



MANAGEMENT OF PROTRUSIO ACETABULI - OUR EXPERIENCE MASOODH BASHA

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Abstract : Purpose-To make use of a titanium mesh and cemented Total Hip Replacement to reinforce the medial acetabular wall in cases of prosthesis induced mild protrusion acetabuli as a cheaper and effective alternative to other methods. Methods-We present two cases of prosthesis (Austin Moore) induced unilateral protrusion acetabuli which were managed with cemented Total Hip Replacement with a flanged cup and a cost effective titanium mesh to reinforce the medial wall, considering their age. Results-The patients had an average Harris Hip Score of 91 and were ambulant without support by the 5th post op day. Six months later the patients are comfortable and have no adverse X ray findings. Conclusion-We consider Mesh reinforcement with cemented Total Hip Replacement to be a cost effective procedure in mild protrusion, as it costs only around 15 USD in addition to the cost of the replacement procedure, as compared to 400 USD for an anti protrusion cage.

Keyword : protrusio, mesh, cemented THR, reinforcement, prosthesis induced

INTRODUCTION -

Protrusio Acetabuli is also known as ARTHROKATADYSIS. It was discovered by a German pathologist Otto in 1824 and hence it is also known as Otto Pelvis. It is nothing but the intrapelvic protrusion of the acetabulum. The etiology may be primary or secondary. Primary is more common in females. Secondary can be bilateral as in systemic diseases, eg - metabolic (osteoporosis), genetic (Marfan's) or inflammatory (rheumatoid); or unilateral due to trauma, infection or a **prosthesis in situ**. Protrusio is when the medial acetabular wall projects medial to Ilio- Ischial line (Kohler's line). Normally on an AP radiograph the medial wall of the acetabulum lies 2 mm lateral to the ilioischial line in a male and 1 mm medial to this line in a female. Medial projection beyond Kohler's line > 3 mm in males and > 6 mm in females is diagnostic of protrusio. It can be graded as mild (1 to 5 mm), moderate (6 to 15 mm) or severe (>15 mm) with reference from the ilioischial line. The Wiberg's center-edge angle over 40 degrees is also diagnostic of protrusio acetabuli.

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The management of protrusion acetabuli is demanding. It is essentially surgical. In skeletally immature patients with open triradiate cartilage, surgical closure of the triradiate cartilage can be done. In adolescent or skeletally mature patients Valgus intertrochanteric osteotomy has been used. In older adult patients **Total hip Arthroplasty** is the treatment of choice.

Principles of surgery are -

Restoration of hip center for proper joint biomechanics.

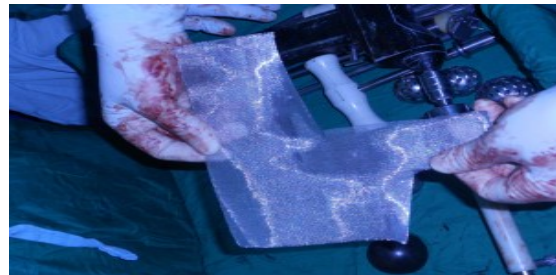
Maintaining the intact peripheral rim to support the acetabular component.

Reconstructing cavitary and segmental defects in the medial wall with bone grafting.

Precautions to be taken are -

The sciatic nerve will lie near the joint. Trochanteric osteotomy may be required for exposure. When dislocation is difficult, remove portion of the posterior acetabular wall. In severe cases, the head is incarcerated -osteotomy of the neck may be required. The medial wall should not be perforated. Medial reaming should be avoided. Only peripheral reaming should be done.

Treatment options are to do an **Uncemented Total Hip Replacement with a jumbo cup or a Cemented Total Hip Replacement with bone graft or anti protrusio cage or mesh.**



TITANIUM MESH

MATERIALS AND METHODS –

We present a six month follow up of two cases of prosthesis(Austin Moore) induced unilateral protrusion acetabuli which were managed with cemented Total Hip Replacement with a flanged cup³ and a cost effective titanium mesh to reinforce the medial wall^{1,2}, considering their age.

OUR CASES

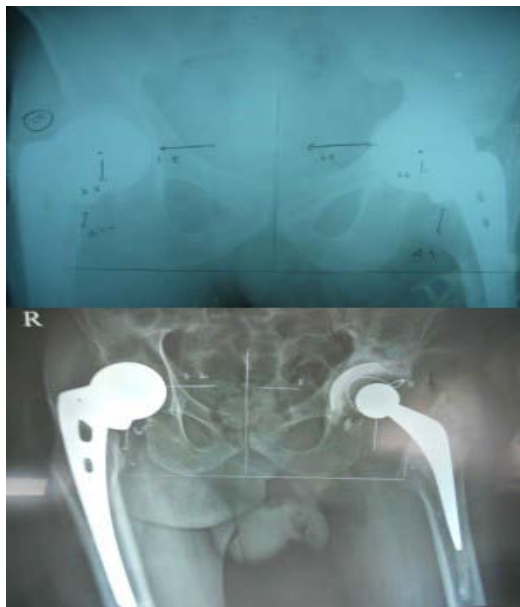
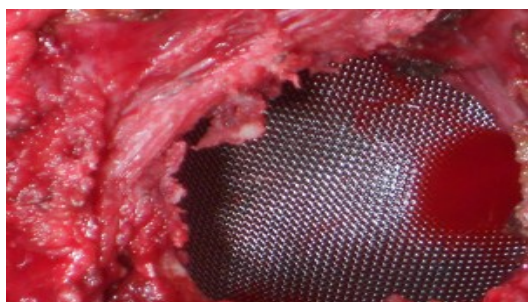
CASE 1

70 yr female, left hip pain. Austin Moore prosthesis – 10 yrs for fracture Neck of Femur. Pain and limitation of Left hip movements – 2 yrs. Left hip protrusion

Harris Hip Score – 42 2

cm shortening

Paprosky 2, AAOS 2



76 yr old male, hypertensive, on treatment.

Austin Moore prosthesis Left hip 7yrs ago, Right hip 4 yrs ago for fracture Neck of Femur. Harris Hip Score – 54

Left hip symptomatic with protrusion

2 cm shortening

Paprosky 2, AAOS 2

