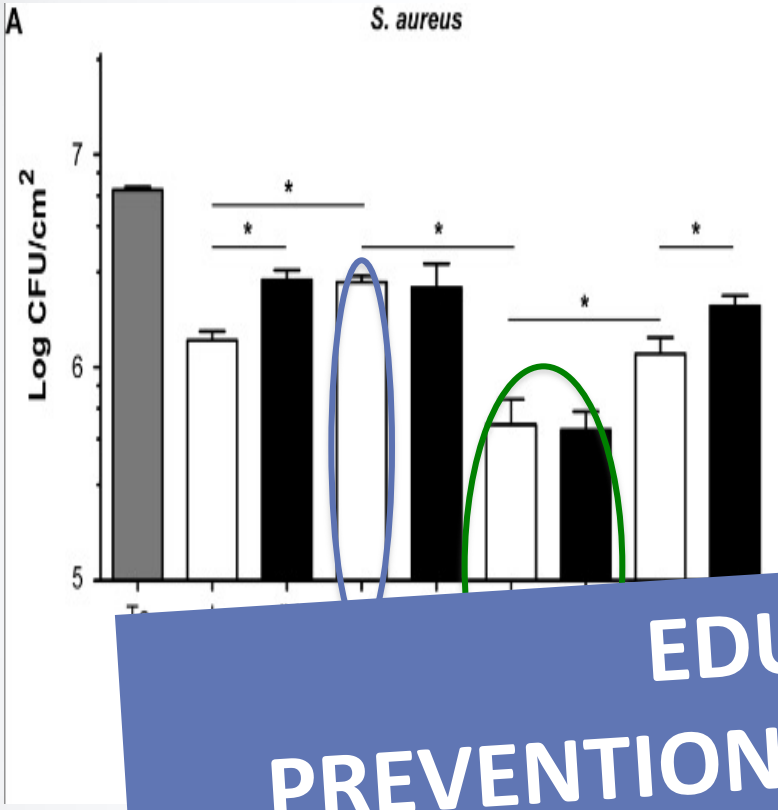
Patients avec CC**: 0.4 – 1.33 / 1000 pt-année**

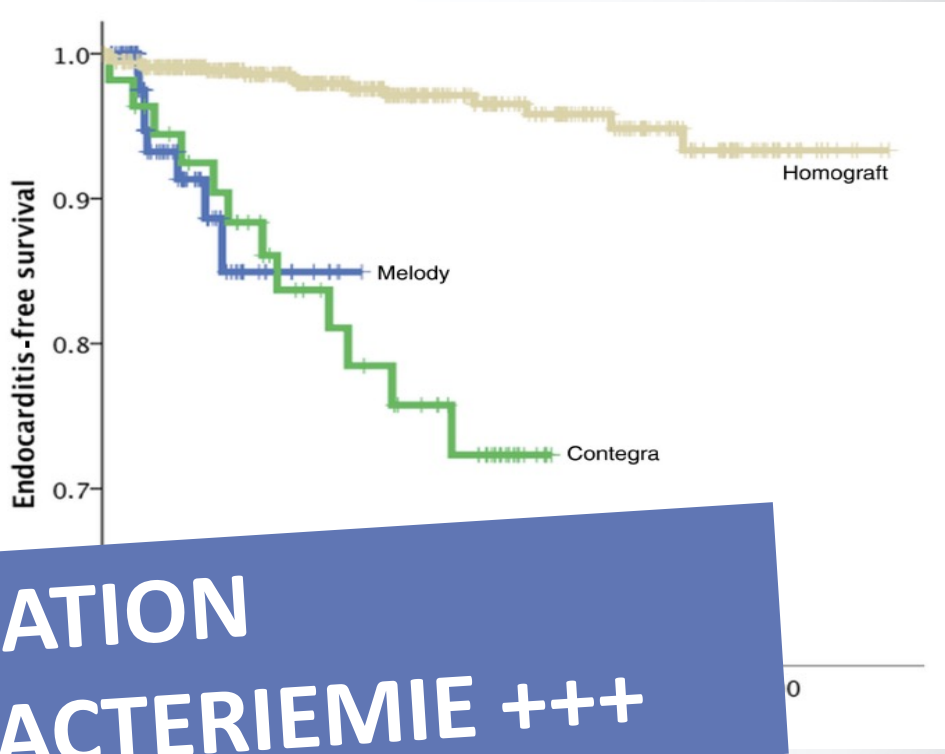
Population générale : **30 -100/ million pt-année**



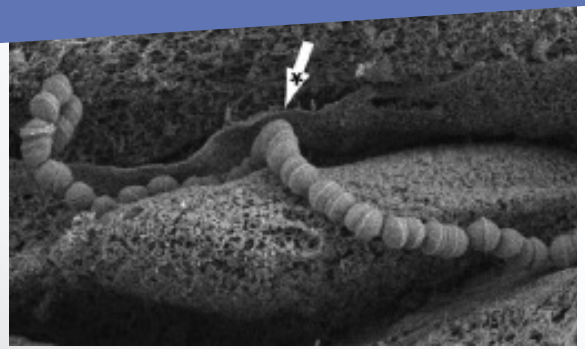
Miranda et al. Eur Heart Jour 2016
Wang et al. JAMA 2007
Rushani et al. Circulation 2013
Habib et al. Eur Heart Jour 2015
Dayer et al. Lancet 2015

ENDOCARDITE VALVE MELODY





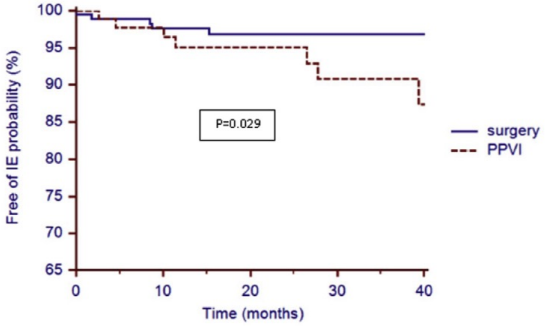
EDUCATION
PREVENTION BACTERIEMIE +++

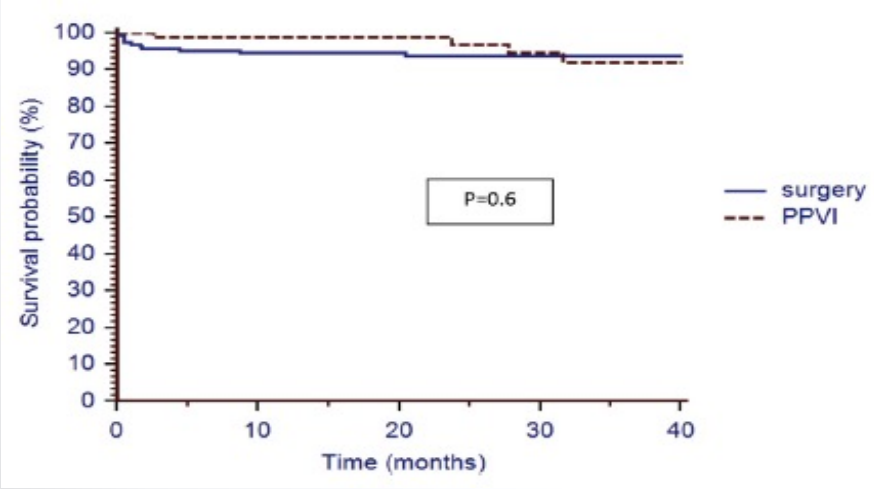


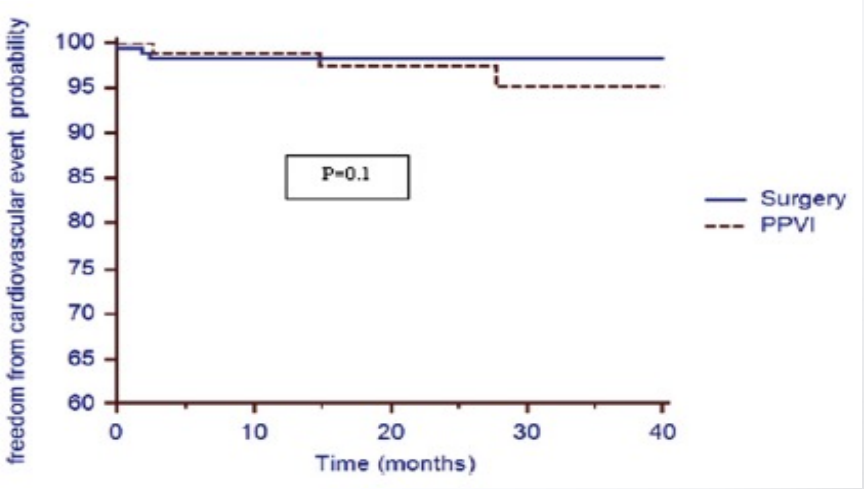
Substrat valvulaire - VJB

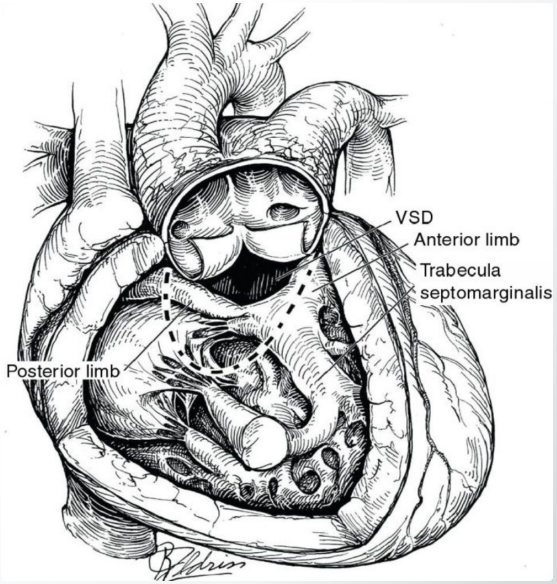
Malekzadeh-Milani et al. JCTS 2014
Van Dijck et al. Heart 2014
Jalal et al. IJC 2015

PERSPECTIVE







CONCLUSION

- Cardiopathie à sang mélangé
- Evaluation lésions associées
- Réparation chirurgicale avant 1 mois
- Réintervention sur la voie d'éjection droite
- Techniques percutanées