Periacetabular Resection: A Report of Three Cases

Corresponding Author:
Dr. Najib Alidrissi,
MD, UM5S Rabat - Morocco

Submitting Author:
Dr. Najib Alidrissi,
Orthopedic and trauma surgeon, University Mohammed V - Souissi, 10000 - Morocco

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Abstract

The periacetabular resection is difficult realization more especially as they remain the only alternative in front of young patients and in the presence of a malignant tumors etiology. Nevertheless this surgery clearly developed thanks on the one hand to the progress made as regards imagery (TDM, IRM) and on the other hand as regards reconstruction by prostheses and massive allografts. We report 3 cases through the difficulties with this gesture from the surgical approach to the type of reconstruction.

Introduction

Periacetabular resection interest to primary and secondary malignant tumors of the hip, and hydatidosis. (1) This must be oncologic resection and requires large tract of surrounding area, guided by imaging techniques. (1, 2)

Case Report(s)

Observation 1: a patient of 26 years, who has left hip pain, a marked lameness associated with swelling of the hip, with a hard consistency without inflammatory signs, in the context of conservation the overall state. The patient underwent standard radiographs of the hip, complemented by a scanner that has objectified bone lesions in the form of cystic, fluid density. (fig.1) (fig.2) Laboratory tests showed a slight hypereosinophilia. Bone biopsy showed a hydatid cyst. Surgical treatment was done by a double incision ilioinguinal and posterior which enabled surgical resection in one piece, with iliofemoral arthrodesis. The postoperative course was uneventful with treatment by albendazole. The resumption of walking was made four months later. There was a positive development with no recurrence after 3 years follow-up.

Observation 2: a patient of 25 years with painful swelling of the right buttock, with lameness and stiffness of the hip. The standard radiographs, completed by a CT showed vesicular images tone hydric. (Fig. 3) (fig4) (fig5) The biopsy revealed a hydatid disease of the hip. Surgical treatment by a single anterior approach ilio-femoral extended with curettage of hydatid cysts and simple résection of the hip joint. (fig6) The postoperative period was uneventful by treatment with albendazole for 6 months. The recovery of walking with a crutch is made after 3 months. The three-year review shows a patient satisfied and walking with simple cane and orthopedic shoes, and the hip is painless.

Observation 3: a patient of 34 years with hip left pain lasting for six months. Clinical examination found swelling of the left hip of hard consistency, with blurred boundaries. The standard radiographs with CT showed a tumor involving bone appearance. (fig7) (fig8) Surgical biopsy confirmed Ewing's sarcoma. Embolization is done the day before the surgical excision (fig9), tumor resection is made by a double surgical approach ilioinguinal and posterior after neoadjuvant chemotherapy. (fig10) The reconstruction is made by fusion with femoral-iliac bone graft. Evolution is marked by the occurrence of early infection refractory to antibiotics that have imposed a disarticulation.

Discussion

Resections periacetabular require acetabular reconstruction in order to obtain a solid functional outcome acceptable. (1, 3, 4) If resection of the acetabular region is isolated or associated with the obturator frame, you should use a reconstruction by autograft of the proximal femur and prosthesis using the technique "Puget" but it is also possible to use the prostheses in the saddle (Saddle prosthesis). (5, 6, 7) The acetabular type MacMinn (called "ice cream cone"), the modular prostheses and custom, the massive allografts with or without prosthesis and arthrodesis femoral iliac. (8, 9) Surgery should be conservative with reconstruction using allografts, despite some failure. (10) The surgical approaches are variable and depend as much on the topography of the lesion and the extent of the tumor, and habits of the operator. (11, 12)

The literature review is used to group the different surgical approaches and their variants:

1. Surgical approach of Enneking. (3)
2. Surgical approach proposed by Missenard and Karakousis. (5)
3. Surgical approach of Steel. (7)
4. Surgical approach of Tomeno. (8, 9, 10)
5. Lateral approach to the Yollier Senegas. (13)
6. Reconstruction after resection simple: (11, 12)

In the Zone I and III: functional results little or not altered.
But in Zone II: the simple resection may be a wise solution if the area is too large resected with correctly functional result. Resection arthrodesis is recommended if the resection leaves a zone I subtectale or III quite important. (6, 13) The ilio femoral fusion or ischio femoral with or without bone graft provides a stable support. (14)
Currently resection with graft reconstruction with PTH gives good results. (9, 15)

The bone graft may be:

Autograft (proximal femur), gives good results but need integrity. (12, 16)
Allograft (ilium, proximal femur), but with poorer results. (5, 10, 17)
The indications: (7, 9, 17)
1. The simple resections
2. Arthrodesis with or without graft interposed
3. Resection with graft reconstruction and restoration of joint function: the grafts can be autografts or allografts.
4. Resection prosthesis reconstruction without additional graft

Conclusion

This is major surgery with a very high risk of serious complications. Whether to be strict on tumor excision, should not be very dogmatic about reconstruction, because it is major surgery, encumbered with complications and requires a trained technical and human environment.

References

Illustrations

Illustration 1

Fig1: radiograph of the left hip showing a lytic lesion of the acetabulum and femoral head

Illustration 2

Fig2: CT showing a cystic image density of hydric
Illustration 3

Fig 3: radiography of the pelvis shows lytic images of the femoral head and the acetabulum of the right hip

Illustration 4

Fig 4: CT scan showing a significant lysis of the femoral head and the acetabulum on the right
Illustration 5

Fig5: CT images showing vesicular hydric tone

Illustration 6

Fig6: radiograph after surgical by a resection peri acetabular
Illustration 7

Fig7: radiograph of the left hip showing lytic lesions

Illustration 8

Fig8: CT of the left hip showing lytic lesions
Illustration 9

Fig 9: arteriography with embolization of the tumor

[Image of arteriography with embolization of the tumor]

Illustration 10

Fig 10: radiograph showing a reconstruction with a femoro-iliac fusion by a bone graft

[Image of radiograph showing a reconstruction with a femoro-iliac fusion by a bone graft]
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