



1

2

3

6

44

21 22 ( 39.9 )

26 - 73 ( )

( > 6 mm)

217 (31 - 267 )

22 ( 20 , 2

7 (33.3%), 9 (42.9%) 가 16 (76.2%)

5 (23.8%),

9 (42.9%), 가 3 (14.2%), 9 (42.9%)

2 , snare

(Pelvic congestion syndrome, PCS  
 ) 1949 Taylor (1)  
 6

가  
 (varicocele)

(2).

1  
 2  
 3

가 PCS

가 PCS (engorgement) . 11

Valsalva PCS

rating system 가 simple pain

(3-9).

PCS 가

21 3 (14%)

, 13 (62%) , 5 (24%)

5F Cobra catheter(Cook, Bloomington, Ind, U.S.A.)

1998 11 1999 12

44 PCS PCS

21 (draining site) Valsalva

26-73 (

39.9 ) 22

19 , 1 1

PCS 가



**Fig. 1.** Selective left ovarian vein venography in a 35-year-old woman with moderate pelvic pain.  
**A.** Free reflux of contrast media into the dilated left ovarian vein (11 mm in diameter) is noted.  
**B.** The pelvic venous plexus(arrow) is severely engorged and extends to contralateral side.

20 , 20 - 39 , 40

PCS

(Fig. 1). 21

2

가

6 mm

가

가 , 20

coil( : 0.035 - 0.038 inch, : 5 - 15 mm, Cook, Bloomington, Ind, U.S.A.)



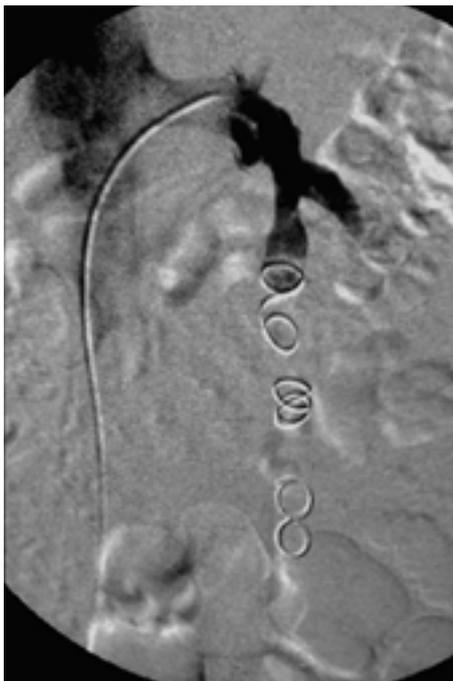
A

B

**Fig. 2.** Successful ovarian vein embolization using six large coils.

**A, B.** Selective left ovarian venography with Valsalva method shows opacification of dilated left ovarian vein (small arrows), congestion of pelvic venous plexus and contralateral filling (arrows).

**C, D.** Multiple large coils are stepwise placed in left ovarian vein with caudocranial direction and venography immediately after embolization represents complete occlusion of the left ovarian vein, without contrast opacification of embolized ovarian vein.



C

D

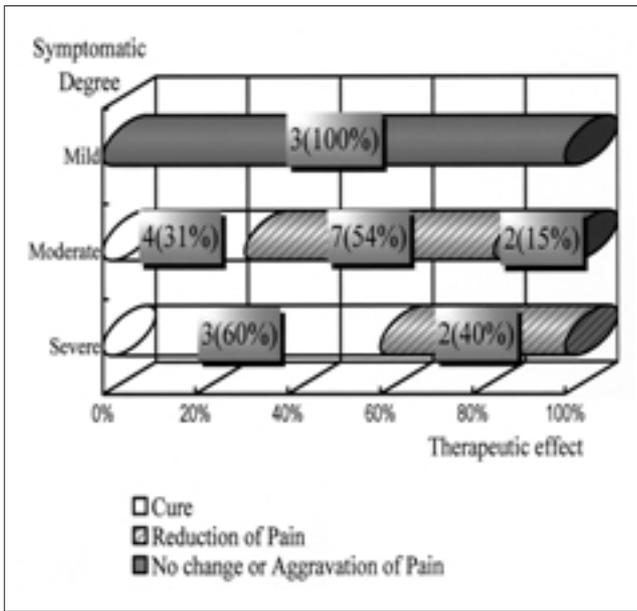


Fig. 3. Therapeutic effect of coil embolization.

2). coil 3 - 8 5.8 . (Fig. 2 cm)

4 2 - 4 217 (31 - 267 ) 가 Chi - Square ( $p < 0.005$ ). 가

가 가 가 22 ( 20 , 2 ) 가 ( : 100%). 2 - 4 가 5 2 2 1 cm . 1 .

21 ( 가 7 ) 217 ) (33.3%), 9 (42.9%) 가 16 (76.2%) . 가 5 (23.8%) 1 가 5 (24%) 3 (67%) 2 (33%) . (Fig. 3). 가

Chi - Square test ( $p < 0.001$ ). 가 9 (42.9%), 가 3 (14.2%), 9 (42.9%) . 2 (9%) . 1 , 2

snare , 6 10 - 30% (3). , , , (myofascial pain), (chronic pelvic pain syn - drome) 가 가 가 1854 Richet가 , 1928 Cotte , 1949 Talyor PCS (1, 10). 91%

(reproductive age)

(2). 가

가

가

1993 Edwards

(4)

PCS가

68 - 90%

가

. Capasso

(5) 19

enbucrilate

macrocoil

15.4

73.7%

가

(11).

가

. Maleux

(6) 32

(12).

15%, 6%

enbucrilate

lipiodized oil

68%

19.9

PCS

가

. Tarazov

(7) 1 - 4

(13). PCS가

Gianturco steel coil

6

PCS

4

. Cordts

(3) 9

가

80%

13.4

Beard (11)

40 - 100%

PCS

2

6

22

가

PCS

. PCS

21

7

76%

(non - pulsatile),

가

가

가

(14).

PCS

(15).

PCS

10 mm

3 - 4

14.2%

(14).

가

Valsalva

(transuterine

venography)

scoring system

가

가

PCS

22

2

snare

5 mm

PCS

(10, 16).

(4).

:

가 가

(8).

PCS

. Capasso (5)

가

. Maleux (6)

가

가

가

가

가

가

가

가

metallic coils,

detachable balloon, enbucrilate, absorbable gelatin sponge

, sclerosing agents, hot contrast media

가

가

(4).

가

가

가

가

가

가

가  
PCS

6

PCS

가

가

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## Transcatheter Ovarian Vein Embolization for Pelvic Congestion Syndrome: Short-Term Outcome<sup>1</sup>

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**Purpose:** To evaluate the short-term therapeutic effectiveness of ovarian vein embolization using coils for pelvic congestion syndrome (PCS), a common cause of chronic pelvic pain, and to determine patient satisfaction.

**Materials and Methods:** Forty-four multiparous women aged 26 - 73 (mean, 39.9) years in whom chronic pelvic pain due to unknown causes had lasted for more than six months, and whose gynecologic findings and laboratory data suggested PCS, underwent transabdominal or transvaginal ultrasonography and selective ovarian venography. PCS was finally diagnosed in 21 of the 44, who underwent 22 ovarian vein embolizations (in one case, bilaterally). The simple pain rating system was used at admission, with a 'minimal' or 'moderate' grade representing discomfort in daily life, and 'severe' indicating the need for medication. Indications for coil embolization included dilatation of the ovarian vein to a diameter of more than 6 mm, reflux involving an incompetent valve, congestion of the pelvic venous plexus (involving the stasis of contrast media), and/or opacification of the ipsilateral internal iliac vein (or contralateral filling). Embolizations were undertaken using coils of optimal size and number, and the mean follow-up period was 217 (31 - 267) days. By means of a telephone questionnaire, the outcome was classified as a cure, pain reduction, or 'no change, or aggravation', and on the basis of whether or not they would opt for the same treatment, or recommend embolization to others, patient satisfaction was graded as 'substantial', 'moderate', or 'absent'.

**Results:** Venous occlusion was confirmed at postembolization venography in all 22 cases. Clinical treatment led to symptomatic relief in 76.2% of patients a cure in 33.3% (7/21), pain reduction in 42.9% (9/21) and no change, or aggravation, in 23.8% (5/21). Eighteen patients (85.8%) were very (9/21, 42.9%) or moderately (9/21, 42.9%) satisfied with coil embolization. In two, the coil migrated, and was successfully retrieved using a snare loop.

**Conclusion:** In this study, ovarian vein embolization using coils for PCS appeared to be both safe and effective in controlling pain. If other causes of pelvic pain are absent, it is thought to be a valuable alternative to surgical procedures.

**Index words :** Veins, ovarian  
Pelvic organs, interventional procedure  
Venography, technology

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