THE ENDOVASCULAR OPTION FOR TREATMENT OF FLUSH COMMON ILIAC ARTERY OCCLUSION

Thesis

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بِسمِ اللهِ الرحمن الرحِيمِ

قَالُوا سبحانَكَ لَا عِلْمَ لنَا إِلا ما علمتَنَا إِنكَ أَنْتَ الْعلِيم الْحكِيم

صدق الله العظيم

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ABSTRACT

Materials&methods: This a prospective study assessing patients with chronic atherosclerotic FCIAOD presenting to our hospital along the period of ٦ months . We defined FCIAOD as more than 90% occlusion of diameter of CIA with less than 2 mm patent iliac stump from its origin from the abdominal aorta**.**

Results: Our study included 43 cases. Technical success was achieved in 40 patients (93%). 34 cases were done via 2 accesses (27 cases via bilateral femoral,& 7 cases via one femoral and brachial access) 1ry stenting was done in all cases.26 cases were treated by unilateral stents (2 balloon-mounted & 24 self-expandable) and 14 cases were treated by kissing stents (6 balloon-mounted &8 self-expandable).Prestent dilatation was selectively used in 32 cases. Follow up (6 months) revealed 33 cases with patent stents& no residual stenosis.4 cases of restenosis, (treated by PTA +/-stenting). 3 cases of contralateral iliac occlusion2 months later,(2 were treated by CIA stents &1 by surgery.).1 case of stent premature deployment in external iliac artery with no adverse effect.

Conclusions: Endovascular treatment provides a successful option for the management of FCIAOD with a technical success rate of 93%. Technical consideration includes the use of 2 accesses as a rule &the option of selective use of prestent dilatation. FCIAOD does not preclude the use of unilateral stent in CIA, which can be completed to kissing stents if needed.

Keyword:

- Flush Common Iliac
- Common Iliac Angioplasty
- Aorto Iliac disease
- Aorto Iliac Angioplasty

CONTENTS

Lists of Abbreviations

ABI: Ankle brachial index

ADA: American Diabetic Association

AIOD : aortoiliac occlusive disease

BP: blood pressure

CABG: Coronary arteries bypass graft

CBC: complete blood count

CLI: critical limb ischaemia

CRI: chronic renal failure

CRP: C- reactive protien

CTA: computed tomogram angiography

CTO: chronic total occlusion

CE-MRA: contrast-enhanced (gadolinium) magnetic resonance imaging

CDU: colour duplex ultrasound of lower limb arteries

DM : diabetes mellitus

DSA : digital subtraction angiography

ECG : electrocardiogram

FDA: Food and Drug Administration

FCIAOD : flush common iliac artery occlusive disease

HBA1c : Heamoglobin A1c

HDL : high density lipoprotien

HTN : hypertension

HMG: CoA:hepatic 3-methylglutaryl coenzyme A

IHD : ischaemic heart disease

LDL : low density lipoprotien

MDCTA : Multidetector computed tomogram angiography

MRA : magnetic resonant angiography

PAD : peripheral arterial disease

PCI : percutaneous catheter intervention

PTA : percutaneous transluminal angioplasty

PVR : pulse volume recordings

RCT: randomizes control trials

TBI : toe brachial index

TG: triglycerides

TASC: Trans Atlantic Inter-Society Consensus

List of Table

Introduction and Aim of the Work

INTRODUCTION

Iliac arteries are among the most common sites of the occlusive atherosclerotic disease that is responsible for symptomatic arterial insufficiency of lower extremities. Because atherosclerosis is a systemic disease, iliac diseases frequently have coexistent disease below inguinal ligament. (Brewster 2006)

Iliac atherosclerosis may be asymptomatic or causing acute ischemia, intermittent claudication, critical limb ischemia (CLI) or blue toe syndrome. Usually CLI is multilevel disease. ***(Gain 2008)***

The increasing role of the minimally invasive vascular intervention is fueled by various factors, including rapid advances in imaging technology, reduced morbidity & mortality in endovascular interventions, as well as faster convalescence following percutaneous therapy when compared to traditional operations. ***(Lumsden et al 2006)***

Because of its relative simplicity, low complication & mortality rates, iliac angioplasty has become a credible alternative to bypass surgery for treatment of short iliac occlusive lesion. 2 years patency rates range from 75 to 95 %. Among factors that affect outcome of procedure, the radiological aspect of lesion play a determining role. ***(Becquemin et al 1999)***

Percutaneous angioplasty is widely used for the treatment of iliac artery occlusive disease. Access to the ipsi-lateral, or less commonly contralateral, common femoral artery is obtained

under local anaesthesia; the lesion is crossed with a guidewire and dilated with an angioplasty balloon catheter. This technique yields excellent immediate results with very few complications. ***(Brountzos et al 2004)***

Brachial access has played an increasing role in patients with flush occlusions at the aortic bifurcation. ***(Christopher et al 2006)***

The Trans Atlantic Inter-Society Consensus (TASC) working group, a multispeciality effort, has published a consensus document with recommendation for management of peripheral arterial disease.

The TASC classification categorizes iliac artery lesions according to complexity. Type A&D lesions are the two extremes of disease severity. Endovascular therapy is the treatment of choice for type A lesions and surgery is the treatment of choice for type D lesions. Endovascular treatment is the preferred treatment for type B lesions and surgery is the preferred treatment for good-risk patients with type C lesions. The patient's co-morbidities, fully informed patient preference and the local operator's long-term success rates must be considered when making treatment recommendations for type B and type C lesions ***(Norgren et al 2007)***

Lesions involving the origin of the common iliac artery at aortic bifurcation deserve extra consideration. Concern exists that intervention on one side may lead to compromise of origin of other iliac by movement of an eccentric plaque one option is the

kissing stent technique where stents are placed in bilateral iliac arteries. ***(Peden et al 2006)***

This technique (iliac angioplasty) is applicable not only to chronic ischemia but also to acute limb ischemia. Iliac angioplasty has been used not only as a stand-alone procedure but also as a viable option for improving inflow in patients requiring distal bypass procedures ***(Mousa et al 2007)***

Combined use of iliac artery angioplasty and infrainguinal surgical revascularization is an effective and durable means of treating multilevel atherosclerotic disease. ***(Siskin et al 1999)***.

AIM OF THE WORK

Assessment of role of endovascular techniques in management of flush common iliac artery occlusion

Review of literature

Chapter (1)

Anatomy