

성인 대동맥축착의 대동맥 풍선성형술 1예

정진옥 · 김윤철 · 성보영 · 김준경 · 정준용
류정곤 · 최시완 · 성인환 · 전은석

= Abstract =

A Case Report of Balloon Angioplasty for Coarctation of Aorta in Adult

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For the treatment of coarctation of aorta, surgical intervention has been known as a standard therapy. During last decade balloon angioplasty for coarctation of the aorta has been reported as a successful and safe procedure in about 300 cases. This angioplasty was done mainly in infants and children, and little cases in adults and adolescents.

A 22 year-old adult with coarctation of aorta have recieved balloon angioplasty. He visited to emergency room due to severe headache and the blood presure of arm was 240/130mmHg at emergency room. The blood pressure at ward was 168/92mmHg in upper extremities, 104/82mmHg in lower extrimities. His aortogram showed coarctation of thoracic aorta below left subclavian artery. The pressure gradient between ascending aorta and right femoral artery was decreased from 60mmHg to 0mmHg after balloon dilatation(2 times, balloon diameter 18mm). There were no significant complications. The follow-up magnetic resonance image in 4 month after balloon angio-plasty showed no evidence of restenosis or saccular aneurysm. Initial hypertension turned to normal blood pressure in 4 months after balloon angioplasty. This adult case of successful balloon angio-plasty for coarctation of aorta is the first case reported in Korea.

KEY WORDS : Coarctation of aorta · Balloon angioplasty.

foord Nylin¹⁾

서 론

가 segmental tubular

hypoplasia

40

1945 Cra -

2-4).

1982 Singer

15mg/dl, 42.8%,
6100/mm³, 162,000/mm³

⁵⁻⁸. Sanjay Tyagi ⁷)

22.6 35
26 1

6.7g/dl, 4.2g/dl,
AST 51 IU/L, ALT 29 IU/L Alkaline - phspatase
144 IU/L, BUN 5.1mg/dl, Creatinine 0.9mg/dl, Na⁺
145mEq/L, K⁺ 4.5mEq/L, Cl⁻ 109mEq/L AST
가

1990 15

X - rib notching

9),

가

1.5cm

focal, segmental luminal narrowing

, DSA 3.7mm

1

(Fig. 1). inte -

rnal thoracic a, thyrocervical trunk, costocervical
trunk가

증 례

: , 22

: ().

: 5

7F pigtail catheter

heparin 5,000units

1

가

240/

130mmHg, 80 / , 20 / , 36.

5

168/92mmHg, 164/92mmHg,

104/82mmHg, 104/82mmHg

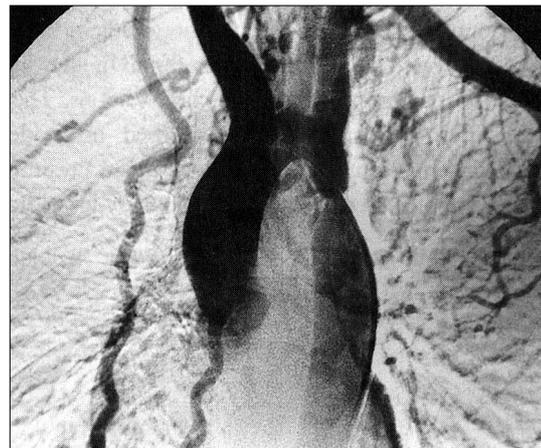


Fig. 1. Aortogram showed coarctation of thoracic aorta below left subclavian artery and collateral vessels such as internal thoracic artery, thyrocervical trunk, costocervical trunk.

J guide wire(0.032 inch, 145cm)

18mm balloon catheter 2

large vessel balloon catheter(15mm, 30mm, Mansfield)

morphine

(Fig. 2).

inflation indentation
deflation inflation deflation

60mmHg
가 (Fig. 3).
140/70mmHg, 136/74mmHg
130/68mmHg,
124/64mmHg



Fig. 2. Aortogram after balloon angioplasty showed no residual coarctation.



Fig. 4. Follow-up magnetic resonance image, 4 month after balloon angioplasty showed no restenosis and no saccular aneurysm.

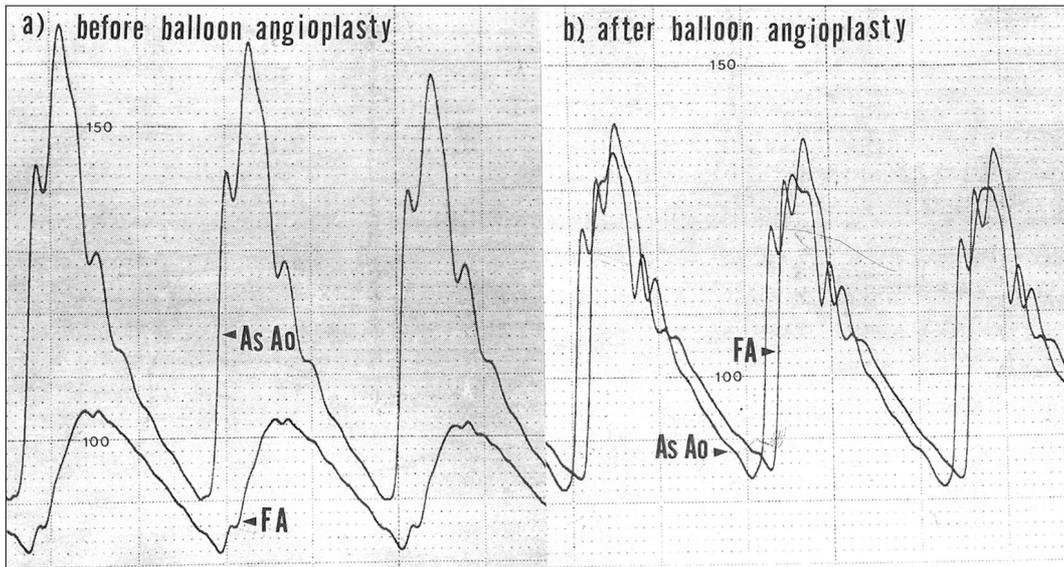


Fig. 3. The Pressure gradient between ascending aorta and femoral artery disappeared(60mmHg to 0mmHg) after single balloon angioplasty(a : double pressure tracing between ascending aorta and femoral artery, before balloon angioplasty. b : double pressure tracing after balloon angioplasty.). As Ao : ascending aorta, FA : femoral artery.

4
(Fig. 4),
고 안
가 segmental tubular
hypoplasia
5 9% 0.4
2% 10)
. 1 50%
1945 Crafoord 1)
sschulte, Waldhausen, Gross, Morris
(patch)
. Bergdahl²⁾
46% 가
300

Suarez ¹³⁾ 4
5 16 10
1 (6%) 가
controlled injury 가 1
, dila-
tation (uncontrolled damage)
가 ,
가
31% 6,14,15)
71.4% 16),
(older children, young adults)
^{13,17)} Rao ¹⁸⁾ 1
, aortic isthmus 가 ,
3.5mm ,
6mm 4가
가
. Sanjay Tyagi ⁷⁾
22.6 35
26 1
가 2 가 가
요 약
22
, ,
300

References

1) Crafoord C, Nylin G : *Congenital coarctation of the aorta and its surgical treatment. J Thorac surg 14 : 347, 1945*

- 2) Bergdahl L, Bjork VO, Jonasson R : *Surgical correction of coarctation of the aorta. Influence of age on late results. J Thorac Cardiovasc Surg* 85 : 532-6, 1983
- 3) Clarkson PM, Nicholson MR, Barratt-Boyes BG, Neutze JM, Whitelock RM : *Results after repair of coarctation of the aorta beyond infancy : A 10 to 28 years follow-up with particular reference to take systemic hypertension. Am J Cardiol* 51 : 1481-8, 1983
- 4) Presbitero P, Demarie D, Villani M, Perinatto EA, Riva G, Orzan F, Babbio M, Morea M, Brusca A : *Long term results (15-30 years) of surgical repair of aortic coarctation. Br Heart J* 57 : 462-7, 1987
- 5) Singer MI, Rowen M, Dorsey TJ : *Transluminal aortic balloon angioplasty for coarctation of the aorta in the newborn. Am Heart J* 102 : 131-2, 1982
- 6) Lock JE, Bass JL, Amplatz K, Fuhrman BP, Castaneda-Zuniga W : *Balloon dilatation angioplasty of aortic coarctation in infants and children. Circulation* 68 : 109-16, 1983
- 7) Tyagi S, Arora R, Kaul UA, Sethi KK, Gambhir DS, Khalilullah M : *Balloon angioplasty of native coarctation of the aorta in adolescents and young adults. Am Heart J* 123 : 674-80, 1992
- 8) Lababidi ZA, Daskalopoulos DA, Stoeckle H Jr : *Transluminal balloon coarctation angioplasty : experience with 27 patients. Am J Cardiol* 54 : 1288-91, 1984
- 9) 주찬웅 : 경피적 혈관 성형술을 이용한 대동맥축착 치험 1례. *순환기* 20(1) : 135-140, 1990
- 10) Park YJ : *Heart disease in Korea. 4* : 127, 1974
- 11) Kan JS, White Jr RI, Mitchell SE, Farmieth EJ, Danahoo JS, Gardner TJ : *Treatment of restenosis of coarctation by percutaneous transluminal angioplasty. Circulation* 68 : 1087-94, 1983
- 12) Cooper SG, Sullivan ID, Wren C : *Treatment of recoarctation : balloon dilatation angioplasty. J Am Coll Cardiol* 14 : 413-9, 1989
- 13) Suarez de Lezo J, Sancho M, Pan M, Romero M, Olivera C, Luque M : *Angiographic follow-up after balloon angioplasty for coarctation of the aorta. J Am Coll Cardiol* 13 : 689-95, 1989
- 14) Cooper RS, Ritter SB, Rothe WB, Chen CK, Griep R, Golinko RJ : *Angioplasty for coarctation of the aorta : long-term results. Circulation* 75 : 600-4, 1987
- 15) Morrow RW, Vick GW, Nihill MR, Rokey R, Johnston DL, Hedrick TD, Mullins CE : *Balloon dilatation of unoperated coarctation of the aorta : short-and intermediate-term results. Am J Cardiol* 11 : 133-8, 1988
- 16) Redington AN, Booth P, Shore DF, Rigby ML : *Primary balloon dilatation of coarctation of the aorta in neonates. Br Heart J* 64 : 277-81, 1990
- 17) Attia IM, Lababidi ZA : *Early results of balloon angioplasty of native aortic coarctation in young adults. Am J Cardiol* 61 : 930-1, 1988
- 18) Rao PS, Thapar MK, Kutayli G, Carey P : *Causes of recoarctation after balloon angioplasty of unoperated aortic coarctation. J Am Coll Cardiol* 13 : 109-15, 1989