



## Surgical treatment of hallux valgus : About 27 cases

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### ABSTRACT

The hallux valgus is defined as a lateral deviation of the big toe over the first metatarsal. It is the static deformation of the most common forefoot. Our study included a retrospective study of 27 cases of hallux valgus collected at the service of academic orthopedic trauma CHU Ibn Sina Rabat between 2010 -2013 with a mean of 4 years. The average age was 44.8% years. The predominantly female was 85% More than half of the forefeet were Egyptians: 85 2%. The predominant morphology of the feet was hollow: 40 7%. The surgical technique the most used was the MAC BRIDE and its variants: 40.8%, followed by technical SCARF: 18.6%. We found 74, 1% of good result. In light of these results, the surgical techniques the most appropriate are those permanently relieving the patient with first the techniques used on the soft-parts.

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### Introduction

Hallux valgus is defined as a lateral deviation of the big toe to the first metatarsal .il is the most common cause of forefoot static deformation, it is associated with several other anomalies not only the first ray but also the rest of the foot.

It requires for every deformation surgery.

Our study comes as the result of a need to update our knowledge in a disease whose etiopathogenesis, histological, and pathophysiological understanding from there, the treatment approach has evolved considerably during the last years. [1-2]

### Materials and methods

Our work was a retrospective study based on the exploitation of 27 cases of hallux valgus treated Trauma orthopedics at IBN SINA Rabat hospital over a period of 4 years (2010 to 2013) with a mean 4 years.

### Results:

#### Epidemiological data:

##### Age:

The average age of our patients was 44.8 years with a peak incidence between 40 and 49 years

##### Gender:

Female predominance of 23 women (85, 1%) and 4 men (14, 9%) (Sex ratio: 5.75)

##### Side reached:

The left side was affected in 55.5%, the right side in 14.8% and there was a bilateral involvement in 29.6% of cases.

### Clinical study:

There are three main Reasons for consultation:

#### 1. Pain:

All had an inner foot pain at the first metatarsophalangeal joint of the toe; but to varying degrees

#### 2. Boot-Difficulty:

15 Feet accused of donning a difficulty to varying degrees.

#### 3. Walking:

We tried disabling for almost all cases in our series to varying degrees.

#### Time-evolution:

There was an average of 4 years

### Clinical assessment:

1-The morphotype of the forefoot:

In our series, more than half of the front feet were Egyptian type (Table I)

2 - The appearance of the foot (Table II)

3 - Active lesions:

The claw deformity of the other toes is found in three cases. A hygroma styling exostosis was found in one case.

### Radiological Study :

Two effects were requested: face dorsoplantar care and foot care profile that helped measure the following angles:

A-phalangeal valgus:

A phalangeal valgus 30-60 ° was noted in 63% of our patients.

B-metatarsus varus:

It was appreciated by the position of the sesamoid bones under the first metatarsal head. (Table III)

D-The angle of attack M1 ground:

Its normal value varies between 18 ° and 25 °. (Table IV)

E-The state of the MP joint:

Osteoarthritis of the first MP was observed in two cases. Subluxation of the MP joints of neighboring GO rays has been reported in three cases.

### F-The treatment used:

a-Technical MAC BRIDE. (10 cases) [4-5]

b-technique modified MAC BRIDE. (1 case) [6 -7]

c-shortening of osteotomy P1 (1 case) [8-9]

d-SCARF technique of shortening osteotomy + P1 (1 case)

e-technology SCARF + + Exostoséctomie Weil osteotomy (2 cases)

f-Weil osteotomy (2 cases)

g-Arthrodesis of the first metatarsophalangeal joint. (1 case)

h-chevron osteotomy of the neck of M1 + Exostoséctomie (2 cases) [10-11]

i-Technology SCARF. (5 cases) [12-13]

j-Exostoséctomiecapsulorrhaphie MP. (1 case)

k-Osteotomy shortening Trade + P1 (1 case) [14]

### G- Postoperative recoveries:

The duration of hospitalization was: 2days

**Table I : distribution depending on the type of the forefoot**

Morphotype of the forefoot	%
Egyptian	85.2
Square	7.4
Greek	7.4
Total	100

**Table II : distribution of cases according to the aspect of the foot.**

Aspect of the foot	%
Normal	29.6
Flat	29.6
Cavus	40.7
Total	100

**Table III : Distribution of MV based on dislocation sesamoid:**

Importance of MV according to the position of the sesamoid under the head of M1	%
1	7.4
2	55.5
3	37.1
Total	100

**Table IV : Distribution of cases according to the angle of FICK.**

Fick's angle in degrees	%
10° 15°	37
15° 20°	14.5
20° 25°	18.5
Total	100

The use of analgesics and antibiotic prophylaxis was systematically done. The delivery charge is authorized once the sedation phenomena is painful. (Figure 1-2)

**Figure 1: Radio before****Figure 2 : Figure 1: radio after**

## Discussion

### 1-Epidemiology:

#### A. Frequency Sex:

Female predominance of hallux valgus is found in all literature reviews arriving up to 90% depending on P. SHARP. Our study joins the literature data with a female predominance of 85; 1%.

#### B. Rate By Age:

In different sets of literature, hallux valgus deformity is of interest to the young person.

#### C-Frequency by rating achieved:

Different studies in the literature: O.JARDE; Mr. FRESLON showed that non congenital hallux valgus is rather one-sided. Our study confirms these data with a percentage of unilateral reached 70, 4%.

#### Treatment

In our service; surgical technique most used is the MAC BRIDE and its variants (11 times, 40.7%); followed by SCARF Technique SCARF (5 times, 18.5%).

While; elsewhere; we see that the choice will increasingly use certain techniques determined mainly by distal osteotomy CHEVRON [TRNKA (2000); STRIONSTRA (2002)]; Double osteotomy [COUGHLIN and CARLSON (1999)] have also given good results so far.

#### Results:

Overall, we found 74.1% of good results; 7.4% and 18.5% results are average results.

We find that the overall satisfactory RESULTS are lower than those of RISCHL 83%; and join those of P.MERT 72%

#### Conclusion

Hallux valgus is the most common forefoot static condition; much more common in women than in men.

It encompasses a variety of symptoms and specific distortions that must be properly evaluated to guide the patient to an optimal and personalized treatment.

Many patients find a permanent or temporary relief from conservative measures.

Corrective surgery can provide definitive relief if it is part of a rigorous methodology; it depends on the functional tolerance, life stage, the morphotype and terrain. It must meet the criteria of all orthopedic surgery: Only a well-planned surgery that respects the joint structures with stable fixation surgery will provides reliable results.

Postoperative complications are not uncommon and should invite the practitioner to understand the pathology of hallux valgus and expectations of the patient to move towards the best solution.

#### **Bibliographic references:**

- [1] Valtin B. Hallux valgus —généralités. In: Valtin B, Leemrijse T, Editors. *Chirurgie de l'avant-pied. Cahier d'enseignement de la SOFCOT*, vol. 89, 2e ed. Paris: Elsevier; 2005. p. 39—42.
- [2] Delagoutte JP. *Le pied*. Ed Masson; 1989.
- [3] Camasta, C. A., Hallux limitus and hallux rigidus. Clinical examination, radiographic findings, and natural history. *Clin. Podiatr. Med Surg.* 13:428-448, 1996
- [4] Breck LW . The classic .A conservative opération for bunion by Earl Duwain Mac Bride.*Clin.Orthop.*1981; 157:2-4.
- [5] Mayo CH .The surgical treatment of bunions. *Ann Surg* 1908 ; 48:300-302.
- [6] Curvale G. Traitement de l'hallux valgus par la technique de Mac Bride modifiée. In: Valtin B, Leemrijse T, editors. *Chirurgie de l'avant-pied. Cahier d'enseignement de la SOFCOT*, vol. 89, 2e ed. Paris: Elsevier; 2005. p. 43—51.
- [7] GOULIER.P.CURVALE G.PRUDENT MP ET al : Résultats du traitement de l'hallux valgus selon la technique de MC BRIDE modifiée avec ou sans ostéotomie .*Rev Chir. Orthop.*1988.74.539-548.
- [8] Valtin B. Quelle ostéotomie pour quel hallux valgus ? Table ronde sur « Les ostéotomies du premier métatarsien dans le traitement chirurgical de l'hallux valgus ». *Méd. Chir .Pied.*1994.10121-128.
- [9] Trnka HJ. Hofmann S, Wifsauer H, Kaider A, SALZER M, RITSCHL P. Kramer versus Austin ostéotomy : two distal metatarsal ostéotomies for correction of hallux valgus deformities. *Orthopaedics International Edition* .1997.vol.5.n° 2.110-116.
- [10] Diebold PF. Ostéotomie distale épiphyso-métaphysaire en CHEVRON dans l'hallux valgus .*Méd. Chir. Pied.* 1994.10.101-107.
- [11] Potchako DJ ; SCHLEHER F .Distal chevron osteotomy with latéral relase for the treatment of hallux valgus deformity. *Foot and Ankle . Inte* .1994. 457-461.
- [12] Barouk L.S.: Notre expérience de l'ostéotomie SCARF des 1er et 5e métatarsiens – *Med Chir. Pied* (1992) 8 : 67-84
- [13] LEUEVRE J F .Correction du métatarsus important de l'adulte par une ostéotomie plane - oblique proximale du premier métatarsien .*Med .Chir .Pied* .1994.10 . 99-101.
- [14] DAVID C, BORTON.MICHAEL M STEPHANE. Basal metatarsal ostéotomy for hallux valgus. *J. Bone .Joint Surg* .1994.76-B.9.204-209.