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Femoro popliteal bypass Vs angioplasty in TASC D lesion in endovascular ERA. Is it time to change the TASC recommendations?

Thesis submitted for partial fulfillment of M.D degree in vascular surgery

By

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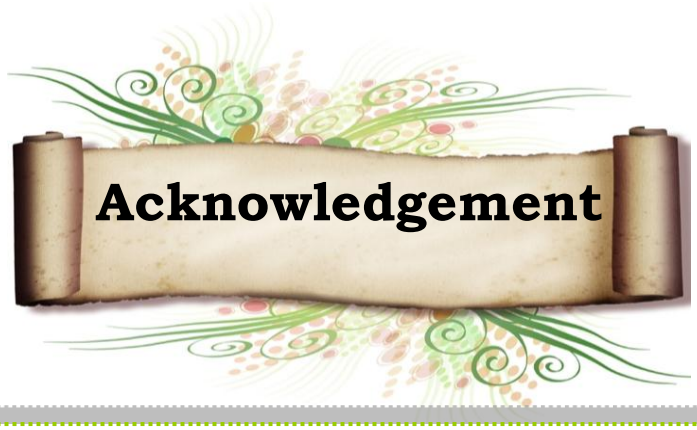

First of all, thanks to "Allah" who enabled me to finish this piece of work.

I would like to extent this work to my father, my beloved mother for their daily support and prayer.

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Ahmed Refaat El- Gendi

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List of Abbreviations

CFA	Common femoral artery
SFA	Superficial femoral artery
PFA	Profunda femoris artery
ATA	Anterior tibial artery
PTA	Posterior tibial artery
PA	Peroneal artery
SMC_S	Soomth muscle cells
EC_S	Endothelial cell
ECM	Extra celluar matrix
IEL	Interal elastic lamina
PAD	Peripheral arterial occlusive disease
ABI	Ankle brachial index
LDL	Low dinesty lipopioein
CLI	Critical limb ischemia
TM	Treadmill
AP	Ankle pressure
TP	Toe pressure
PSV	Peak systolic velocity
EDV	End diastolic velocity
CTA	Computed tomography angiography
CAD	Coronary artery diseaes
CLTI	Chronic limb threateninig ischemia
GSV	Great saphenous vein
TASC	Trans atlantic society consensus
C.B	Cutting balloon
ISR	In stent restenosis
CTo	Chronic total occlusion
IVUS	Intravascular ultrasound
EF	Ejection fraction
FI	Foot infection
CIN	Contrast induced nephropathy

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Aim of the study

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Is to discuss whether patients with CLI due to TASC D lesion will still best managed with femoropopliteal bypass or can be managed by balloon angioplasty that much decreases postoperative morbidities

especially with appearance of new advances in endovascular techniques.

Review of Literature

I. Surgical Anatomy of the lower limb arterial systems

The artery which supplies the greater part of the lower extremity is the direct continuation of the external iliac (figure ١). It runs as a single trunk from the inguinal ligament to the lower border of the popliteus, where it divides into two branches, the anterior and posterior tibial. The upper part of the main trunk is named the femoral, the lower part is popliteal ***(Gray, ٢٠٠٥).***

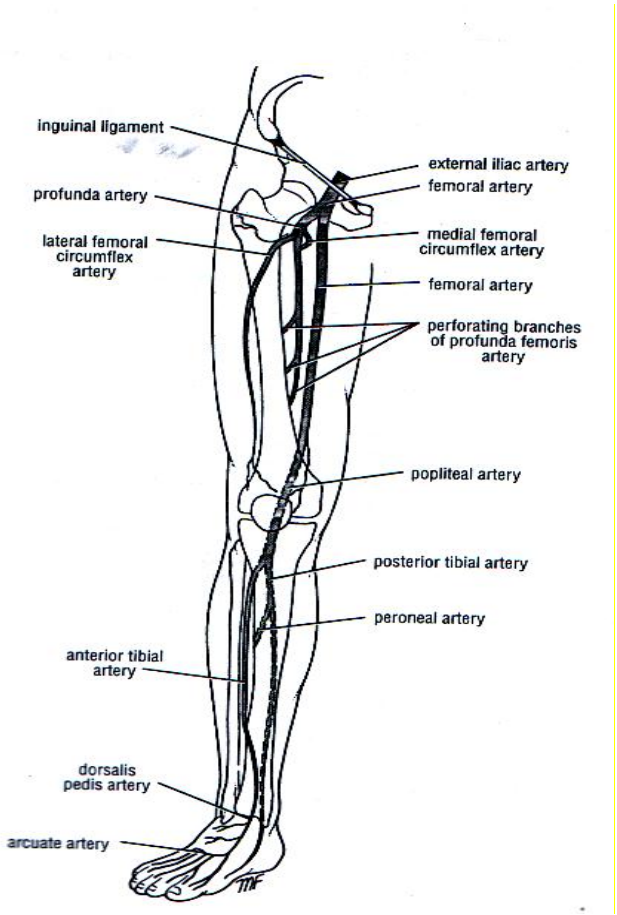

Fig. (١): Major arteries of the lower limb ***(Quoted from Richard, ٢٠٠٣).***

The common femoral artery enters the thigh by passing behind the inguinal ligament, here it lies midway between the anterior superior iliac spine and the symphysis pubis, it divided ٢ to ٥ cm below the inguinal ligament into ٢ major branches; the profunda femoris artery and the superficial femoral artery which descends almost vertically toward the adductor tubercle of the femur and ends at the opening of the adductor magnus muscle by entering popliteal space as supragenicular popliteal artery ***(Richard et al, ٢٠٠٣).***

The branches of the common femoral artery are superficial epigastric, deep external, superficial iliac circumflex, muscular, superficial external pudendal and highest genicular arteries ***(Gray, ٢٠٠٥).***

The profunda femoris artery is a large vessel arising from the lateral and back part of the femoral artery, from ٢ to ٥ cm below the inguinal ligament. At first it lies lateral to the femoral artery; it then runs behind it and the femoral vein to the medial side of the femur and passing downward behind the adductor longus, ends at the lower third of the thigh in a small branch, which pierces the adductor magnus, and is distributed on the back of the thigh to the hamstring muscles. The terminal part of the profunda is sometimes named the fourth perforating artery. The