

선천성 관동정맥루의 경피적 경도관 Coil색전 1례

조준식 · 김동수 · 서정기 · 장양수 · 김현승 · 이도연*

= Abstract =

A Case of Percutaneous Transcatheter Coil Embolization for Congenital Coronary Arteriovenous Fistula

Jun Sik Cho, M.D., Dong Soo Kim, M.D., Jung Ki Suh, M.D.,
Yangsoo Jang, M.D., Hyun-Seung Kim, M.D., Do Yun Lee, M.D.*

Department of Internal Medicine, Diagnostic Radiology,* College of Medicine,
Yonsei University, Seoul, Korea

We report a case of 70-year-old woman who had bilateral coronary arteriovenous fistula(CAVF) and treated with percutaneous transcatheter coil embolization. Enlarged LV and reduced global LV systolic function were demonstrated on transthoracic echocardiography. Coronary angiography revealed a large coronary arteriovenous fistula from the right coronary artery to the main pulmonary artery and a small fistula from the left coronary artery to the main pulmonary artery. Percutaneous transcatheter coil embolization for CAVF from the right coronary artery to the main pulmonary artery was successfully performed with symptomatic improvement.

KEY WORDS : Congenital coronary arteriovenous fistula · Percutaneous transcatheter coil embolization.

서 론

가 가 ,
, 1980 3-7,11,19)
(catheter)
(coronary arteriovenous fistula) 1865
Krause가¹⁾, 가 , 1
, (arteriocameral fistula) (arte - 가²⁰⁾.
rioventous fistula)
²⁾, 70
coil

증례

: , , 70 .
 :
 : 1
 가
 1 , 가
 (NYHA class II)
 가 :
 : 150/90mmHg,
 90 / , 20 / , 36.7 ,
 Grade 2 3
 :
 10,090/mm³, 13.3g/dl, 276,000/
 mm³ , 가 PH 7.467, PO₂ 76.5
 mmHg, PCO₂ 41.8mmHg, HCO₃ 29.8mmol/L, O₂
 saturation 95.7% ,
 X :
 :
 Dipyrindamole TI-201 scan :
 (TTE) :
 56mm, 66mm
 36mm ,
 38%
 Grade I

:
 77%, 77%, 72%,
 86%, 81%
 O₂ set up

(Fig. 1).

가 :
 , 10 coil

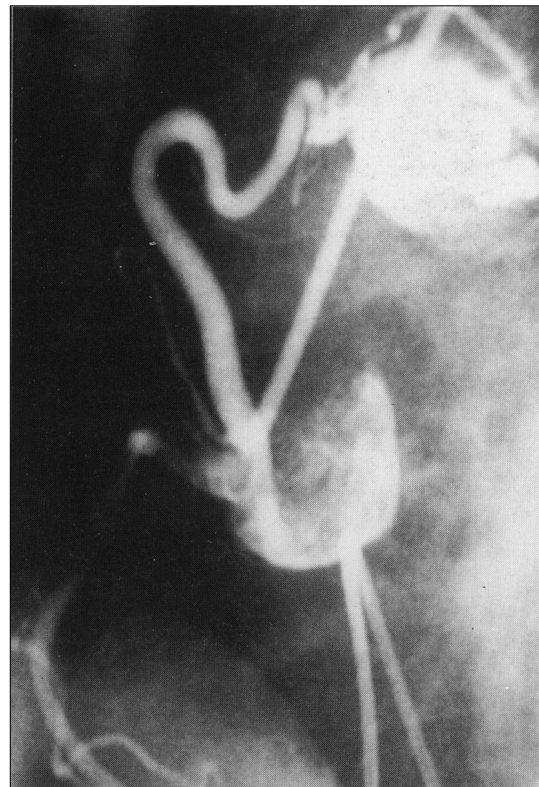


Fig. 1. Coronary angiogram (left anterior oblique view) shows a large arteriovenous fistula originating from the ostium of the right coronary artery and draining into the main pulmonary artery.

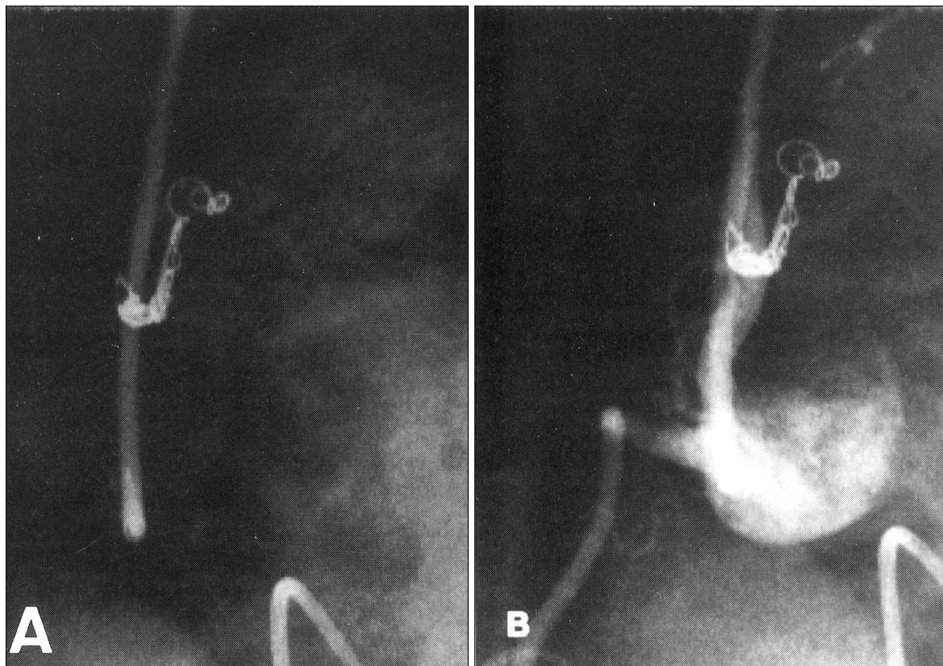


Fig. 2. A, B. Right coronary angiogram after embolization shows complete occlusion of the artery feeding the fistula and no flow from the fistula tract.

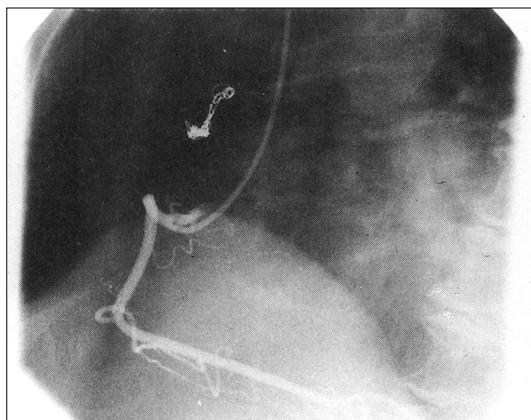


Fig. 3. 3 months later follow up right coronary angiogram shows intact position of coils and no flow in fistula tract.

5 × 2mm Tornado coil(Cook, Bloominton, IN, USA)

가

20 × 2mm(2), 30 × 3mm(1) Complex helical fibered platinum coil(Target therapeutics, Fremont, CA, USA) 4 × 2mm(1), 5 × 2mm(1) Tornado coil

가 (Fig.

2).

2

48mm, 60mm

42%

가

5

, 3

(Fig. 3).

8 French Jud-

kins right catheter

, 0.014 inch guidewire

Micro-Ferret infusion catheter

()

guidewire

고 안

0.2 0.25%

가 , coil
 가 , coil
 (feeding)
 가
 가
 coil
 20) coil
 interlocking detachable coil 11) contr-
 olled delivery platinum coil(CDC/MDC)
 23)
 guiding catheter guidewire
 7)
 가
 요 약
 70
 coil

References

- 1) Krause W : *Ber den Ursprung einer akzessorischen a. coronaria aus der a. pulmonalis*. Z Ratl Med 24 : 225, 1865
- 2) Levin DC, Fellow KE, Abrams HL : *Hemodynamically significant primary abnormalities of the coronary arteries*. Circulation 58 : 25-34, 1978
- 3) Reidy JF, Sowton E, Ross DN : *Transcatheter occlusion of coronary to bronchial anastomosis by detachable balloon combined with coronary angiography at the same procedure*. Br Heart J 49 : 284-287, 1983
- 4) Bennett JM, Maree E : *Successful embolization of a coronary artery fistula*. Int J Cardiol 23 : 405-406, 1989
- 5) Reidy JF, Anjos RT, Qureshi SA, Baker EJ, Jynon MJ : *Transcatheter embolization in the treatment of coronary artery fistulas*. J Am Coll Cardiol 18 : 187-192, 1991
- 6) Perry SB, Rome J, Keane JF, Baim DS, Lock JE : *Transcatheter closure of coronary artery fistula*. J Am Coll Cardiol 20 : 205-209, 1991
- 7) William OH, James CA, Douglas AN, David RH : *Per-cutaneous transcatheter embolization of coronary arteriovenous fistula*. Mayo Clin Proc 71 : 37-42, 1996
- 8) Baltaxe HA, Wixson D : *The incidence of congenital anomalies of the coronary arteries in the adult population*. Radiology 122 : 47-52, 1977
- 9) Rittenhouse EA, Doty DB, Ehrenhaft JL : *Cong. Coronary art. cardiac chamber fistula*. Am Thoracic surg 20 : 468, 1976
- 10) Liberthson RR, Sagar K, Berkoben JP, Weintruub RH, Levine FH : *Congenital coronary arteriovenous fistula : report of 13 patients, review of the literature and delineation of management*. Circulation 59 : 849-854, 1979
- 11) Qureshi SA, Reidy JF, Alwi MB, Lim MK, Wong J, Tay J, Baker EJ, Tynan M : *Use of interlocking detachable coils in embolization of coronary arteriovenous fistulas*. The Am J Cardiol 78 : 110-113, 1996
- 12) Wilde P, Watt I : *Congenital coronary artery fistulae : six new cases with a collective review*. Clin Radiol 31 : 301-311, 1980
- 13) St. John Sutton MG, Miller GA, Kerr IH, Traill TA : *Coronary artery steal via large coronary artery to bronchial artery anastomosis successfully treated by operation*. Br Heart J 44 : 460-463, 1980
- 14) McNamara JJ, Gross RE : *Congenital coronary artery fistula*. Surgery 65 : 59-69, 1969
- 15) Neufeld HN, Lester RG, Adams P, Anderson RC, Lillehei CW, Edward JE : *Congenital communication of a coronary artery with a cardiac chamber or the pulmonary trunk (coronary artery fistula)*. Circulation 24 : 171-179, 1961
- 16) Zuberbuhler JR, Dankner E, Zoltun R, Burkholder J, Bahnson HT : *Tissue adhesive closure of aorticpulmonary communications*. Am Heart J 88 : 41-46, 1974
- 17) Perry SB, Radtke W, Fellows KE, Keane JF, Lock JE : *Coil embolization to occlude aorticopulmonary collateral vessels and shunts in patients with congenital heart disease*. J Am Coll Cardiol 13 : 100-108, 1989
- 18) Issenberg HJ : *Transcatheter coil closure of a congenital coronary arterial fistula*. Am Heart J 120 : 1441-1443, 1990
- 19) 박승준 · 이영탁 : 선천성 관상동맥맥루의 외과적 치험. 대흉외지 28 : 180-182, 1995
- 20) 김혜순 · 김호성 · 노정일 · 최정연 · 윤용수 : 선천성

- 관상동맥누관의 정도자 색전 1례. 소아과학회지 40 : 730-734, 1997
- 21) Shubrooks SJ, Naggar CZ : *Spontaneous near closure of coronary artery fistula. Circulation* 58 : 197-199, 1978
 - 22) Hackett D, Hallidie-Smith KA : *Spontaneous closure of coronary artery fistula. Br Heart J* 52 : 477-479, 1984
 - 23) Wolf DD, Terriere M, Wilde D, Reidy F : *Embolization of a coronary fistula with a controlled delivery platinum coil in a 2-year-old. Pediatr Cardiol* 15 : 308-310, 1994
 - 24) Kuo C-T, Chiang C-W, Fang B-R, Lee C-P, Hsu T-S, Lee Y-S, Chang C-H : *Coronary artery fistula : Diagnosis by transesophageal two-dimensional and Doppler echocardiography. Am Heart J* 123 : 218-220, 1992