

# 환로씨 4장에서 폐동맥판막 풍선 성형술의 단기 결과

송진영 · 유정진 · 노정일 · 최정연 · 윤용수

## Tentative Results of Balloon Dilatation of the Pulmonary Valves in Tetralogy of Fallot

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### ABSTRACT

**Background :** Until now, the total correction of tetralogy of Fallot has remained controversial and the efficacy of balloon dilatation of the pulmonary valves in tetralogy of Fallot has not been confirmed. We tried balloon dilatation of the pulmonary valves in 9 patients with tetralogy of Fallot to evaluate its effect on oxygen saturation and pulmonary arterial growth. **Method :** In nine patients with tetralogy of Fallot was undergone balloon dilatation since 1992 until August in 1999. Before starting the procedure, we measured the diameters of the pulmonary annulus, both pulmonary arteries and descending aorta. Systemic oxygen saturation and shunt amount were also measured before and after the procedure and systemic oxygen saturation two months later. **Results :** The mean value of the pulmonary annulus diameters was  $5.36 \pm 1.12$  mm and their z-value was  $-4.0 \pm 1.4$ . The systemic oxygen saturation increased from a mean value of  $64.0 \pm 19.6\%$  to  $82.4 \pm 8.4\%$  right after the balloon dilatation and  $82.0 \pm 7.9\%$  two months later. McGoon ratio increased from a mean value of  $1.66 \pm 0.33$  before the procedure to  $1.91 \pm 0.37$  two months later. The mean value of shunt amount (Qp/Qs) was 0.52 before the procedure and 0.84 immediately after the procedure. Furthermore, there occurred no significant complication during and after the procedure. **Conclusion :** The balloon dilatation of the pulmonary valves in tetralogy of Fallot seems relatively safe and produces an immediate effect on cyanosis. And the procedure improves the growth of pulmonary arteries. However, further research and evaluation are needed. (**Korean Circulation J 2000;30(6):745-750**)

**KEY WORDS :** Tetralogy of fallot · Balloon dilatation of pulmonary valves · Transannular patch · Oxygen saturation.

### 서 론

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2240 가 transannular patch  
: (031) 910 - 7107 . : (031) 910 - 7108 가  
Email : amyjy@ilsanpaik.ac.kr 가 <sup>3)4)</sup>

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### 대상 및 방법

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(Fig. 1).

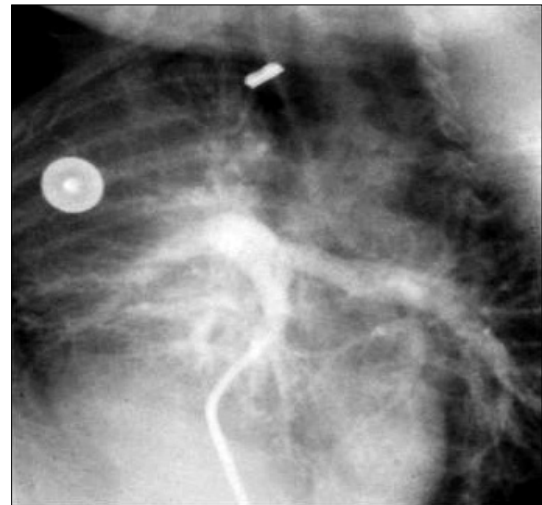


Fig. 1. Pre-Balloon cardiac contrast angiogram for RVOT and pulmonary arteries in TOF.

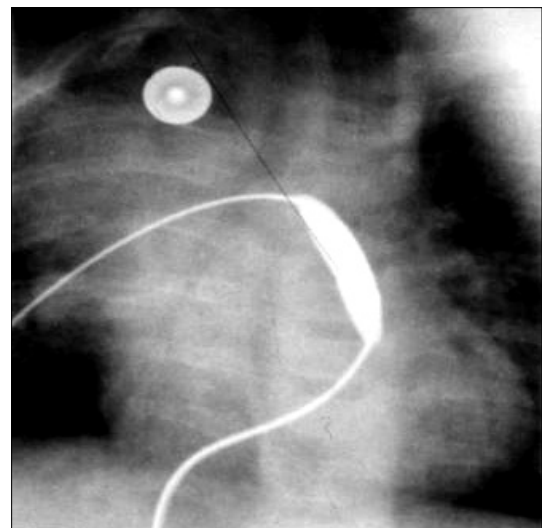


Fig. 2. Balloon valvuloplasty of the pulmonary valves in TOF.

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(Fig. 2).

25~50%

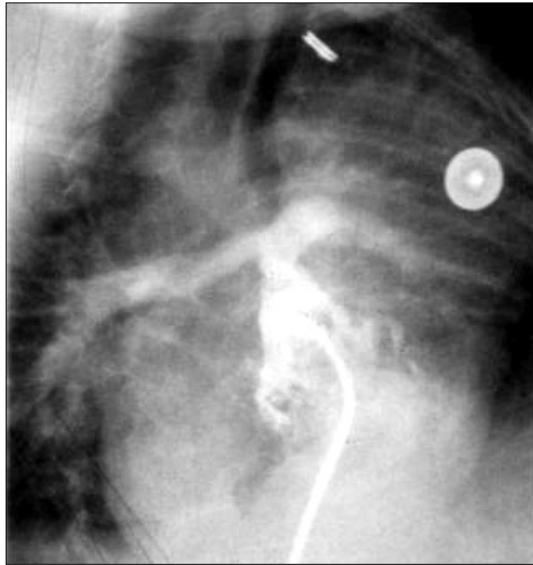
(Fig. 3).

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**Fig. 3.** Post-Balloon cardiac angiogram for RVOT and pulmonary arteries.

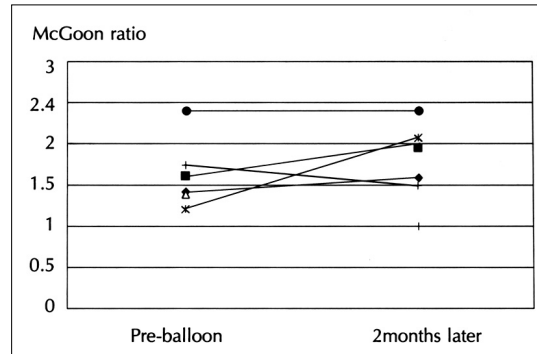
**Table 1.** The sizes of the pulmonary annulus and balloon used in balloon dilatation (P-annulus : pulmonary annulus)

Case	BSA (m <sup>2</sup> )	P-annulus (mm)	z-value	Balloon/annulus
1	0.21	3.5	- 5.0	1.71
2	0.43	5.0	- 5.5	2.00
3	0.26	4.0	- 5.0	1.50
4	0.27	5.7	- 2.5	0.88
5	0.24	6.5	- 1.2	0.92
6	0.37	5.5	- 4.3	1.45
7	0.36	6.0	- 4.8	1.33
8	0.34	5.0	- 4.5	1.60
9	0.45	7.0	- 3.3	1.14

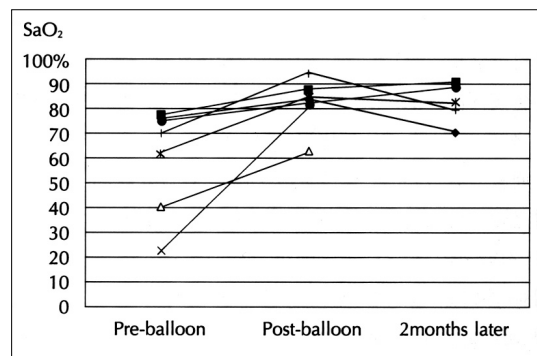
## 결 과

9 5 4  
4.6 (4.6 ± 3.5 )  
0.33(0.33 ± 0.08) m<sup>2</sup>  
2  
1  
Blalock - Taussig(B - T)  
(AVSD) 4

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**Fig. 4.** The difference between McGoon ratios of pre-balloon and those of two months later.



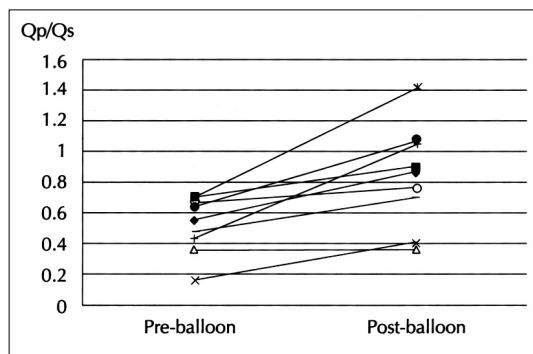
**Fig. 5.** The changes of systemic oxygen saturation.

conus  
5.36 mm  
± 1.12 mm(3.5~7.0 mm)  
z - value - 4.0 ± 1.4  
( - 5.5 ~ - 1.2) 2 - 3.0

가가

1.39  
1 2 1  
(Table 1).

McGoan ratio  
1.66 ± 0.33 2 5  
McGoan ratio 1.91 ± 0.37



**Fig. 6.** The difference of Qp/Qs between pre-balloon and post-balloon.

(Fig. 4).  
 $64.0 \pm 19.6\%$  82.4  
 $\pm 8.4\%$  2  
 $82.0 \pm 7.9\%$   
 (Fig. 5).  
 (Qp/Qs)  
 0.52 0.84 가 (Fig. 6).

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trans -

annular patch 가  
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 8 - 15) 36~100%  
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 22) 1983 Lababidi <sup>23)</sup> 4  
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McGoon ratio 가  
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z - value가 - 3 transannular 2  
patch 가  
- 3 z - value 가 4 결 과 :  
가 transannular patch  $5.36 \pm 1.12$  mm  
z - value -  $4.0 \pm 1.4$   
64.0  $\pm$  19.6% 82.4  $\pm$  8.4% 가  
(29) 2 82.0  $\pm$  7.9%  
4 McGoon ratio 1.66  $\pm$  0.33  
2 1.91  $\pm$  0.37  
0.52  
4 0.84

결 론 :

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중심 단어 :

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