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STENTS METALICOS EN NIÑOS PEQUEÑOS



- *CARLOS ZABAL*



¿Cómo deseamos el stent ideal para un pequeño?

- Que tenga buena fuerza radial.
- Que se mantenga un tiempo en posición y luego desaparezca.
- Que pueda ser fácilmente llevado a diámetro adulto.
- Que tenga bajo perfil.

Aún no lo tenemos

Lugares más comunes para stents metálicos

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ORIGINAL INVESTIGATIONS

Procedural Results and Safety of Common Interventional Procedures in Congenital Heart Disease

Initial Report From the National Cardiovascular Data Registry

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NCDR IMPACT Steering Committee





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TABLE 5 Coarctation Angioplasty and Stenting Procedures

	Total	Age <30 Days (Neonates)	Age 30 Days to 1 Year (Infants)	Age 1-18 Years (Children)	Age >18 Years (Adults)
No. of procedures*	671	12	267	300	92
Indication	670		266		
Resting gradient	351 (52.4)	6 (50.0)	166 (62.4)	158 (52.7)	21 (22.8)
Hypertension	143 (21.4)	1 (8.3)	17 (6.4)	70 (23.4)	55 (59.8)
Angio appearance	108 (16.1)	2 (16.7)	40 (15.0)	56 (18.7)	10 (10.9)
Ventricular dysfunction/failure	68 (10.2)	3 (25.0)	43 (16.2)	16 (5.3)	6 (6.5)
Pre-procedure systolic gradient, mm Hg	669		265		
	28.6 ± 17.4 25.0 (16.0-39.0)	24.3 ± 18.6 20.0 (13.0-33.5)	33.1 ± 19.6 30.0 (18.0-45.0)	25.7 ± 13.6 24.0 (16.0-33.0)	25.8 ± 19.0 20.0 (15.0-31.5)
Coarctation treated	670		266		
	663 (99.0)	12 (100.0)	266 (100.0)	294 (98.0)	91 (98.9)
Technique	663		266	294	91
Balloon	335 (50.5)	6 (50.0)	252 (94.7)	75 (25.5)	2 (2.2)
Stent	251 (37.9)	5 (41.7)	8 (3.0)	171 (58.2)	67 (73.6)
Both	77 (11.6)	1 (8.3)	6 (2.3)	48 (16.3)	22 (24.2)
Post-balloon systolic gradient, mm Hg	334	5	252	75	2
	11.3 ± 10.4 9.0 (4.0-16.0)	6.2 ± 5.8 5.0 (3.0-6.0)	11.1 ± 10.6 8.0 (3.0-16.0)	12.5 ± 10.3 10.0 (5.0-18.0)	4.5 ± 0.7 4.5 (4.0-5.0)
<10	170 (50.9)	4 (80.0)	131 (52.0)	33 (44.0)	2 (100.0)
>20	64 (19.2)	0	47 (18.7)	17 (22.7)	
Post-stent systolic gradient, mm Hg	251	5	8	171	67
	5.4 ± 10.9 2.0 (0.1-6.0)	4.8 ± 7.1 2.0 (0.1-5.0)	3.7 ± 4.2 3.0 (0.6-4.5)	4.7 ± 6.5 2.0 (0.1-6.0)	7.5 ± 18.3 2.0 (0.1-7.0)
<10	210 (83.7)	4 (80.0)	7 (87.5)	143 (83.6)	56 (83.6)
>20	15 (6.0)	0	0	9 (5.3)	6 (9.0)
Death					
Procedural	1	0	0	1 (vascular)	0
Episode of care	12 (7 cardiac)	2	8 (6 cardiac)	1 (vascular)	1 (cardiac)
AE (any)	663	17	258	296	8 (8.7)
	115 (17.3)	6 (35.3)	65 (25.2)	36 (12.2)	
MAE	667		258		
	8 (1.2)	3 (17.6)	1 (0.4)	3 (1.0)	1 (1.1)
Unplanned cardiac or vascular surgery	668	0	265	299	
	5 (0.7)		2 (0.8)	2 (0.7)	1 (1.1)

Values are n, n (%), mean ± SD, or median (interquartile range). *Number of procedures reporting this individual data element.

Angio = angiography; other abbreviations as in Table 1.



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TABLE 6 Pulmonary Artery Stenting Procedures

	Total	Age <30 Days (Neonates)	Age 30 Days to 1 Year (Infants)	Age 1-18 Years (Children)	Age >18 Years (Adults)
No. of procedures*	245	2	39	175	29
Indication					
Resting gradient	96 (39.2)	2 (100.0)	14 (35.9)	68 (38.9)	12 (41.4)
PA flow discrepancy	55 (22.4)	0	10 (25.6)	38 (21.7)	7 (24.1)
Angio appearance	44 (18.0)	0	4 (10.3)	37 (21.1)	3 (10.3)
RV dysfunction/HTN	39 (15.9)	0	10 (25.6)	25 (14.3)	4 (13.8)
Pulmonary insufficiency	11 (4.5)	0	1 (2.6)	7 (4.0)	3 (10.3)
RVSP/LVSP	151 0.6 ± 0.2 0.6 (0.5-0.7)	1 0.8 (0.8-0.8)	20 0.7 ± 0.2 0.7 (0.5-0.8)	114 0.6 ± 0.2 0.6 (0.5-0.8)	16 0.5 ± 0.2 0.5 (0.4-0.6)
No. of stenoses/procedure					
1	203	1	28	149	25
2	42	1	11	26	4
PA stenoses treated	287 285 (99.3)	3 3 (100.0)	50 50 (100.0)	201 201 (100.0)	33 31 (93.9)
Post-/pre-procedure minimal vessel diameter, mm	214 2.1 ± 0.9 2.0 (1.6-2.5)	2.8 ± 2.3 2.0 (1.0-5.3)	33 2.5 ± 0.8 2.6 (2.0-3.0)	153 2.1 ± 0.9 2.0 (1.5-2.5)	25 1.6 ± 0.6 1.6 (1.3-2.1)
PA side-branch jailing	286 30 (10.5)	1 (33.3)	49 2 (4.1)	24 (11.9)	3 (9.1)
Death					
Episode of care	3 (2 cardiac)	0	2 (1 cardiac)	1 (cardiac)	0
AE (any)	244 32 (13.2)	3 1 (33.3)	38 10 (26.3)	174 16 (9.2)	5 (17.2)
MAE	3 (1.2)	0	1 (2.6)	1 (0.6)	1 (3.4)
Unplanned cardiac or vascular surgery	1 (0.4)	0	0	1 (0.6)	0

Values are n (%), n, mean ± SD, or median (interquartile range). *Number of procedures reporting this individual data element.

LVSP = left ventricular systolic pressure; PA = pulmonary artery; RVSP = right ventricular systolic pressure; other abbreviations as in Tables 1, 2, and 5.



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Pediatr Cardiol (2015) 36:835–841

DOI 10.1007/s00246-014-1086-0

ORIGINAL ARTICLE

Catheter-Based Interventions for Modified Blalock–Taussig Shunt Obstruction: A 20-Year Experience

**Mathilde Bonnet · Jérôme Petit · Virginie Lambert ·
Philippe Brenot · Jean-Yves Riou · Claude-Yves Angel ·
Emre Belli · Alban-Elouen Baruteau**



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Catheterization and Cardiovascular Interventions 86:249–257 (2015)

PEDIATRIC AND CONGENITAL HEART DISEASE

Original Studies

Ten-Years, Single-Center Experience With Arterial Duct Stenting in Duct-Dependent Pulmonary Circulation: Early Results, Learning-Curve Changes, and Mid-Term Outcome

**Giuseppe Santoro,* MD, Gianpiero Gaio, MD, Luca Giugno, MD, Cristina Capogrosso, MD,
Maria Teresa Palladino, MD, Carola Iacono, MD, Giuseppe Caianiello, MD, and
Maria Giovanna Russo, MD**

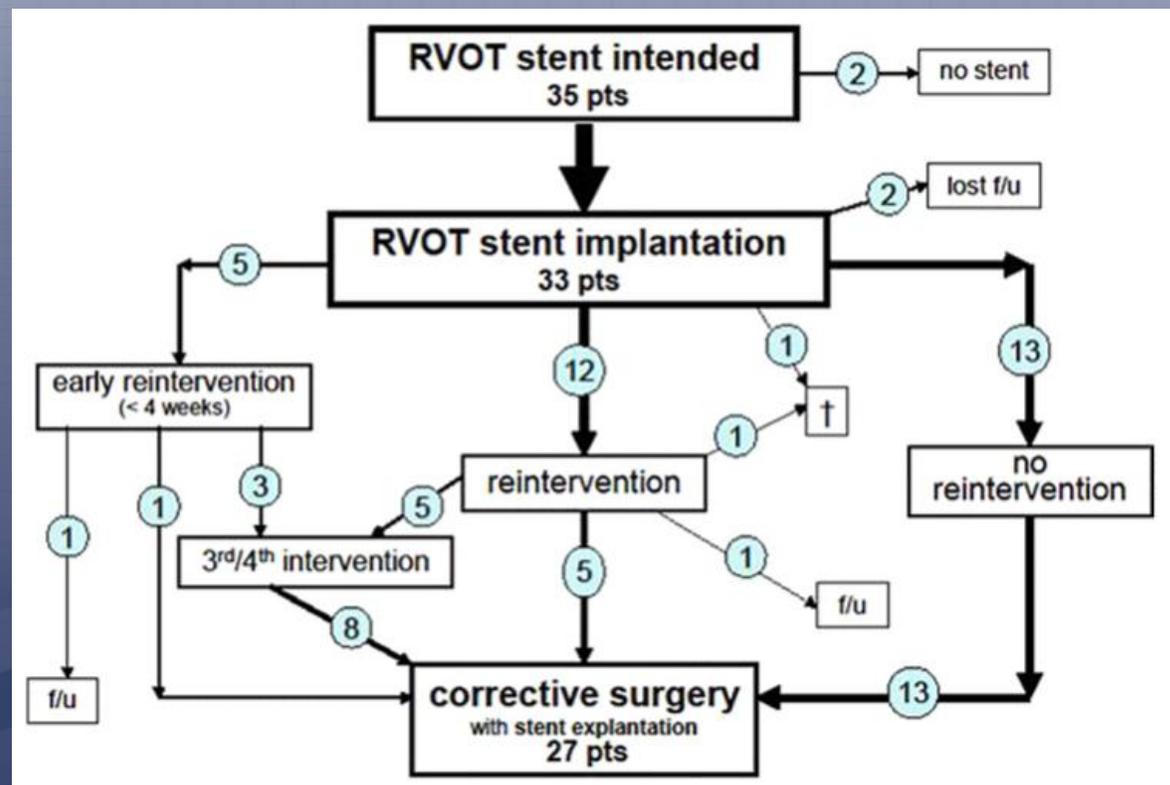
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STRUCTURAL HEART DISEASE

Stenting of Native Right Ventricular Outflow Tract Obstructions in Symptomatic Infants

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 GÖTZ MÜLLER, M.D.,¹⁰ and WALTER WIEBE, M.D.,¹¹ FOR THE INVESTIGATORS OF
 THE WORKING GROUP INTERVENTIONAL CARDIOLOGY OF THE GERMAN SOCIETY OF
 PEDIATRIC CARDIOLOGY



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Cardiology in the Young 2016; Page 1 of 6
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Original Article

Transcatheter stenting of the right ventricular outflow tract augments pulmonary arterial growth in symptomatic infants with right ventricular outflow tract obstruction and hypercyanotic spells

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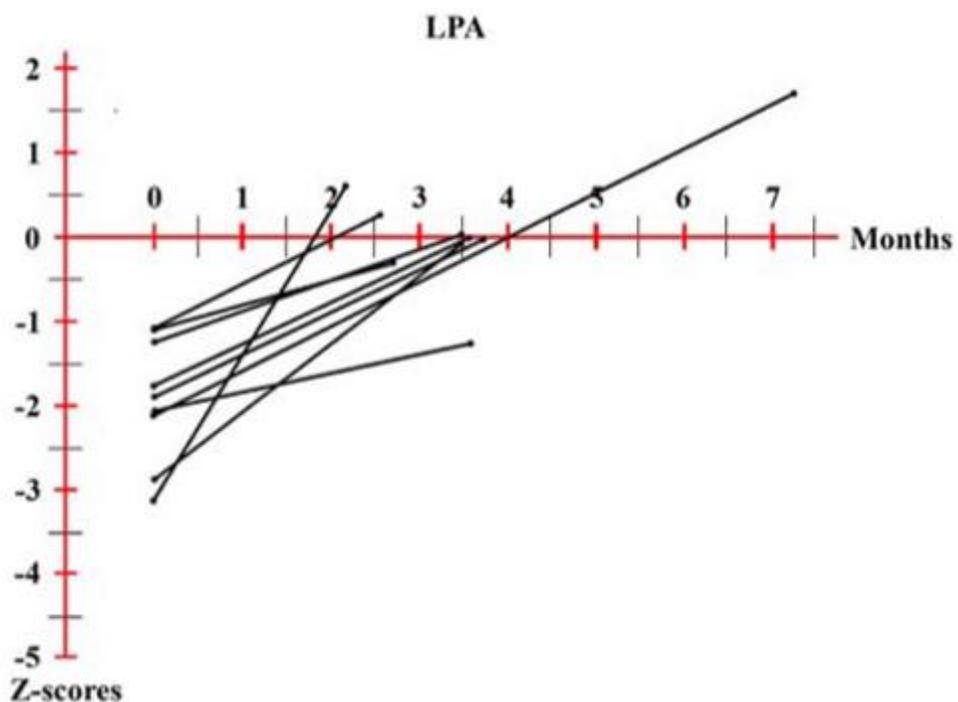


Figure 5.

Change in Z-score of the left pulmonary artery following stenting of the right ventricular outflow tract.

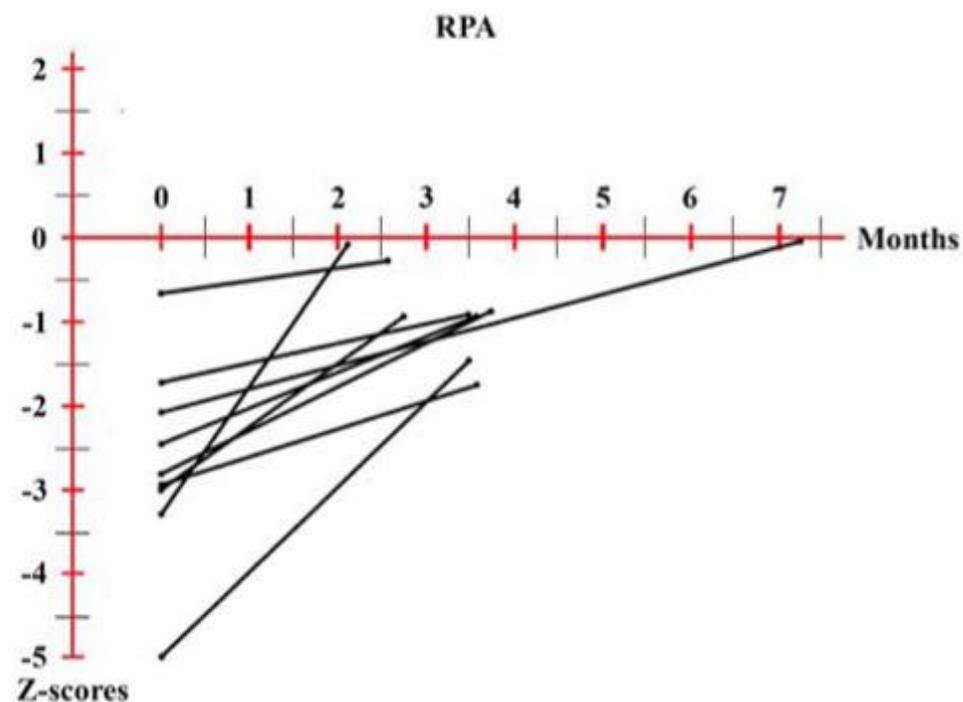


Figure 6.

Change in Z-score of the right pulmonary artery following stenting of the right ventricular outflow tract.



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STENTS METALICOS EN NIÑOS PEQUEÑOS

Nuestra experiencia

▣ 2003 – 2015

■ Coartación aórtica	3 (1 metálico)
■ Ramas pulmonares	15
■ Conducto arterioso	133
■ TSVD	22
■ Fístulas	4
■ VI Hipoplásico	9
■ Total	186



Lugares poco comunes para stents metálicos

Stenting of ventricular septal defects to retrain the left ventricle in patients with transposition of the great arteries and restrictive ventricular septal defect

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Rev Chil Pediatr. 2015;86(5):361-365



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CASO CLÍNICO

Tratamiento endovascular exitoso de aneurisma de aorta torácica secundario a infección de catéter de arteria umbilical en un recién nacido pretérmino



Evelyn Borchert^{a,*}, Guillermo Lema^a, Daniel Springmuller^b, Katia González^a, Win T. Chang^a, Rodrigo González^c y Francisco Garay^b

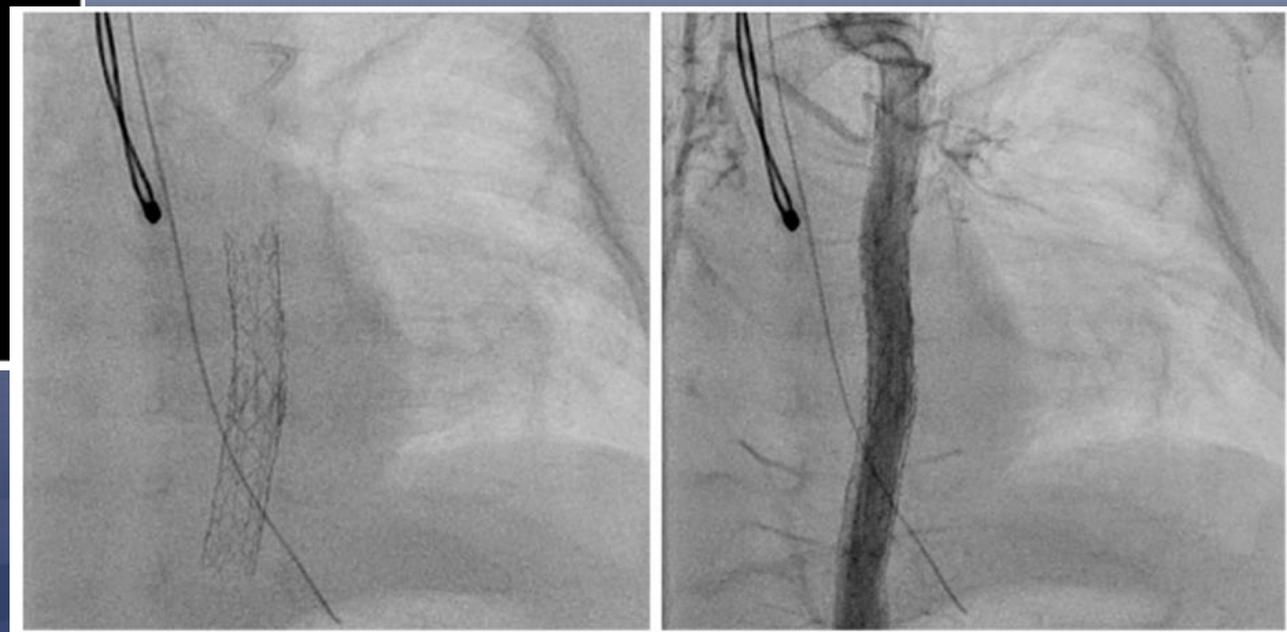


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STENTS METALICOS EN NIÑOS PEQUEÑOS

¡Nuevos desarrollos!

Catheterization and Cardiovascular Interventions 87:E143–E150 (2016)

PEDIATRIC AND CONGENITAL HEART DISEASE

Original Studies

A New Breakable Stent for Recoarctation in Early Infancy: Preliminary Clinical Experience

Jochen Grohmann,^{1*} MD, Matthias Sigler,² MD,
Matthias Siepe,³ MD, and Brigitte Stiller,¹ MD



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¡Nuevos desarrollos!

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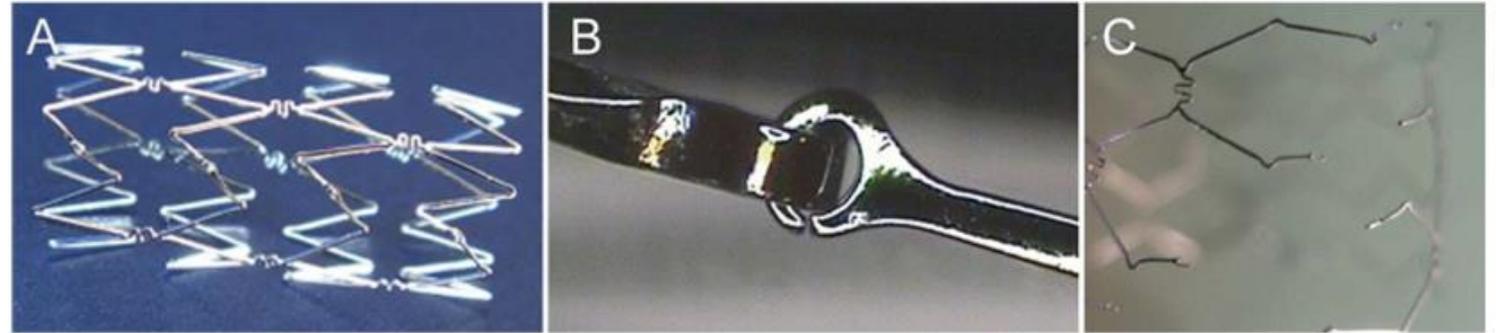


Fig. 1. The stent design includes elastic joints between the cells as well as hook and eye connections (A and B) which can be opened when the balloon's diameter exceeds 12 mm (C).

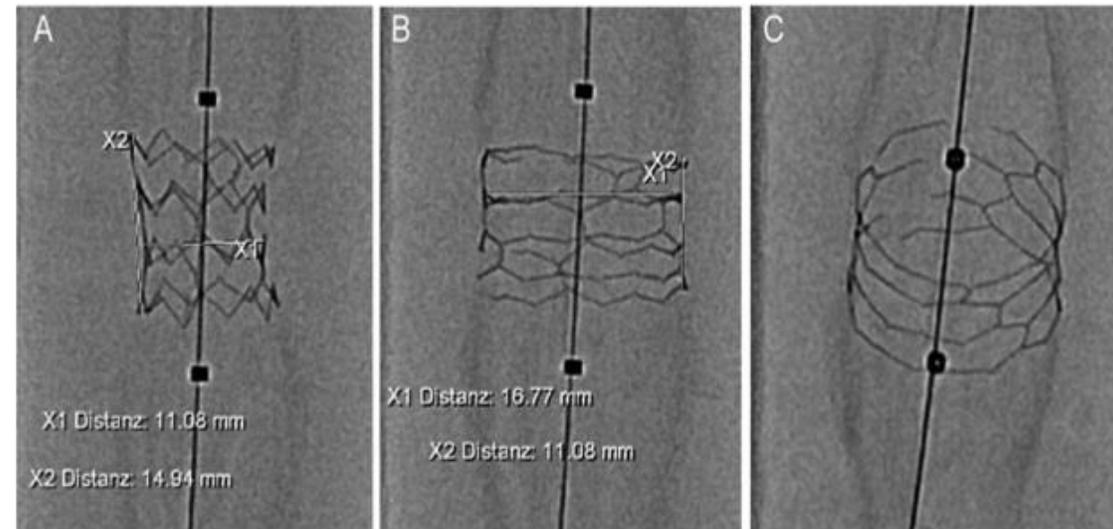


Fig. 2. (A) Bench test with the BabyStent dilated up to 11 mm. (B and C) Locking mechanisms of all the 4 strut rows opened after redilation with a noncompliant 18 mm balloon.



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