

**METAPHYSEAL CURETTAGE  
AND TEMPORARY LAXITY OF THE HIP IN THE  
TREATMENT OF ARTHROSIS DEFORMANS**

*By*

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In April 1961, in collaboration with Drs. *Domingo Múscolo* and *H. Piatigorsky*, one of us presented to the Argentine Orthopaedic and Traumatologic Society a communication on the results obtained with metaphyseal curettage in the treatment of arthrosis deformans of the hip.

Our technique, derived from one communicated to us personally by *Nissen* in 1957, consisted in approaching the subtrochanteric femoral metaphysis on its external surface, and at this level drilling a circular window, 1.5 cm. in diameter, using drills of increasing size. A curette was passed through this and the cancellous bone removed, leaving the compact bone on the periphery, as if performing an internal osteotomy and not cutting the compact bone. We also performed an ample curettage of the cancellous bone of the neck of the femur up to the head, in this way greatly enlarging the operation conceived by *Nissen*.

This operation is based on the supposition that the disappearance of pain after a *McMurray* type osteotomy is not due to the displacement of the diaphyseal fragment, nor to the change in weightbearing surfaces between the femoral head and the acetabulum, but to the section of the intraosseous vascular and nerve branches of the upper extremity of the femur when the bone is sectioned. This supposition is based on the fact that in some osteotomies the pain diminishes even when the position of the fragments is not changed.

In the communication mentioned we presented 16 cases showing 80 % good results.

There is nothing more convincing than the transcript of some letters we received from patients who could not come to see us when asked:

"... I have neither pain nor any trouble at all. I consider I am completely cured". (male patient, 72 years of age, writing two years after operation). Another one wrote: "... before the operation I could hardly walk 100 meters and could not do my housework. Now I walk about all day and do all my housework" (female patient, 25 year old, 25 months after operation). Another one: "... I am very pleased. Except on occasions there is practically no pain and this cannot be compared to what I suffered before the operation" (32 year old female patient, twelve months after operation). Another one: "... I am very pleased. I have no pains and lead a normal life. I have more mobility than before operation" (49 year old female patient, 28 months after operation). Yet another: "... am very pleased. I have still some pain but nothing in comparison to what I suffered before operation" (35 year old male patient, 29 months after operation).

We have operated quite indiscriminately as regards type of process, size of lesions and age of patient. In some cases, where the disease was in the first stages, there was either no improvement at all or this was just temporary, whilst in other cases, where very pronounced lesions were found, the pain either disappeared completely or almost completely.

About two years ago we changed our technique and now add osteotomy of the major trochanter, as commended by *Brandes*, and muscular section of the fascia and adductors, as advised by *Voss*, to the metaphyseal curettage. In some cases we add tenotomy of the iliac psoas in accordance with *Pauwels's* technique, to produce a temporary laxity of the hip.

We must admit that the good results obtained with this technique have surprised us, it being noteworthy that pain has diminished in 90 % of the cases. Pain is reduced to a greater or lesser degree in accordance with each case, but even in those cases where some pain remains, this is very little and our patients are very well satisfied with the results.

We have operated on only 50 cases and naturally understand that until we have a greater number of cases and more time has passed after operation, these results are of only relative value.

However, we have no hesitation whatsoever in recommending this operation to our patients as the first operation, leaving the others: osteotomies, arthrodesis, arthroplasties, resection of the head, etc. for those cases where the results are unsatisfactory.

The fundamental idea in the treatment of arthrosis deformans is

to relieve pain. Progressive functional limitation, even when pronounced, does not bother the patients too much so long as they have a certain amount of flexion, as is generally the case, and always supposing the disease is not bilateral.

The inconstant and temporary results of the *Cumitz* and *Tavernier* types of denervations and *Duvernay's* perforations, have prompted us to abandon these, as have most other orthopaedic surgeons.

For this reason, in those cases where the operation we have described is a failure, we prefer wherever possible and when abduction and adduction of the hip permits, to do a *Pauwels* type osteotomy; our opinion is that the best one is the varus angulation osteotomy. We have often wondered whether the improvement produced by this cannot be due to the same reason as the *Brandes* and *Voss* operations, or that recently proposed by *MacFarland*, i.e. with the varus angulation and the drawing together of the insertion points of the periarticular muscles there is temporary laxity of the hip.

We indicate arthrodesis in those cases where the patient is young and needs to work and walk and where the result of the operation has not been very satisfactory or where pain has returned and the disease is unilateral.

This operation gives very good results, a great many of them have been performed, and among others *Watson Jones's* experiences are worth mentioning. With the exception of a reduction in joint movement, the patients remain well, have a solid and painless hip which permits them to walk and work much better than when an arthroplasty has been performed.

Our technique for arthrodesis is as follows: *Gibson's* incision; with a chisel the throchanter is sectioned obliquely near to the base, the capsule is opened, the head is dislocated and the intra-articular cartilage of the head and acetabulum is removed. The head is replaced and the joint fixed with a three phlange Smith Petersen nail or a two phlange Valls nail. Bone chips are placed around the joint line and then the fragment of trochanter is placed, conserving the muscular insertions as a bridge between the neck of the femur and the iliac bone which have been previously fish-scaled, fixing it in that position.

We believe that this graft of pediculated trochanter has more vitality than a free graft. It is fixed in place quicker and helps to form a bone bridge in a shorter space of time.

Should the general condition of the patient not allow for such a big operation, we use *Watson Jones's* technique; the insertion of a nail to

fix the joint, which is a quick operation with which quite good results are obtained. The pain usually disappears though coxo-femoral bone fusion is not always obtained.

Nevertheless, there are some persons who are frightened at the idea of a loss of movement and will not accept arthrodesis. In these cases it is necessary to perform arthroplasty.

Other patients have lesions in the other hip, or rigidity of the lumbar vertebrae or repeated lumbalgias. For these patients arthrodesis is not recommended and arthroplasty is indicated.

In old age patients, or in those cases where the general condition leads one to surmise that the patient will not live for long, it is preferable to perform an arthroplasty.

Arthroplasty can also be performed on those cases where the patients are relatively young, in good economic position, or who lead sedentary lives, who have no lesions in the acetabulum, and who wish to have a movable hip that is painless, and also on those whom, in case of an unsatisfactory result, an arthrodesis can be performed later.

It is now accepted that the metal or acrylic prosthesis with intramedullary stem gives the best results, but these are not constant and it requires more experience and a more prolonged study before the percentage of good results can be established.

At the present time a satisfactory result can be expected, that is a hip with some movement and with little pain in 50 % of the cases.

We should not forget that a person who has had an arthroplasty of the hip is, with a few exceptions, generally an invalid, to a greater or lesser degree, who must use a stick for support, who cannot walk very far, and who is troubled by more or less constant pains.

There is also a question of the behaviour of the acetabulum under the constant rubbing of the acrylic or metal head.

Late lesions of the acetabulum, consisting of juxta-articular tracings in the weight bearing area, which gradually become larger and deform it have been found, together with a wearing away of the bottom of the acetabulum producing something similar to protrusion of the acetabulum.

#### SUMMARY

To sum up, when we have a case of arthrosis deformans of the hip we first perform our combined *Metaphyseal curettage and temporary laxity operation* and leave the other operations, osteotomy, arthrodesis, arthroplasty, etc. for those patients where pain recurs.

## RESUME

Pour résumer, lorsque nous avons un cas d'arthrose déformante de la hanche nous essayons premièrement une opération combinée de curetage métaphysaire et d'opération de laxité temporaire en repoussant les autres interventions, ostéotomie, arthrodèse, arthroplastie, etc. au moment où les douleurs réapparaîtraient chez ces malades.

## ZUSAMMENFASSUNG

Zusammenfassend kann man sagen, dass wir in Fällen von Arthrosis deformans der Hüfte zuerst unser kombinierte *Metaphysenauskraetzung und vorübergehende Erschlaffungsoperation* ausführen, während wir die anderen Operationsmethoden wie Osteotomie, Arthrodese, Gelenkplastik etc. für jene Patienten reservieren, bei denen Schmerzen wieder auftreten.

## REFERENCES

- Adam, A. & Spence, A. J.: Intertrochanteric osteotomy for osteoarthritis of the hip. *J. Bone Joint Surg.* 40-B: 219-226, 1958.
- Blount, W. P.: Blade-plate internal fixation for high femoral osteotomies. *J. Bone Joint Surg.* 25: 319-339, 1943.
- Cambell, J. P. & Jackson J. P.: Treatment of osteoarthritis of the hip by osteotomies. *J. Bone Joint Surg.* 38-B: 468-474, 1956.
- Cordier, G., Layani, F. & Garnier, H.: A propos de 50 «hanches pendantes temporaires» d'après la technique de Voss modifiée. *Rev. Rhum. et des Malad. Osteo-Artic.* 27: 337, 1960.
- Jackson, Burrows H.: Displacement osteotomy for osteoarthritis of the hip. Results more than ten years later. *J. Bone Joint Surg.* 37B: 168, 1955.
- Malkin, S. A. S.: Femoral osteotomy in treatment of osteoarthritis of the hip. *Brit. Med. J.* 1, p. 304, 1936.
- McMurray, T. P.: Osteoarthritis of the hip joint. *J. Bone Joint Surg.* 21: 1-11, 1939.
- Nissen, K.: Communication personnelle, 1958.
- Osborne, G. V. & Fahrni, W. H.: Oblique displacement osteotomy for osteo-arthritis of the hip joint. *J. Bone Joint Surg.* 32B: 148-165, 1950.
- Pauwels, Fr.: Des affections de la hanche d'origine mécanique et de leur traitement par l'ostéotomie d'adduction. *Rev. Chir. Orthop.* 37: 22-30, 1951.
- Pauwels, Fr.: Directives nouvelles pour le traitement chirurgical de la coxarthrose. *Rev. Chir. Orthop.* 45: 681, 1959.
- Trueta, J.: Considérations on the pathology of osteo-arthritis of the hip. *Congres. Soc. Intern. Orthop.* Barcelone, 1957.
- Valls, J.: Cureteado metafisario en la arthrosis deformante de la cadera (en colaboración con los Dres. Domingo Múscolo y Hector E. Piatigorsky). *Bol. Trab. Soc. Arg. Orthop. Traumatol.* Buenos Aires, 26: 12, 1961.

- Valls, J.:* Late treatment of post-traumatic aseptic necrosis of the hip in fractures and dislocations of the neck of the femur, with special reference to arthrodesis and arthroplasty. *Wiederherstellungschirurgie und Traumatologie, Basel, 5: 74, 1960.*
- Voss, C.:* Coxarthrose; opération palliative simple. *Münch. Med. Woch. 98: 954-956, 98: 1058-1104, 1956.*
- Voss, C.:* Die temporäre Hängehüfte – ein neues Verfahren zur operativen Behandlung der Koxarthrose und anderer deformierender Hüftgelenkserkrankungen. *Verhandlung der Deutschen Orthopädischen Gesellschaft. 43° Congress 1955, 351.*
- Watson Jones, R. & Robinson W. C.:* Arthrodesis of the osteoarthritic hip joint. *J. Bone Joint Surg., 38-B: 353, 1956.*