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Abstract

Implications of neovascularisation in perforator based fasciocutaneous flaps of lower limb.

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Abstract:

Introduction

INTRODUCTION: Flap harvest depends on relevant vascular anatomy. The various perforators that vascularize the flaps undergo certain changes following transfer as compared to the normal vascular arcade. The planning and survival of the flaps following transfer depends on mapping and imaging these system of perforators either by CT angiography or MR angiography. Perforators of the concerned vascular axis were identified and their course was studied in great detail in the lower limb.

OBJECTIVES: To find out the rationality of various pedicled flaps regarding their vascularity, to analyse the vascular changes in the flap after its transfer, to employ imaging to augment our existing knowledge of perforators and axial vessels and to ascertain tentative timing of neovascularization following transfer and safe ligation of vascular pedicle.

MATERIALS AND METHODS: 30 patients having soft tissue defects of different etiology below the knee of either lower limb were studied. Comorbidities which could adversely affect the vascularity of flap were taken into account and exclusion criteria were defined. Detailed vascular structure was studied by CT Angiography marking the perforators from the main vessel namely the posterior tibial artery, peroneal artery and reverse sural axis. The perforators were confirmed by audio doppler signals. The diagnostic modalities were also used to study the neovascularization from various perforators of the leg. The preoperative and postoperative study was carried out at 10th day. The axial vessel and its perforators were evaluated and signs of neovascularization were looked for.

RESULTS: Results of variables studied on CT angiography were the number of perforators which was 3.47±1.34 (range 1-6), malleolus to the distalmost perforator distance which were 7.8±4.91 cm (range 5-13 cm) and size of perforators averaging 1.59±0.36mm (range 1.1-2.2mm). In 21 out of 30 patients (70%), the neovascularization and subsequent survival of the flap was complete by 10 days as demonstrated by radiology. Rest of the patients took longer.

CONCLUSION: Neovascularisation is complete by 10 days and therefore fasciocutaneous flaps may lose dependency on their vascular pedicles in the short term following transfer, developing alternative pathways for vascular supply and ultimately survival. The vascular pedicle can be safely ligated after 10 days in selected subset of patients.

Biography

A renowned cosmetic surgeon, Dr. Neeraj Kant Agrawal in Bhu has been making a mark in the field through implementation of advanced skin treatments and sophisticated surgical techniques. This medical professional has been contributing towards the society by bringing revolutionary changes in the lives of many people through commendable skin treatments. The clinic is strategically located in Bhu with the exact address being Dept.Of Plastic Surgery, Ims, right . Accessing the chamber is a piece of cake for the citizens owing to its favourable location in an area which enjoys a great connectivity with the rest of the places. Clients can conveniently get their way back with the help of local transports that has a frequent service in this particular locality.

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