Long-Term Result of UKA for Severe Varus Deformity.

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INTRODUCTION:

Over half of all Osteoarthritis of the Knee can be operated by UKA safely. Long term result is not bad compared with TKA. On the contrary satisfaction rate is far better than TKA.

However UKA tends to be applied for only light deformity. Patient satisfaction is acquired by the difference between preoperative condition and postoperative one.

Safety of surgery is studied when "UKA" is applied to highly deformed patients whose Hip - Knee - Ankle angle (HKA) exceeds 15 degrees.
Indication for UKA:
1: medial joint space can be opened by valgus stress
2: intact ACL

From 2005 to 2017 (minimum follow up 2yrs), 1082 patients met this UKA indication.

average 75 years old (55 ～ 94)
(398 males, 684 females)

1082 patients were divided into 2 groups according to pre-operative hip-knee-ankle angle (HKA).
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The patients more than 15 degrees of varus in HKA was 385 (35.6%, defined as group V).

The other less than 15 degrees was 697 (64.4%, defined as group N).

The frequency of postoperative complications was compared in these two groups.
**Result**

<table>
<thead>
<tr>
<th></th>
<th>group V</th>
<th>group N</th>
<th>p-value</th>
<th>rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>dislocation</td>
<td>2</td>
<td>2</td>
<td>P = 0.491</td>
<td>0.6%</td>
</tr>
<tr>
<td>tibia fracture</td>
<td>8</td>
<td>5</td>
<td>P = 0.049</td>
<td>1.2%</td>
</tr>
<tr>
<td>tibia loosening</td>
<td>5</td>
<td>6</td>
<td>P = 0.491</td>
<td>1.0%</td>
</tr>
<tr>
<td>Lateral OA progress</td>
<td>0</td>
<td>7</td>
<td>p = 0.034</td>
<td>0.6%</td>
</tr>
<tr>
<td>surficial infection</td>
<td>3</td>
<td>7</td>
<td>P = 0.711</td>
<td>0.9%</td>
</tr>
</tbody>
</table>

**tibia fracture:** 10 occurred in cementless tibia. 6 fractures in group V was cementless. The tibia fracture was affected rather by using cementless than preoperative deformity. Cementless tibia is stop to use in our Center now.

**Lateral OA progress:** it was occurred only in group N. 4 of 7 progress developed rheumatism after UKA surgery.
case 1:
78 yrs woman BMI:32

pre-Op
HKA angle: 22°

post-Op 9yrs
HKA angle: 2°
case 2: 76 y.o. male (farmer 168cm, 72kg  BMI:25.5) group V

pre-Op

passive flexion limited to 90° by osteophyte impinging

tibia resection

active flexion progressed to 120°

HKA angle was changed from 17 to 1 degrees
Case 3: 83 y.o. female (150cm, 58kg BMI:25.8) groupV

HKA angle was changed from 18 to 7 degrees 10 yrs after Surgery. Forgotten Knee score was 88

ACL was so poor as antero-medial fiber was lost. However knee function was good and patient satisfied with her gait very well.
DISCUSSION:

The incidence of complications between the two groups remained the same except for tibia fracture and lateral progress OA. Tibia fracture were 13 (1.2%) and all were occurred within 1 year after surgery. 10 of them were cement less tibia. Main reason of the fracture was that the keel of the tibia tray was set close to the medial tibia cortex. Lateral progress of osteoarthritis was not occurred in group V. Half of them were concerned with a rheumatic onset after the surgery in group N. Patients after UKA tends to expand their daily life and patient satisfaction was very high compared with TKA.

CONCLUSION:

Over all survival rate was 94% in 10 years in both group. The same result was obtained even the varus deformity was over 15 degrees in preoperative HKA if the case is within the indication.