

***Comparative Study Between
Endoprosthetic Replacement and Hip
Arthrodesis Using a Vascularized Fibular
Graft in the Management of Malignant
Tumours of the Proximal Femur***

Hazem Wafa, MD,

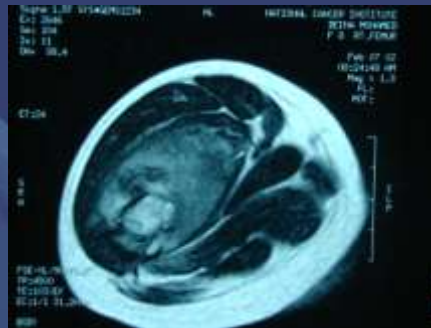
W. Ebeid, MD and A. Ghoneimy, MD

Centre for Preservation and Transplantation of Musculoskeletal Tissues, Cairo, Egypt

- Proximal femoral reconstruction after tumour resection remains a big challenge to orthopaedic surgeons.
- Endoprosthetic replacement is still the most attractive option with early mobility, better emotional acceptance and cosmesis, however, the issue of durability remains unsolved.

Material and Methods

	Arthrodesis VFG	EPR
No. of Patients	15 (10 ♂ - 5 ♀)	20 (8 ♂ - 12 ♀)
Age	14.9 (7-25) yrs	35.2 (14-61) yrs
Follow-up	64 (18-179) m.	49 (8-116) m.



Material and Methods:

- **Group I:**

- Hip arthrodesis by VFG.
- Position: Flexion 20°, neutral abduction-adduction, neutral rotation, 2cm LLD.
- Internal Fixation: Broad DCP.
- Non weight-bearing until signs of periosteal hypertrophy → partial weight bearing with brace until fibula starts to increase in girth → full weight-bearing and brace is discarded after 3 months.

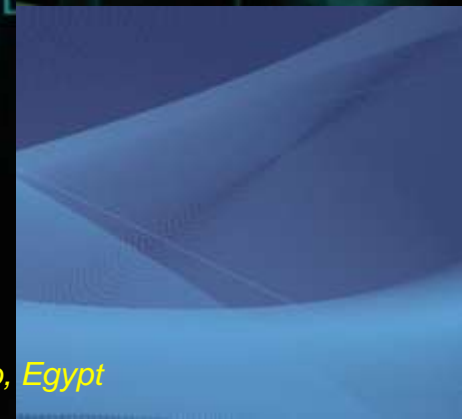
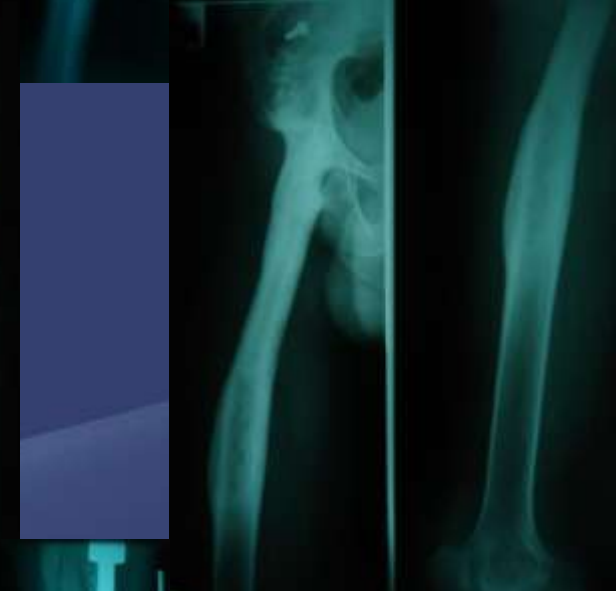
Material and Methods:

- **Group II:**
 - Proximal femoral endoprosthesis replacement.
 - All had bipolar cups and cemented stems.
 - Reconstruction of the abductor mechanism:
 - Re-attachment of greater trochanter.
 - Suturing the gluteus medius tendon to tensor fascia lata.
 - Abduction brace (3-6 weeks).

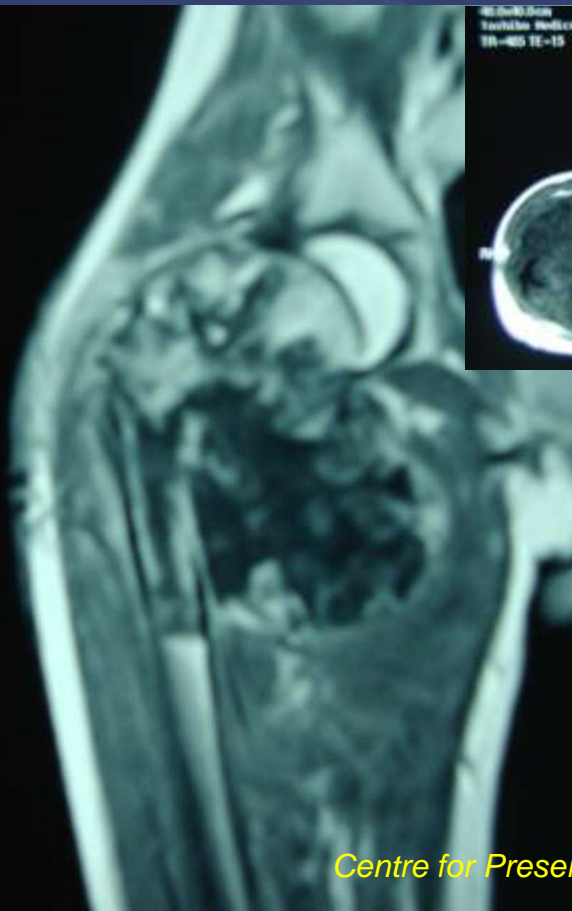
Results

Complications:

- Arthrodesis VFG:
 - Stress fracture of the VFG (2/15).
 - Implant failure (2/15).
 - Infection (1/15).
- EPR:
 - Infection (1/20).
 - Aseptic loosening (1/20).
 - Dislocation (1/20).



	Arthrodesis VFG	EPR
Re-operation rate	20%	20%
Mean MSTS	86.7%	78.9%



Discussion

Proximal Femoral Endoprosthetic Replacement

- Different published series have reported an 82-92.5% five-year survival falling to 73-86% at 10 years.
- *Donati et al* have reported a 16% revision rate, with stress shielding observed in 68% of patients at 10 years follow-up.



Proximal Femoral Endoprosthetic Replacement

- *Chandrasekar et al* found that all unipolar hips in patients aged under 21 years required revision within 11 years of the initial operation.
- *Anract et al* reported better functional results and slightly better survival rate (77 vs 73% five-year survival) with AP composites, however, the 75% allograft resorption at 5 years was a major concern.

Hip Arthrodesis

- Four of our patients (26.7%) complained of low back, ipsilateral knee, or contralateral hip pain with prolonged activity.
- *Karol et al* analyzed the gait after hip arthrodesis in adolescents, which showed excessive motion in the lumbar spine and ipsilateral knee.

Hip Arthrodesis

- *Kirkos et al* found that back pain and ipsilateral knee pain start after an average duration of 24-25 years.
- The position of the arthrodesed limb is important to early satisfaction, durability of the fusion, and long-term result.

Stover et al. (2004)

Conclusion

- The functional outcome of hip arthrodesis using a vascularized fibular graft is comparable to endoprosthetic replacement after proximal femoral resections.
- Hip arthrodesis should be considered as a viable alternative in young active patients with long life expectancy.