

Role of Wide Awake Trendelenburg's Operation of Prevention of Recurrence of Venous Ulcer

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Abstract

The COVID-19 pandemic in 2020 was a testing time for the healthcare facilities all over the world, every day new frontiers were met. The patients were to be treated with compassion and care meantime following all safety norms. Trendelenburg's operation the time tested treatment available for varicose vein usually done under spinal or general anesthesia, using the electrocautery for dissection and hemostasis. But due to the risk of aerosol generation the spinal anesthesia or general anesthesia or use electrocautery were reserved to minimum. In this article, we share our experience of undertaking the Trendelenburg's operation for one such patient who got her 8 years old venous ulcer completely healed during the pandemic without getting covid transmission and comparable results that of the conventional Trendelenburg's operation.

Keywords: Venous Ulcer; Trendelenburg's Operation; Wide Awake Surgery; Tumescence anesthesia.

INTRODUCTION

Healthcare workers are among the high-risk category of getting infected with the COVID-19. One of the effective preventive method is to avoid aerosol generating procedures (AGP). Aerosol generating procedure that a surgeon frequently

encounter are Electrocautery use, suction, as well as the anesthesia. So, during COVID-19 most of the non emergency surgical procedures were deferred or done using methods with minimum aerosol generation.

There was a subset of patients who were admitted in the hospital even during lockdown due to various reasons, like, poor general condition, lack of public transportation facility, or those who needed frequent medical attention. Such patients needed to be provided with the surgical intervention meantime safeguarding the healthcare professionals.

Based on this principle we did this study; Trendelenburg's operation was done on a patient who was admitted before lockdown and could not be discharged due to a large raw area over the leg

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and due to lack of public transport facility and her home town was within a containment zone.

MATERIALS AND METHODS

50 years old female was admitted and evaluated with infected ulcer with history of multiple recurrences over the lower leg for the last 8 years. She was evaluated and initially treated for the ulcer, with multiple episodes of debridement, wound bed preparation, and when the ulcer was made ready for reconstruction and the ulcer was covered with a split thickness skin graft. During the evaluation she was found to have saphenofemoral incompetence.

The COVID-19 transmission prevention advisory suggested to avoid aerosol generating procedures. So it was decided to proceed with the surgery in line with the principles of wide awake local anesthesia no tourniquet technique.

The surgery was done under tumescent anesthesia, after getting informed consent and clearance from department ethical clearance.

Tumescent solution was prepared with 450 ml of normal saline, one vial of Lignocaine, one ampule

of adrenaline, one ampule of sodium bicarbonate, and one ampule of hyaluronidase. It was injected over the saphenofemoral junction and along the course of the great saphenous vein in the upper thigh. A 5 cm incision was made below the inguinal crease after marking the saphenofemoral junction. Blunt dissection was done and the saphenofemoral junction was identified and juxta femoral flush ligation of great saphenous vein was done. Along with great saphenous vein, three named tributaries of the great saphenous vein were also ligated and divided. Hemostasis was good and the anesthesia level was also good. The wound was closed in layers without any drain. Post-operative period went uneventful and sutures were removed after 2 weeks.

RESULTS

Wide awake Trendelenburg's operation is an effective method to perform juxta femoral flush ligation of the great saphenous vein without any intra operative complications, or post operative period complication and there was no steps involved which can lead to aerosols generation.



Fig. 1: Ulcer over the lower third of the leg at presentation



Fig. 2: Ulcer after the wound bed preparation, healthy granulation



Fig. 3: Split thickness grafting done



Fig. 4: Graft well taken



Fig. 5: Juxta Femoral Flush Ligation of The Great saphenous vein

DISCUSSION

The varicose vein is a very common surgical problem and it is a cause of non-healing ulcers. The prevalence of varicose veins is 10–15% in men & 20–25% in women. symptoms of varicose vein are, aching, heaviness, itching, cramping, edema, pigmentation, eczema, ulcer, cosmetic, bleeding, thrombophlebitis, deep vein thrombosis, or pulmonary embolism.

There are many treatment options for varicose vein, but in COVID-19 lockdown has decreased the arsenal in our armamentarium. Because of the resource limitation and the risk of aerosol generation which can lead to the transmission of COVID19 infection.

Trendelenburg's operation combined with the stripping of the great saphenous vein is the most sought after surgical option which can very well

minimize the risk of re-ulceration in our patient, but since the surgery can only be performed under tumescent anesthesia stripping of the great saphenous vein cannot be attempted. The literature suggests that stripping the Great saphenous vein will reduce the risk of recurrence in the long term.¹ But stripping is associated with increased morbidity as well as can cause pain, hematoma, and saphenous neuritis² Great saphenous vein stripping also increases hospital stay. Moreover, stripping cannot be done under local. Anesthesia and it also deprives the patient of a conduit for arterial bypass later in life. For these reasons, many surgeons do not routinely perform stripping of the great saphenous vein.³

Limitation of the study

This study was done only at a single center, with a single patient, large randomized control study involving multiple centers is required to substantiate the result of the study, moreover the study was done during the unprecedented circumstances that arose during the pandemic.

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Conflict of interest: None

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