

# Dega

: Dega  
 : 2000 7 2004 6 12 , 13  
 7 3 ( , 4 1 ~10 6 )  
 6 , 7 , 6 1  
 (Acetabular index) (Center-edge angle)  
 Shenton (Shenton's line) (congruity) 가 .  
 : Shenton  
 6  
 : Dega 가 가  
 : Dega

## Use of Allograft in Dega Acetabuloplasty

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**Purpose:** Use of auto-iliac bone in acetabuloplasty in children is the standard method, however this has some problems such as the possibility of injury to the iliac apophysis, potential iliac deformity after operation, and the difficulty in getting enough size of bone. The purpose of this study was to examine the results of use of allobone in Dega osteotomy in children.

**Materials and Methods:** 13 hips in 12 children with acetabular deficiency were included for the study. The mean age at the time of the operation was 7+3 years (range, 4~10+6 years). 7

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cases were of acetabular dysplasia associated with cerebral palsy and 6 cases were of developmental acetabular dysplasia. Acetabular index (AI) and center-edge angle (CEA) were measured before operation, after immediate operation, postoperative 6 months and postoperative 1 year. Results: There were no postoperative complications, such as deep infection, nonunion, delayed union, graft loss during the follow-up period. The average AI after immediate operation was 23.1 ° and CEA was 12.5 °. The average AI at postoperative 1 year was 26.6 ° and CEA was 14.3 °. There were no significant differences after immediate operation, postoperative 6 months and postoperative 1 year.

**Conclusion:** Allobone graft in the acetabular reconstruction is thought to be useful for children whose enough bone can not be obtained.

**Key Words:** Dega acetabuloplasty, Allograft

Pemberton

가가

(developmental) (neu-romuscular) (acetabular dysplasia) (acetabular augmentation, acetabuloplasty) (iliac osteotomy) Pemberton

Dega , Dega

(femoral varus-shortening osteotomy) 가

, 가 (autoiliac bone) 가

가 2000 7 2004 6 12 , 13

6,14) (iliac 가 7 , 가 5 wing) 7 3 ( 가 , 4 1 ~ 10 6 ) .

가 10,11) 6 , 7 (Table 1). Dega

(dead bone) 가

, Kessler<sup>9)</sup> (sciatic notch) (hinge) (patellar allograft) , (triradiate cartilage)

(ilioischial limb) - Wedge (Tricortical)  
 (iliopubic limb)가 Tutoplast Iliac 1), 30 0.9% (Fig.

**Table 1.** Patient data.

No.	Sex	Age	Side	Dianosis	Combined operation
1	M	9yr 5 mons	Rt	“Cerebral palsy, spastic, quadriplegia Neuromuscular hip dislocation”	O/R, VDO
2	F	3yr 11 mons	Lt	Developmental dislocation of hip	O/R
3	M	6yr 8 mons	Lt	Developmental dislocation of hip	O/R, VDO
4	M	7yr 5 mons	Rt	“Cerebral palsy, spastic, quadriplegia Neuromuscular hip dislocation, hip”	O/R, VDO
5-1	M	6yr 5 mons	Lt	Developmental dislocation of hip	O/R
5-2	M	6yr 2 mons	Rt	Developmental dislocation of hip	O/R
6	M	9yr 1 mons	Rt	“Cerebral palsy, spastic, quadriplegia Neuromuscular hip dislocation, hip”	VDO
7	F	4yr 6 mons	Rt	“Cerebral palsy, spastic, quadriplegia Neuromuscular hip dislocation, hip”	VDO
8	F	8yr 6 mons	Lt	Developmental dislocation of hip	O/R
9	M	9yr 6 mons	Rt	“Cerebral palsy, spastic, quadriplegia Neuromuscular hip dislocation, hip”	O/R, VDO
10	F	10yr 6 mons	Lt	“Cerebral palsy, spastic, quadriplegia Neuromuscular hip dislocation, hip”	O/R, VDO
11	M	7yr 9 mons	Lt	Developmental dislocation of hip	O/R, VDO
12	F	6yr	Rt	“Cerebral palsy, spastic, quadriplegia Neuromuscular hip dislocation, hip”	VDO

O/R: open reduction of femoral head

VDO: varization derotational osteotomy



**Fig. 1.** Human iliac crest bone wedge which is solvent-dehydrated and gamma-irradiated preserved (left one). It can be trimmed to suitable size in order to be fit into the bony defect (right one).

Parameter	Initial	Postop.	POD#6mos	POD#1yr
Acetabular index*	36.5 ± 8.0	23.1 ± 7.4	25.5 ± 6.7	26.6 ± 6.7
Center-edge angle*	-28.3 ± 47.5	12.5 ± 15.0	12.3 ± 17.3	14.3 ± 15.8

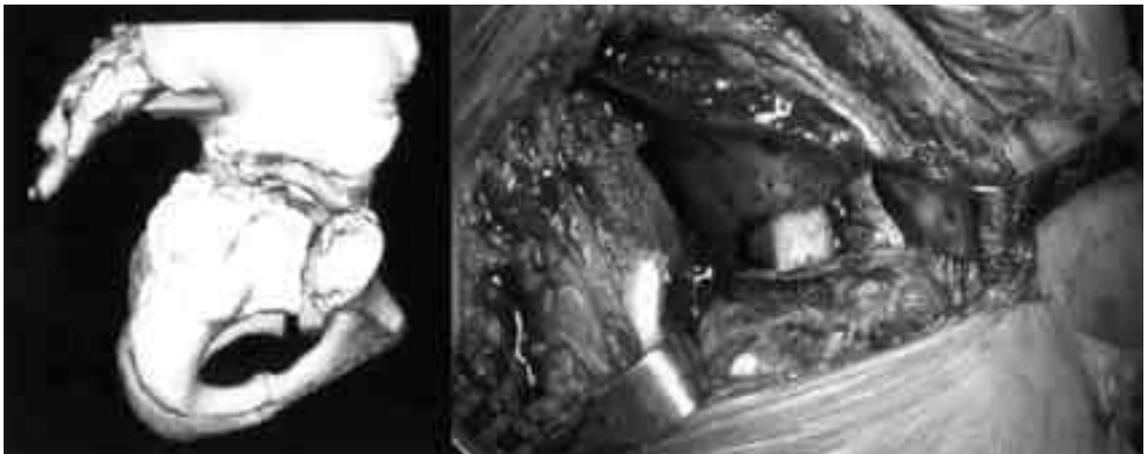
(Rehydration) 가 6 Shenton  
 8 (Hip spica cast) 6  
 6 1 6  
 (Acetabular index) (Center-edge angle) 23.1±7.4° (p=0.01).  
 angle) Shenton (Shenton's 6 25.5±6.7°  
 line) (con- 가  
 gruity) 가 SPSS (p=0.08). 1  
 11.0 for window version paired t- 26.6±6.7° 6  
 test , p value가 0.05 가  
 (p=0.88, 0.08).  
 -28.3±47.5°  
 12.5±15.0° 가 (p=0.01). 6  
 12.3±17.3°  
 가

**Table 2.** Changes in parameters after operations

	Initial	Postop.	POD#6mos	POD#1yr
Acetabular index*	36.5 ± 8.0	23.1 ± 7.4	25.5 ± 6.7	26.6 ± 6.7
Center-edge angle*	-28.3 ± 47.5	12.5 ± 15.0	12.3 ± 17.3	14.3 ± 15.8

Acetabular index and center-edge angle: degrees

\* p<0.05: initial vs postop.



**Fig. 2.** Three-dimensional computed tomographic scan showing total acetabular deficiency (left one), and intraoperative photograph showing inserted graft into the osteotomy site in the acetabulum (right one).

(p=0.48), 1 14.3  
 ± 15.8° 6

가

(p=0.51, 0.59)(Table 2).

가

9 1

90 blade

가 가 1,4,5)

Dega  
 (block)

(Fig. 2)

(xenograft)  
 (artificial bone) 2),

6

1

가

Shenton 가 -

(Fig. 3).

Poumarat Squire<sup>2)</sup>  
 가 Lubboc  
 가

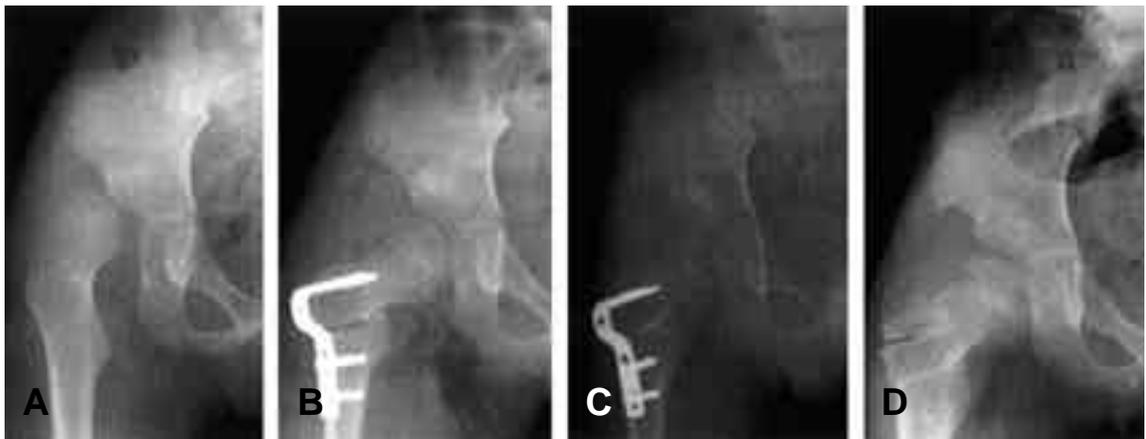
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(tri-corticocancellous allograft) (sol-  
 vent) (gamma irradi-  
 ation) (human  
 iliac crest bone wedge)

가

가



**Fig. 3.** Anteroposterior radiographs of the hip. (A) Preoperative (B) Immediate postoperative (C) Postoperative 6 months (D) Postoperative 1 year.

30 가 0.9% 30 (saline solu- tion) 가 가 가

3.8) 15

Hamer 가 가 가

7) 가 (osteoinductive) 가 가 가

(osteconductive) 가 가 가

13) Kessler 26 (acetabular dysplasia) 가 가 가

Pemberton 가 가 가

Dega 가 가 가

9) 가 가 가

Dega (total deficiency) 가 가 가

(total deficiency) 가 가 가

Pemberton 가 가 가

Dega (total deficiency) 가 가 가

(acetabular augmentation) 가 가 가

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