

가

1

2

3

4

5

가 ,

가

50 가

. 27 24 3

. 23 3 Stanford A

, Stanford B 20 4 , 8 , 8

12 F

20 mm 34 mm

1 3-6

50 49 (98%) , 1

1 (entry tear)가

49 3 (entry tear)

CT 가 (false lumen) 가 1

(endoleak) (primary success rate)

92% (46/50)

7 , 5 12

19 9 가

12F 가 1

1 (Behcet syndrome) 1

가 가

9.4 (2-26)

가 가

가

1
2
3
4
5

가

(10, 11).

90% (1, 2).

가

3 - 5% 40 - 50% (2). 가

40 - 60% 가 ,

가 (1). 가

(stent - graft)가 ,

가

(3 - 11).

가 (12 - 14).

가 . 1991 Parodi (6) , , (graft - stent), (

(S&G Biotech, , Fig. 1). 가 ,

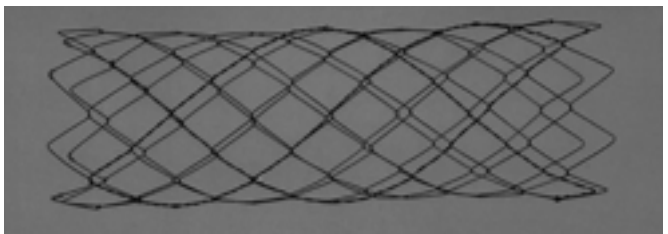
가 80 ultra - thin Dacron (Kitamura, Tokyo, Japan) 5 mm

가 18F 27F strut (1가)

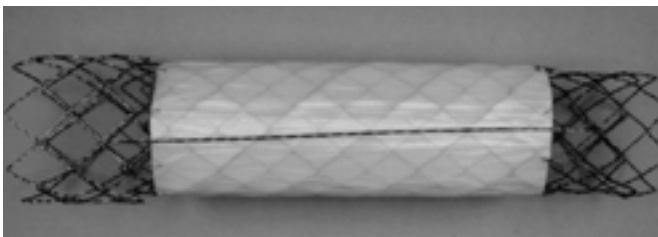
2



A



B



C

Fig. 1. Components of a 34 mm × 10 cm separate stent-graft.
A. A proximal stent, with a synthetic polyester graft, and a distal stent.
B. Inner bare stent.
C. Assembled separate stent-graft. The graft is fully expanded by the inner bare stent.

가 가 가 80 58.6 가 38 , 가 31
 12 . (length of proximal
 neck) 15 mm proximal neck (angu-
 lation)가 60 ,
 (entry tear)
 15 mm
 (15). 가
 가
 , 2 5 cm 가 가 (5 mm/)
 4 (S&G Biotech, , Fig. 가 가 6 cm ,
 2). (ret-
 rograde dissection) Stanford A
 27 24 3
 16 가
 , 5 가 ,
 1 2 .
 가 , 가 14 13
 120 mmHg , 1 13 2
 가 , 가 가 가 2
 가 가 가 가 2 4
 2000 1 2001 12 , 12 , 23
 50 , 1 . 23 3
 Stanford A , Stanford B

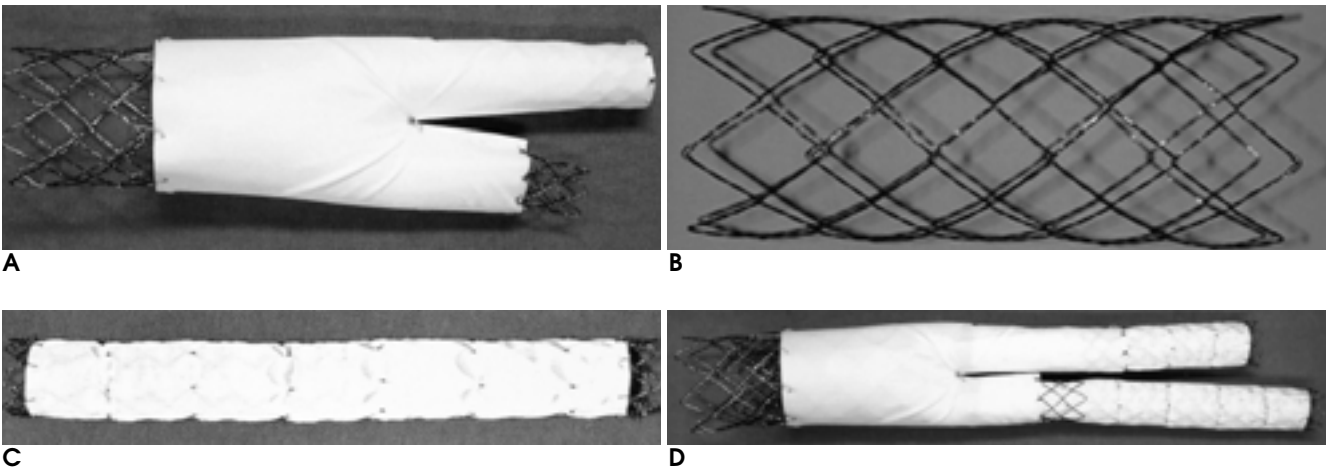


Fig. 2. Bifurcated separate stent-graft consists with 4 separate bodies. Unsupported bifurcated graft-stent (A), inner bare aortic stent (B), and two limb stent-grafts (C). D. Assembled bifurcated separate stent-graft.

가
 :
 20 mm 4 , 8 , 8 , 18 G angiocath
 , 0.035 inch
 mm 가 , 20 mm 34 (Radiofocus, Terumo, Tokyo, Japan)
 cm 15 cm 가 , 5 6 F
 , 1 cm
 5F pig - tail (Cook, Bloomington, IN, U.S.A.)
 1
 10 - 20% , 20 mL 40 mL (Visi - paque,
 Amersham health, Cork, Ireland)
 ,
 3 - 6 (CT) 1 (digital subtraction angiography) 1 3 - 10
 , 가 .
 , lidocaine 5 F pig - tail

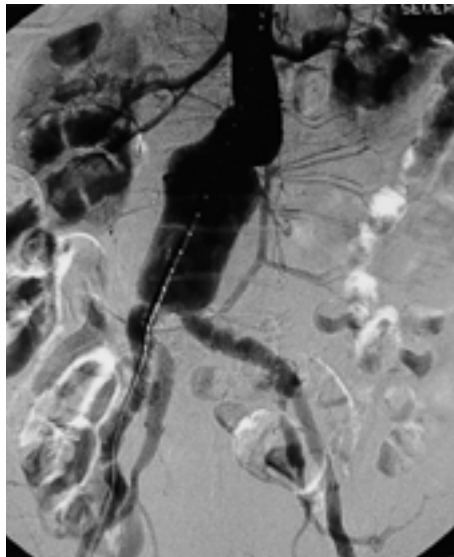
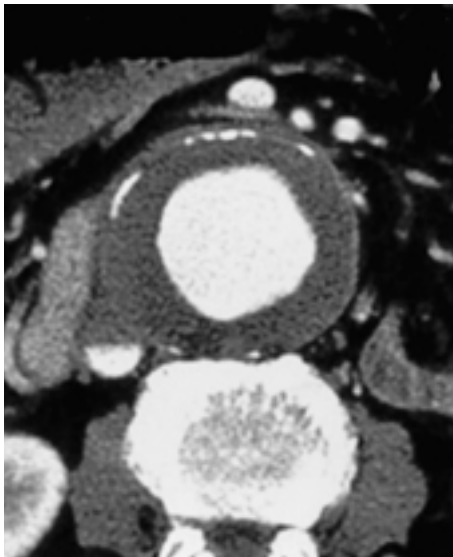
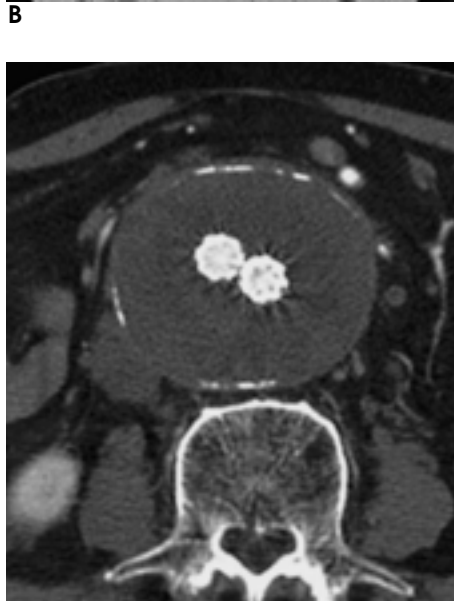
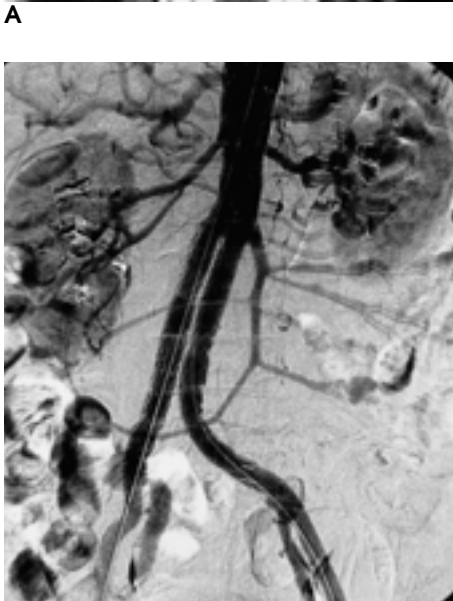


Fig. 3. 86-year old male patient with abdominal aortic aneurysm. Preinterventional computed tomography (A) and aortography (B) demonstrate an infrarenal abdominal aortic aneurysm involving the aortic bifurcation. C. Completion angiography immediately after deployment of a bifurcated separate stent-graft shows complete exclusion of the aneurysm from the circulation and restoration of the aortic lumen. D. Follow-up computed tomography after 3 months confirms complete exclusion of the aneurysm with absence of contrast medium within the aneurysm sac.



가 5 F multipurpose (Cook, Bloomington, IN, U.S.A.) 22 가 (false lumen) 10
 . Heparin 5,000 U 0.035 inch graft - , 1 , 8 가
 stent가 (12 F) graft - . 가 3 1 가
 , graft - stent 가 , 2 가 가
 . , 가 1 , 27 가 7
 5 F 가 가 6 , 가 15
 Minn, U.S.A.) 15 cm 12 F 12F (Daig, Minnetonika, 가 12 F 가 1
 , 1 1 가 가 2
 가 1 가 가 가
 50 49 (98%) 가 1 12
 1 Stanford B 가 4
 (claudication) (true lumen)
 (entry tear)
 가 . Dacron
 polytetrafluoroethylene (PTFE) 가 , , ,
 49 9.4 (3-11).
 (2-26) , 3 CT 가 , 가
 (entry tear) 가 가 1 가 , 가
 (endoleak) . ,
 92% (46/50) .
 . 1 3 2 가 .
 (lesser cur -
 vature side) Boston
 (flexability) Scientific Vanguard III system, COOK Zenith sys -
 (introducer) . 1 tem, Medtronic Talent system AneuRx system,
 가 (atheroma) Guidant Ancure system, Gore medical Excluder
 system FDA (Food and
 Drug Administration)

: 가

가 18F

27F

(urinary dys-

가 fuction),

4

12 F

(endoleak) White

, 1

가

가

, 2

, 3

가

, 4

porosity

Medtronic

가

AneuRx

(19).

26

5

50

1

가

가

가

가

(20).

3

2

1

1

12 F

가

가

가 가

20

mm

25

(16).

mm

Palmaz

가

가

(21).

5 cm , 0.5 cm/

가

48

1%

가

15 mm

가 60

1

(17).

가

(fenestration)

(22, 23).

18

2

(24 - 27).

Nienaber

(spiral spine)

42% (7/12)

2

J

15

(26).

Kato

가

가

(27).

6 cm

(18).

Stanford A

가

2

4

19

95% (18/19)) 10 (53%)
 가 . : , , , , :
 : (re- : , , , , :
 entry tear) . : :
 가 . : :
 1 Stanford A :
 :
 entry tear :
 30 :
 가 :
 가 1 :
 가 :
 (erythrocyte sedimentation rate)가 가 :
 가 :
 Park Kato (28, :
 29). Park :
 (29 - 31). 1 :
 , Kato :
 29% (4/14) 가 :
 (28). 가 :
 가 :
 (fluoroscopy) :
 1 :
 가 가 :
 가 :
 가 , , , :
 가 :
 가 :
 가 :
 가 :
 가 :
 :
 :

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Percutaneous Endovascular Stent-Graft Treatment of Aortic Aneurysms and Dissections: New Techniques and Initial Experience¹

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Purpose: To evaluate the feasibility, safety and effectiveness of a newly designed percutaneously implanted separate stent-graft (SSG) for the treatment of aortic aneurysms and dissections.

Materials and Methods: Using a percutaneous technique, SSG placement (in the descending thoracic aorta in 26 cases and infrarenal abdominal aorta in 24) was attempted in 50 patients with aortic aneurysms ($n=27$) or dissection ($n=23$). All SSGs were individually constructed using self-expandable nitinol stents and a Dacron graft, and were introduced through a 12 F sheath and expanded to a diameter of 20 - 34 mm. In all cases, vascular access was through the femoral artery. The clinical status of each patient was monitored, and postoperative CT was performed within one week of the procedure and at 3 - 6 month intervals afterwards.

Results: Endovascular stent-graft deployment was technically successful in 49 of 50 patients (98%). The one failure was due to torsion of the unsupported graft during deployment. Successful exclusion of aneurysms and the primary entry tears of dissections was achieved in all but three patients with aortic dissection. All patients in whom technical success was achieved showed complete thrombosis of the thoracic false lumen or aneurysmal sac, and the overall technical success rate was 92%. In addition, sixteen patients demonstrated complete resolution of the dissected thoracic false lumen ($n=9$) or aneurysmal sac ($n=7$). Immediate post-operative complications occurred at the femoral puncture site in one patient with an arteriovenous fistula, and in two, a new saccular aneurysm developed at the distal margin of the stent. No patient died, and there was no instance of paraplegia, stroke, side-branch occlusion or infection during the subsequent mean follow-up period of 9.4 (range, 2 to 26) months.

Conclusion: In patients with aortic aneurysm and dissection, treatment with a separate percutaneously inserted stent-graft is technically feasible, safe, and effective.

Index words : Aorta, grafts and prosthesis

Aorta, aneurysm

Aorta, dissection

Aorta, interventional procedures

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