



Canaux artériels

Passé, présent, futur



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Congénitales Complexes M3C

Passé

III. ORIGINAL COMMUNICATIONS.

1. ON A CASE OF PATENT DUCTUS ARTERIOSUS, WITH ANEURISM OF THE PULMONARY ARTERY.

By JAMES FOULIS, M.D., Edinburgh.

MR PRESIDENT AND GENTLEMEN,—One morning, early in the year 1882, a young girl came to my consulting-room for advice for the following distressing symptoms:—Great palpitation of the heart on slight exertion, breathless-

PATENT DUCTUS ARTERIOSUS WITH INFECTIVE PULMONARY ENDARTERITIS.

By MORRIS MANGES, M.D.

NEW YORK.

Mrs. R. B., aged 32, housewife, entered Mount Sinai Hospital on October 21, 1915.

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ANNALS OF SURGERY

VOL. 110

SEPTEMBER, 1939

No. 3



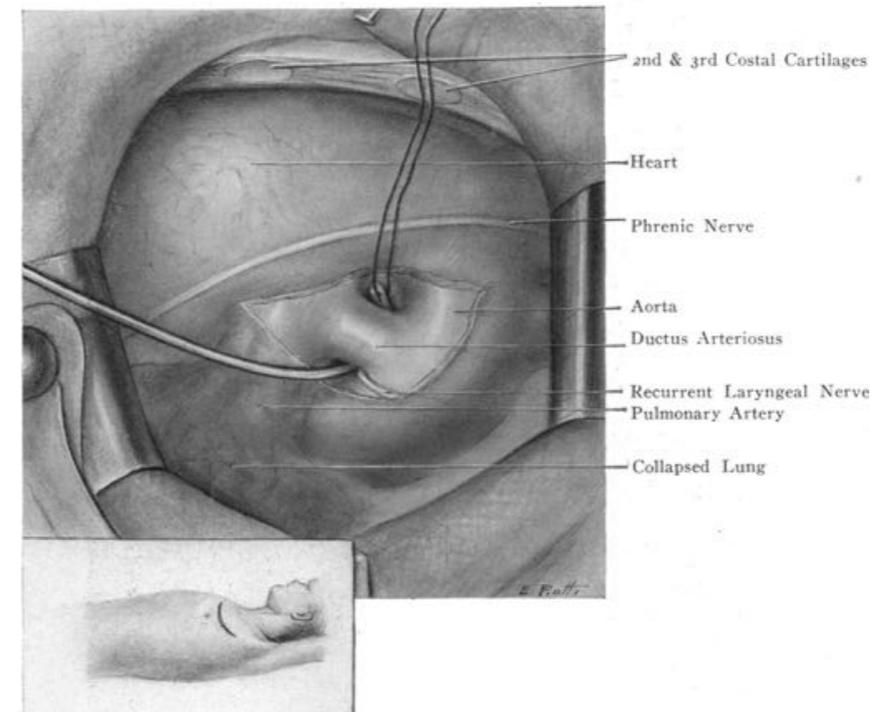
SURGICAL MANAGEMENT OF THE PATENT DUCTUS ARTERIOSUS*

WITH SUMMARY OF FOUR SURGICALLY TREATED CASES

ROBERT E. GROSS, M.D.

BOSTON, MASS.

FROM THE CHILDREN'S HOSPITAL, THE PETER BENT BRIGHAM HOSPITAL, AND THE PHYSIOLOGICAL LABORATORY OF THE HARVARD MEDICAL SCHOOL, BOSTON, MASS.



Archives of Disease in Childhood, 1971, 46, 177.

Persistent Ductus Arteriosus in Ill and Premature Babies

DAVID J. GIRLING* and KATHERINE A. HALLIDIE-SMITH†

From the Neonatal Research Unit, Institute of Child Health and Department of Clinical Cardiology, Hammersmith Hospital, London

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The Patent Ductus Arteriosus

Observations from 412 Surgically Treated Cases

By ROBERT E. GROSS, M.D., AND LUTHER A. LONGINO, M.D.

Circulation, Volume 33, January, 1966

Br. J. Anaesth. (1976), 48, 365

LIGATION OF PATENT DUCTUS ARTERIOSUS IN PREMATURE INFANTS

M. LIPPMANN, R. J. NELSON, G. C. EMMANOUILIDES, J. DISKIN AND D. W. THIBEAULT

SUMMARY

Twenty-four neonates, at 25-34 weeks' gestation with a weight range of 570-1530 g underwent ligation of patent ductus arteriosus (PDA). The infants had mild to severe respiratory distress syndrome at birth and later developed signs of heart failure as a result of left-to-right shunting through a PDA. Surgical closure of the PDA was performed within 2-31 days after birth. In the

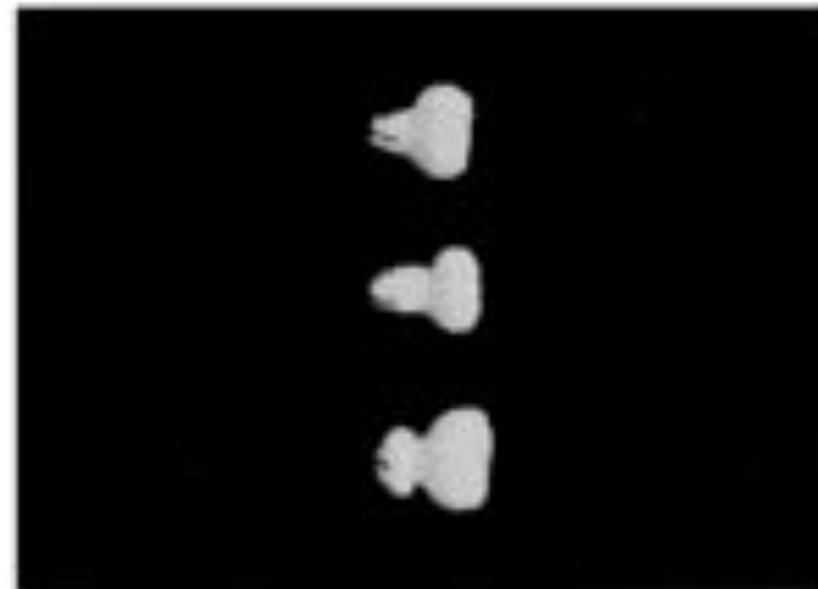
Passé, cathétérisme

Transfemoral Plug Closure of Patent Ductus Arteriosus Experiences in 61 Consecutive Cases Treated Without Thoracotomy

By KENJI SATO, M.D., MASAOKI FUJINO, M.D., TAKAHIRO KOZUKA, M.D.,
YASUAKI NAITO, M.D., SOICHIRO KITAMURA, M.D., SUSUMU NAKANO, M.D.,
CHIKEN OHYAMA, M.D., AND YASUNARI KAWASHIMA, M.D.



Figure 1



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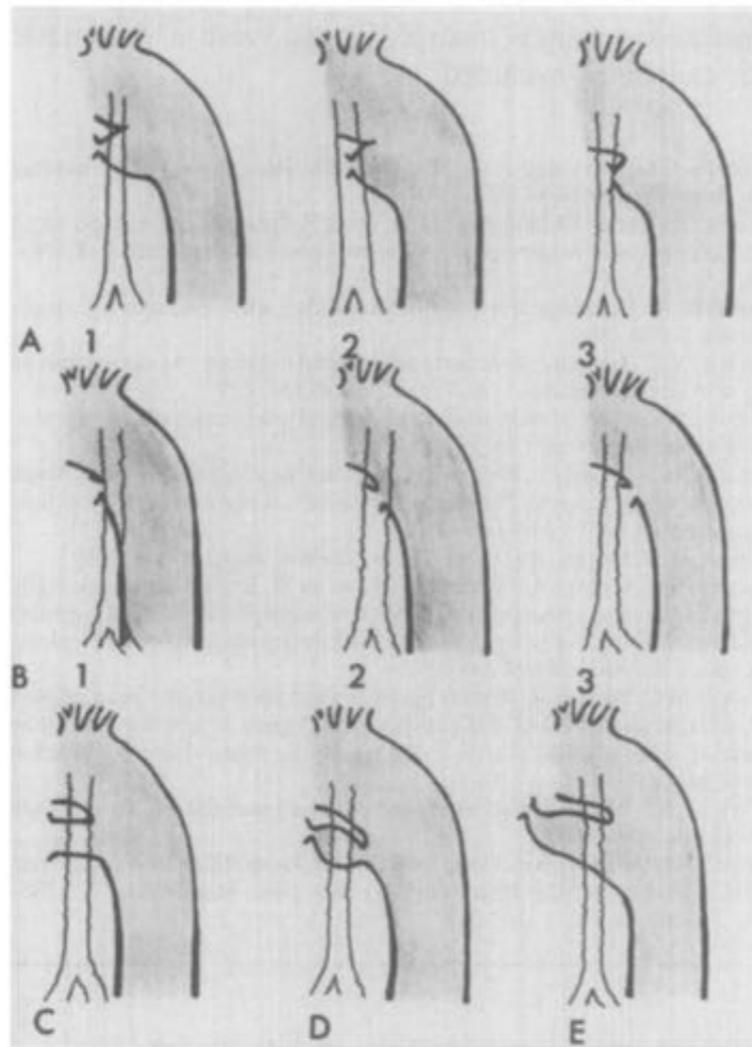


FIGURE 2. Configuration of the ductus seen angiographically (see text).

**Accès veineux
Standardisation
Miniaturisation
Nombreux devices**

**Plus petits poids
Canaux plus larges**

Présent

Recommendations for Transcatheter PDA Occlusion

Class I

1. Transcatheter PDA occlusion is indicated for the treatment of a moderate-sized or large PDA with left-to-right shunt that results in any of the following: Congestive heart failure, failure to thrive, pulmonary overcirculation (with or without pulmonary hypertension), or an enlarged left atrium or left ventricle, provided the anatomy and patient size are suitable (*Level of Evidence: B*).

Class IIa

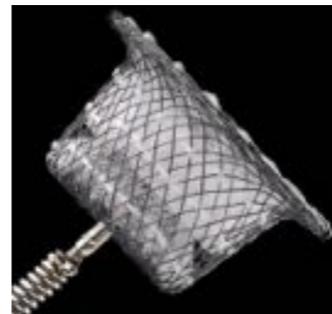
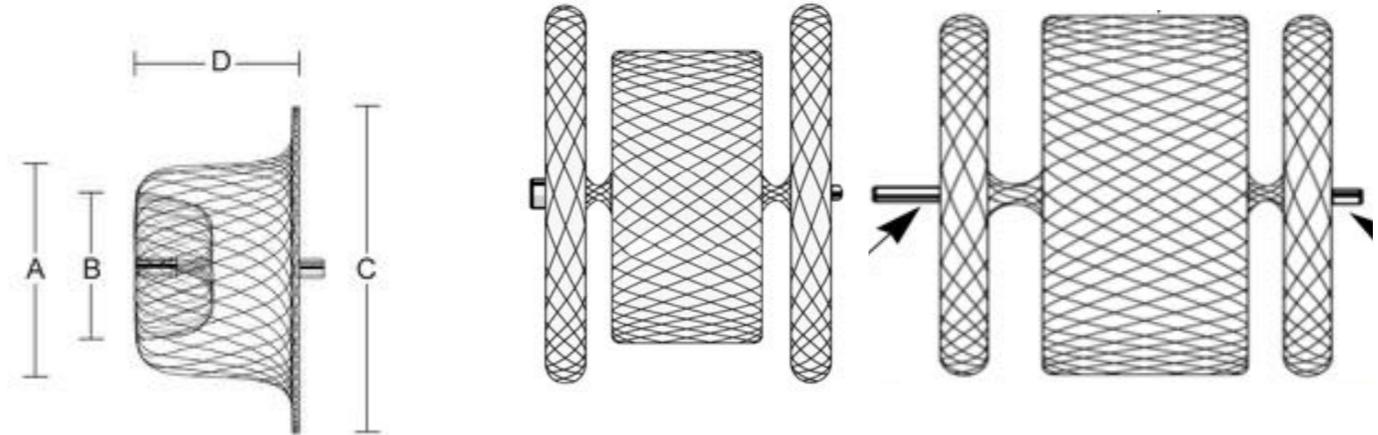
1. Transcatheter PDA occlusion is reasonable in the presence of a small left-to-right shunt with normal-sized heart chambers when the PDA is audible by standard auscultation techniques (*Level of Evidence: C*).

Class IIb

1. In rare instances, transcatheter PDA occlusion may be considered in the presence of a bidirectional PDA shunt due to pulmonary hypertension and obstructive pulmonary vascular disease but reversible to pure left-to-right shunting with pulmonary vasodilator therapy (*Level of Evidence: C*).
2. Transcatheter PDA occlusion may be considered in a PDA associated with a small left-to-right shunt with normal heart size and an inaudible murmur (*Level of Evidence: C*).

Class III

1. Transcatheter PDA occlusion should not be attempted in a patient with a PDA with severe pulmonary hypertension associated with bidirectional or right-to-left shunting that is unresponsive to pulmonary vasodilator therapy (*Level of Evidence: C*).



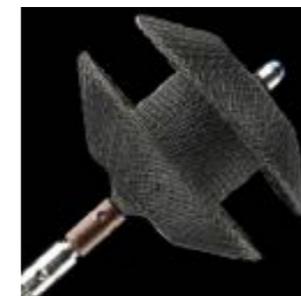
ADO



ADO II AS



AVP



ADO II

Présent

Original article

Contemporary outcomes of percutaneous closure of patent ductus arteriosus in adolescents and adults

Sudhakar P, John Jose*, Oommen K. George

S. P et al. / Indian Heart Journal 70 (2018) 308–315

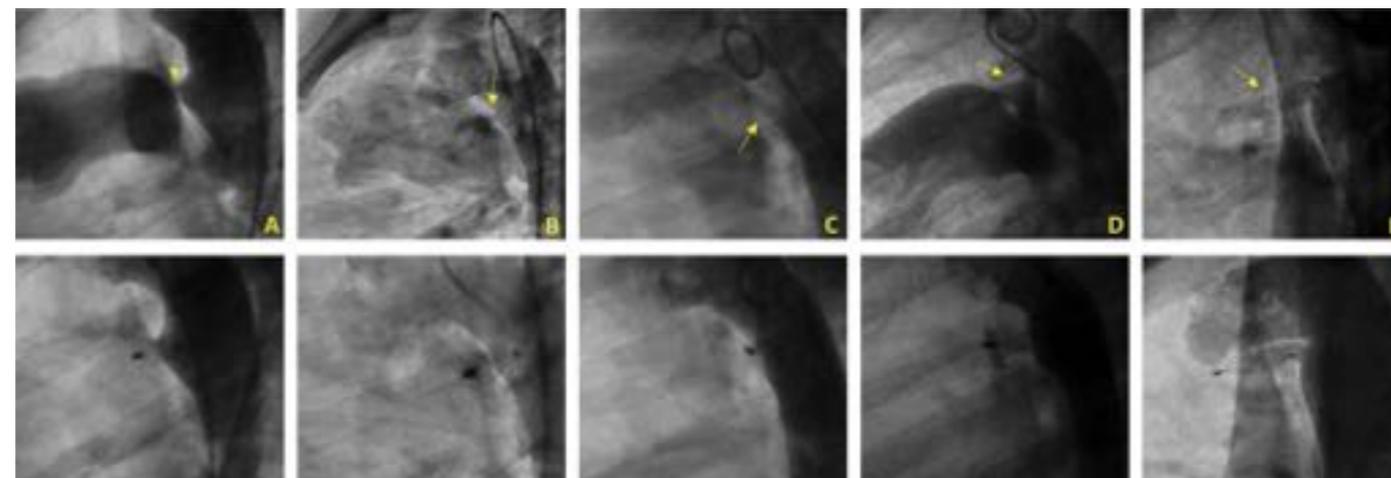
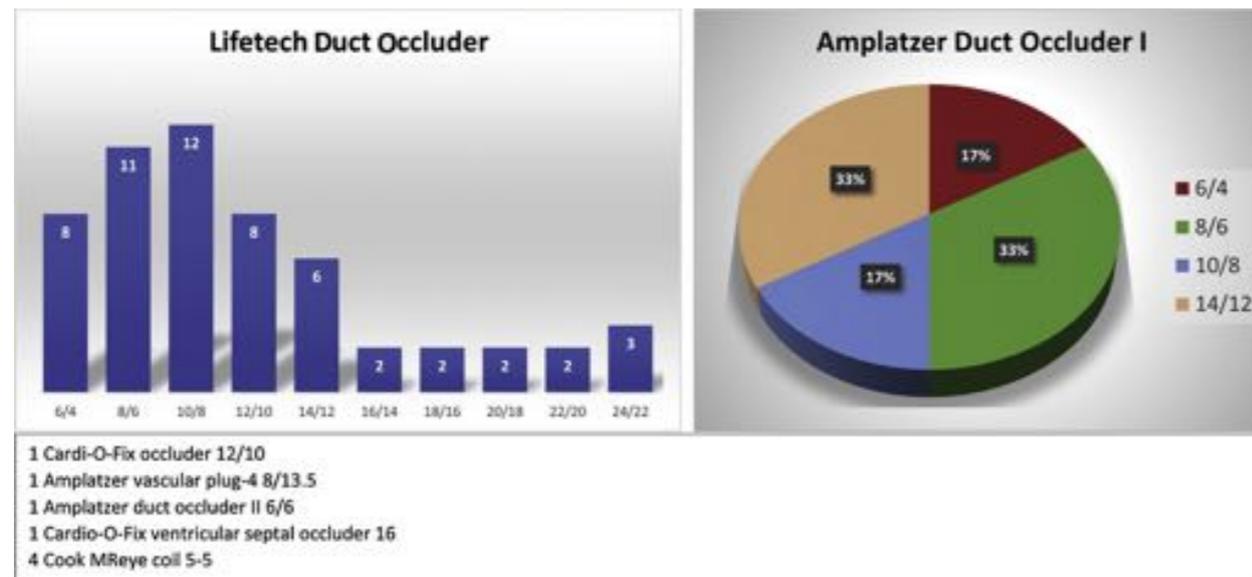
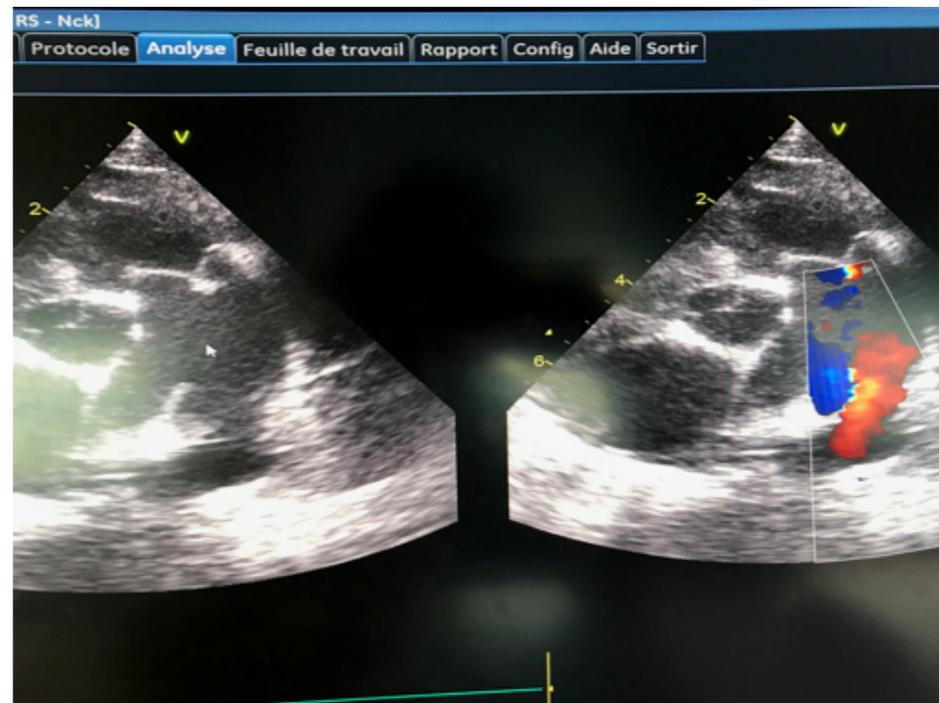


Fig. 2. PDA morphological types and devices. Arrows indicate PDA. Top panel shows PDA morphological types based on Krischenko classification. Bottom panel shows the corresponding post-deployment angiographic pictures.

Présent

Outcomes of Surgical Ligation after Unsuccessful Pharmacotherapy for Patent Ductus Arteriosus in Neonates Born Extremely Preterm

Dany E. Weisz, MD, MSc^{1,2}, Lucia Mirea, PhD³, Maura H. F. Resende, MD⁴, Linh Ly, MD^{2,5}, Paige T. Church, MD^{1,2}, Edmond Kelly, MD^{2,5}, S. Joseph Kim, MD, PhD⁶, Amish Jain, MD, PhD^{2,5}, Patrick J. McNamara, MD, MSc^{2,4,7,8}, and Prakesh S. Shah, MD, MSc^{2,5,9}



Présent

Transcatheter Closure of Hemodynamically Significant Patent Ductus Arteriosus in 32 Premature Infants by Amplatzer Ductal Occluder Additional Size-ADOIIAS

Patrice Morville^{1*}  and Ahmad Akhavi²

Catheterization and Cardiovascular Interventions 90:612-617 (2017)

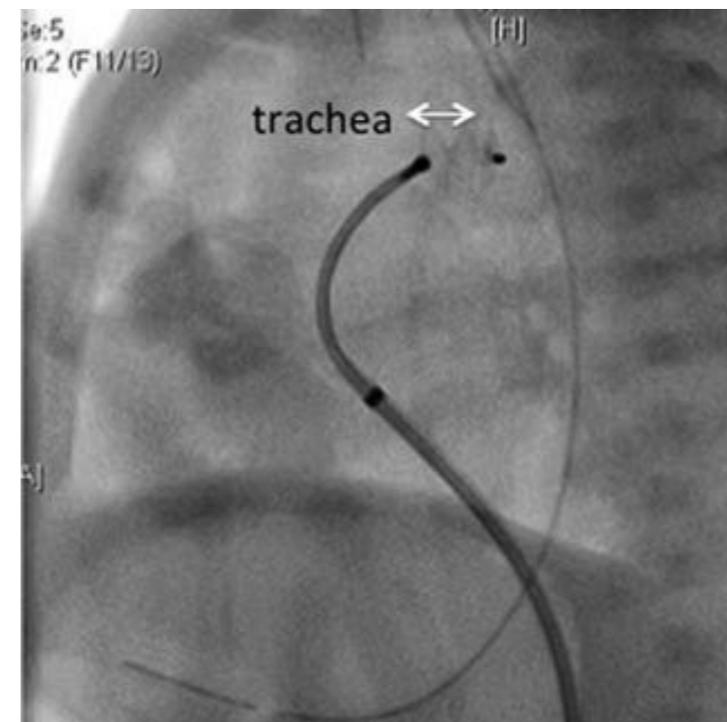
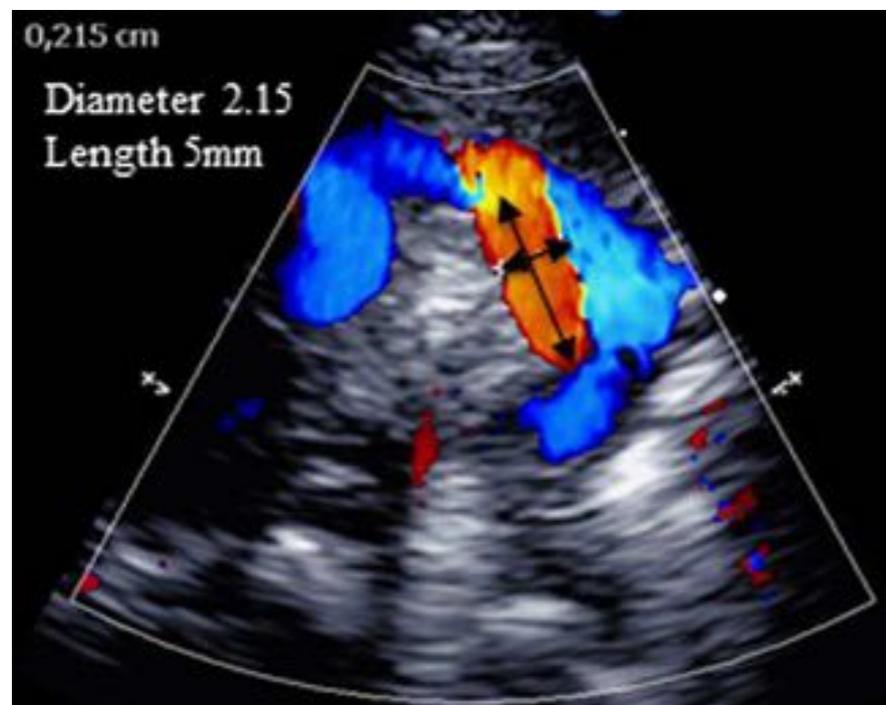


Fig. 2. Device positioning in lateral fluoroscopy.

Présent



Présent: The French Multicenter Data on Trans-catheter PDA closure in Premature infants

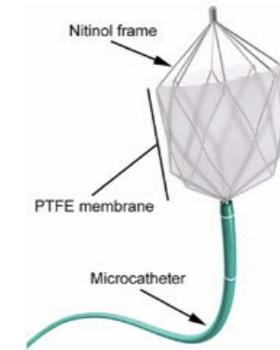
- 4 centres
- Données rétrospectives
- Septembre 2013 - Juin 2017
- Enfants prématurés
- Fermeture du PCA par cathétérisme

Results: Demographic data

	N	GA	BW	Procedural age	Procedural weight
> 2 kg	22	30.3+/-4.5	1458 +/-730	71 +/-32	2707 +/-413
>1 to 2 kg	59	26.5 +/-1.3	882 +/-195	32 +/-13	1334 +/-234
< or =1 kg	21	25.8 +/-1.4	682 +/- 110	22 +/-8	880 +/-105



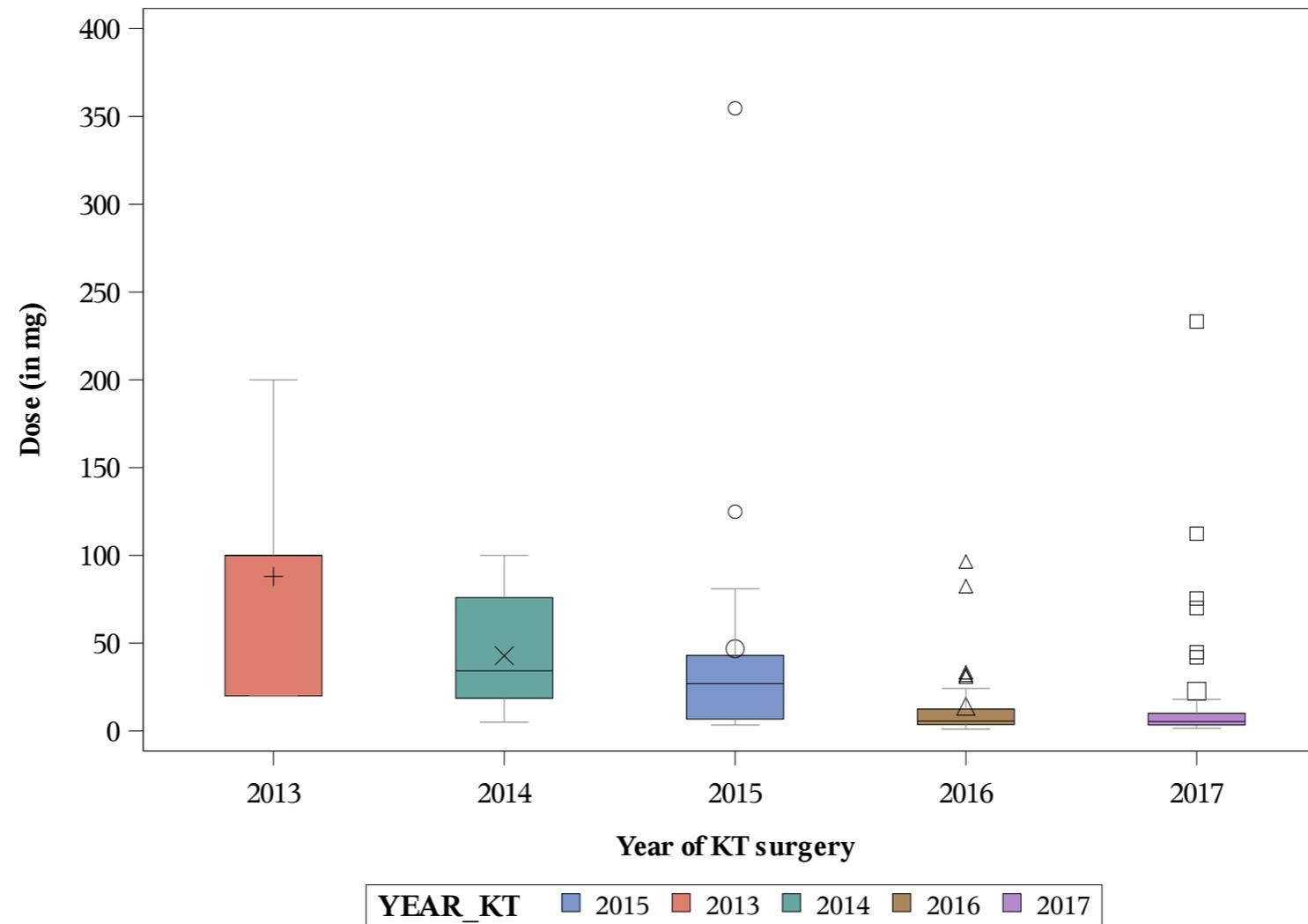
Procedural data



	PDA size	Fluoroscopy minutes	device	Dose mG	complications
Total	2.9 Pulm 3.2 Ao	6.5 minutes	MVP 10 ADO II AS 91 Coil 1	30 +/- 52	TR 3 Late CoA 1; Mild Ao obstr 1 LPA obstruction 3
> 2 kg	2.8 Pulm 3.6 Ao	6.9 minutes	MPV 4 ADO II AS 17 (5*2, 5*4, 5*6) Coil 1 1 sheathless	49 +/- 74	1 failure: too large, spontaneous closure 72h post procedure
1 à 2 kg	2.8 Pulm 3.1 Ao	6.5 minutes	MVP 4 ADO II AS 54 (4*2 et 5*2) 1 sheathless	29 +/- 49	LPA obstruction 3 TR 2
< 1 kg	3.2 mm	6.1 minutes	MVP 2 ADO II AS 19	11 +/- 9	Late CoA TR 1

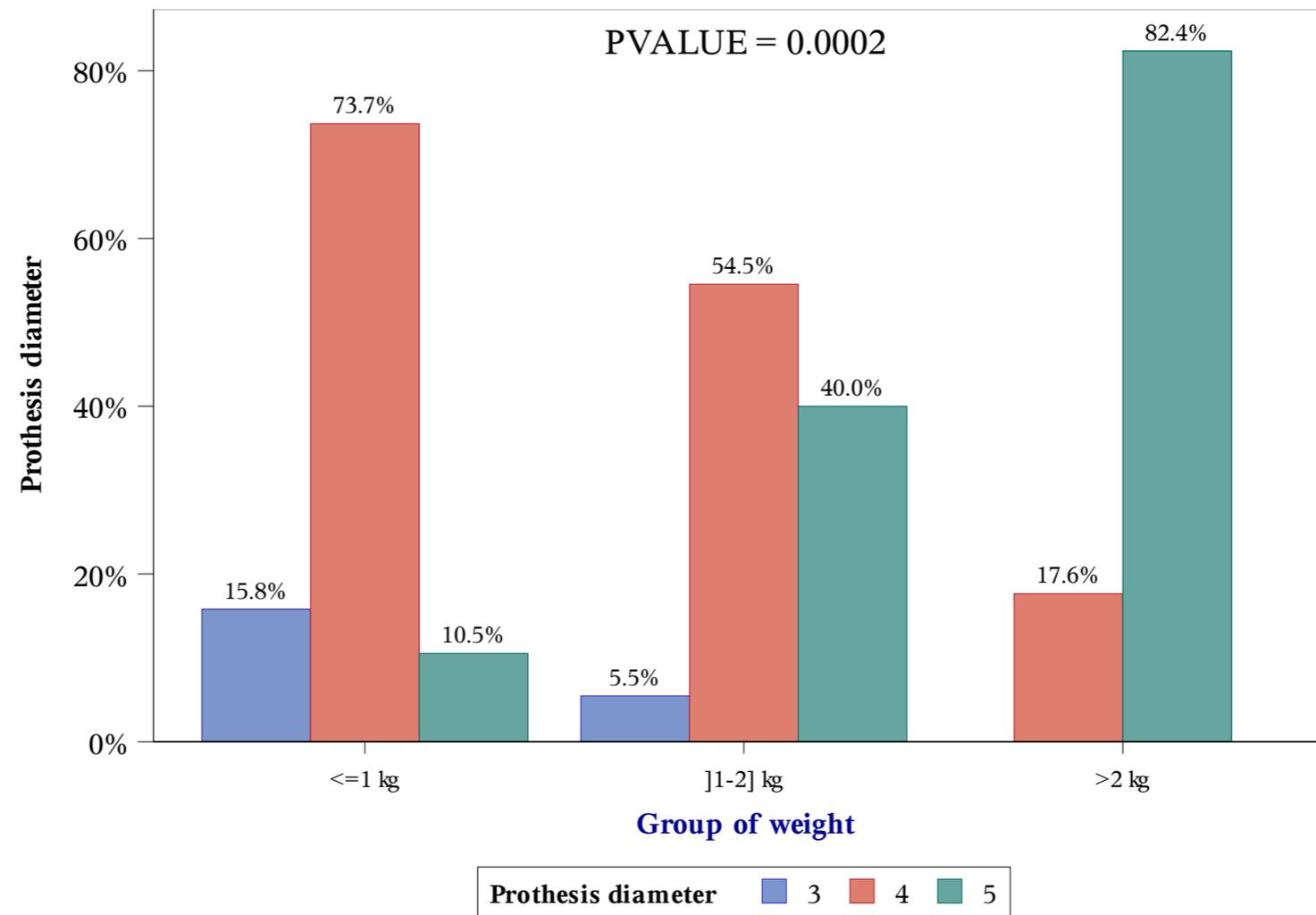
Résultats: irradiation

Radiation over the years



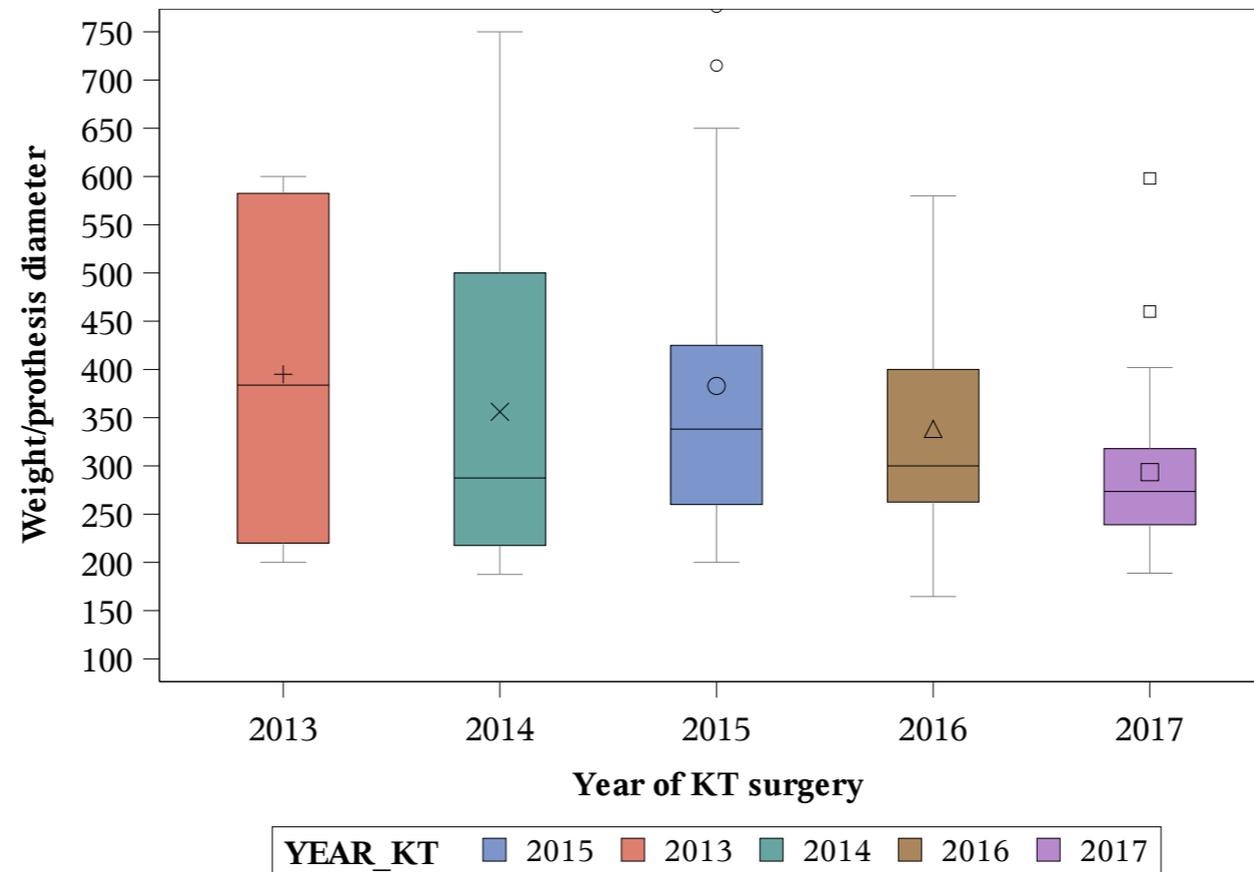
Résultats: devices

Categorized prosthesis diameter according to the weight birth group



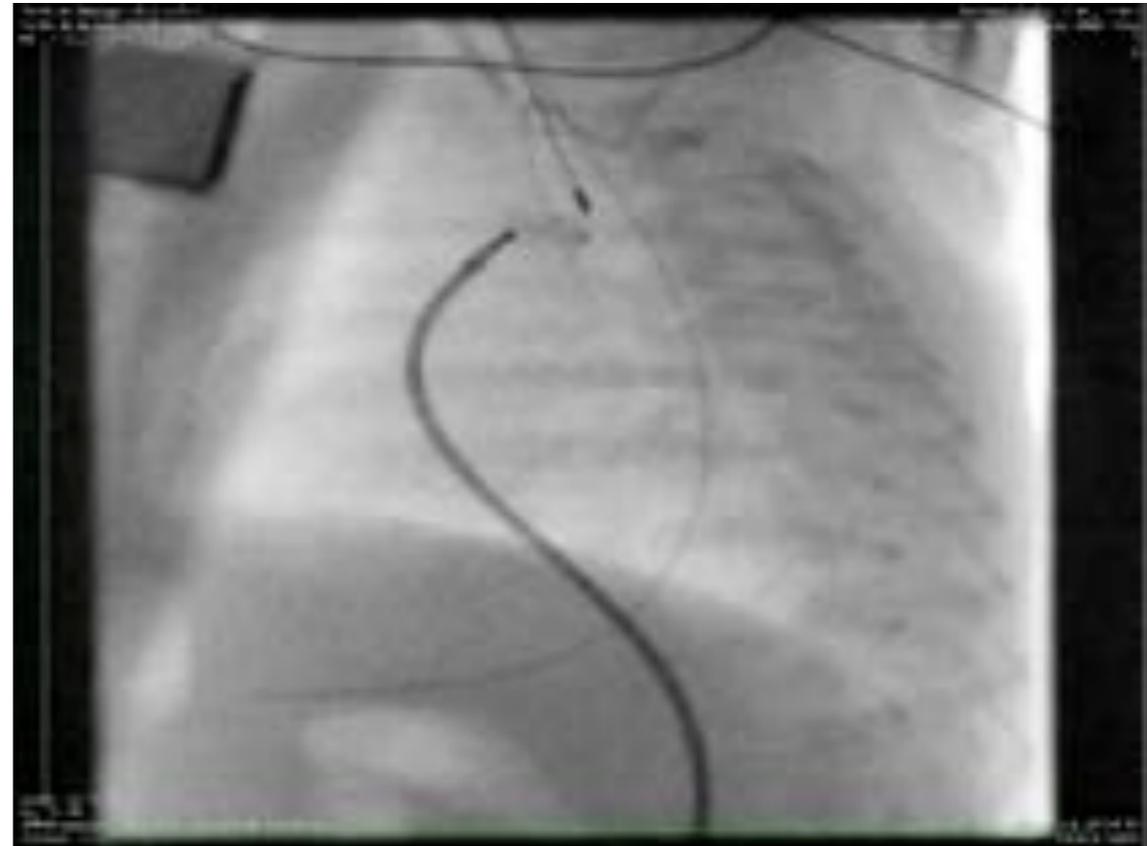
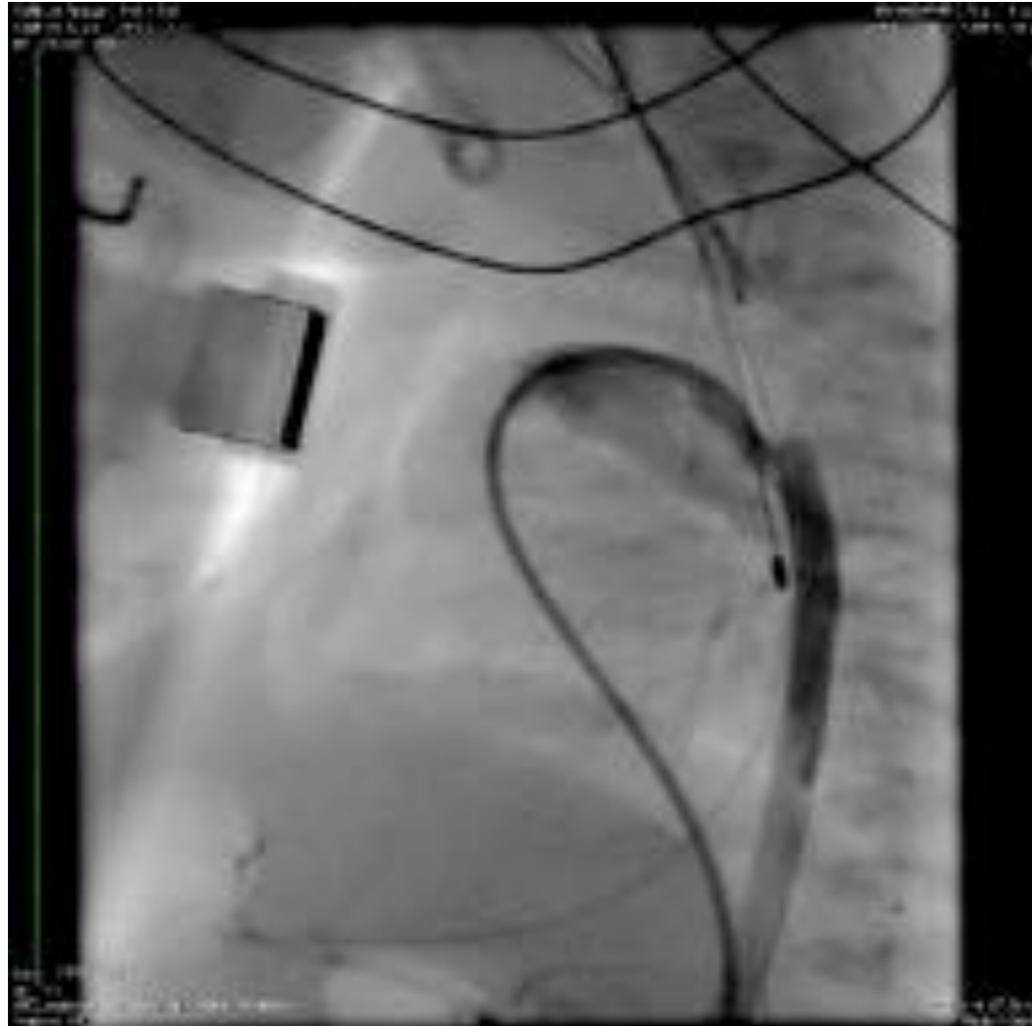
Résultats

Figure 1.5.8. Weight/prosthesis diameter according to the year of KT surgery



Plus petits bébés avec canaux plus larges

Présent



Results

- Succès 99%
- Complications: 2 occlusions APG traitées par chirurgie, 1 sténose APG traitée par KT, 1 coarctation dell'arte tardive traitée par chirurgie, 3 fuites tricuspides par rupture de cordage suivies, 1 accélération sur l'arc aortique suivie)LPA occlusions treated by surgery
- Décès: 7 non liés à la procédures (IRA, hémorragie cérébrale, hémochromatose, entérocolite, insuffisance respiratoire)

Présent: The French Multicenter Data on Transcatheter PDA closure in Premature infants

- plus large série
- taux acceptable de complication
- learning curve
- décès non liés à la procédure
- traitement de seconde ligne à la place de la chirurgie
- traitement de première ligne ????

Prémiclose

- Registre prospectif multicentrique
- Prématurés de moins de 2 kg
- Résultats de la procédure
- Evolution à 1 an
- Inclusions débutées

Futur

Surgical management of a patent ductus arteriosus: Is this still an option?

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^b Department of Newborn and Developmental Paediatrics, Sunnybrook Health Sciences Centre, Toronto, Canada

^c Division of Neonatology, Department of Paediatrics, Hospital for Sick Children, Toronto, Canada

Fermeture des canaux prématurés Gold standard
Fermeture des canaux Echo Guidés à la couveuse

Conclusions

- Prothèses résorbables
- Miniaturisation des systèmes de délivrances
- Fermeture sous IRM, sans Rx