The anatomical variations that occur in the great saphenous vein encounter during surgery -A study done at a tertiary care teaching hospital

Rashmi R Bhat[1], Amar D N[2*], Satheesha K S[3]

[1]Associate Professor, [2,3]Professor, [1,3]Dept. of Anatomy, [2]Dept. of General Surgery, Srinivas Institute of Medical Sciences and Research Centre, Mukka, Mangalore, Karnataka, India

***Corresponding Author: Amar D N**
Email: dramardn1984@gmail.com

Abstract

Introduction and Objective: Recurrence is one of the most common complication that occurs following varicose vein surgery and even with the best of the surgeon and techniques followed, recurrences are common. The most common cause for recurrence is the unidentified duplication of the great saphenous vein mistaking the branch of the great saphenous vein that mimics the main vein often when there is an atom equal variation the complete cure cannot be given to patients with varicose veins at least it is possible to postpone the recurrence by adequately treating the varicose veins. The recent trend in the management of varicose veins have change drastically with an increase in the use of minimally invasive techniques like laser, Venus and RFA Most of the anatomical variations occur in the region of sapheno-femoral junction. In view of all the above said we decided to study anatomical variations that are encountered during surgery for varicose veins and their significance in management of varicose veins.

Materials and Methods: The study was a non-randomised prospective study that was done on 20 consenting patients format a predefined criteria and posted for varicose vein surgery. The study was conducted during the time period of September 2017 to August 2019 on all consenting patients who made a predefined criteria.

Results and Observations: In the present study the mean age was 50.3 years, we had 5 males (40%) and 15 females (60%), left side in 6(30%), bilateral in 4(20%) right side in 10(50%). he most common indication for varicose vein surgery was venous claudication 15(80%). In the present study we had a mean BMI of 20.3kg/m2. Type 1(40%), there was a triangular saphenous compartment containing the gsv and its tributaries. Type 2(10%), there was a fascial canal that contained gsv. Type 3(50%), there was a small fascial saphenous compartment with variable boundaries that contained the great saphenous vein and 1 or 2 of

Keywords: Varicose veins, Great saphenous vein. Anatomy.

Introduction and Objective

The changes that have occurred in the population with respect to the industrialisation and the increased awareness has led to an increase in the number of surgeries performed.[1] The surgeries that have been done for varicose veins have also been increased over the in the past few decades.[2] Research that has been done has shown that various in a anatomical variations of the great saphenous vein occur, but most of the studies are done in the western population. There is a lack of research done in the Indian context. Also there is very limited data in the Indian continent available on the treatment for varicose vein. The surgeries both minimally invasive and open surgeries that are term for treatment of symptomatic varicosities are basically a palliative procedure in which only the vein that is abnormal is removed and not the etiology of the varicose veins. Recurrence is one of the most common complication that occurs following varicose vein surgery and even with the best of the surgeon and techniques followed, recurrences are common.[3,4] The most common cause for recurrence is the unidentified duplication of the great saphenous vein mistaking the branch of the great saphenous vein that mimics the main vein often when there is an atom equal variation the complete cure cannot be given to patients with varicose veins at least it is possible to postpone the recurrence by adequately treating the varicose veins.[5-7] The recent trend in the management of varicose veins have change drastically with an increase in the use of

minimally invasive techniques like laser, Venus and RFA

Most of the anatomical variations occur in the region of sapheno-femoral junction. In view of all the above said we decided to study anatomical variations that are encountered during surgery for varicose veins and their significance in management of varicose veins.

Materials and Methods

The study was a non-randomised prospective study that was done on 20 consenting patients format a predefined criteria and posted for varicose vein surgery.

The study was conducted during the time period of September 2017 to August 2019 on all consenting patients who made a predefined criteria. the exclusion criteria was those with secondary very cold cities those who are undergoing surgery for recurrent varicosities those who have any bleeding disorders patients with chronic liver disease patients with chronic renal failure patients want control diabetes mellitus patients who are on cardiac medication patients who have uncontrolled hypertension. The inclusion criteria was as follows patients with primary very cold cities whose age range between 18 years and 60 years of either sex. Those patients whose Doppler shows sapheno femoral junction incompetence with dilatation of the great saphenous vein.

All those patients who will fulfilled a predefined criteria where explain regarding the procedure consented a detailed information regarding the surgery for varicose veins the alternative option available and the possible complications are inform to the patient, making sure that the patient is understood in detail regarding the procedure and complications a written informed consent is taken and the patient is prepared for surgery the preoperative evaluation of those patient for posted for surgery include a complete haemogram including a platelet count, renal function tests, liver function tests, complete venous Doppler of the affected lower limb ultrasound of the abdomen PT including INR, easy, chest X-ray, 2D echo for patients above the age of 40 years fasting sugar levels lipid profile thyroid function test viral markers are done the patient is fit for surgery a complete PC is done to look for any e other comorbidities all patients belong to ASA class 1, 2 and 3 are taken up for the study.

The procedure following overnight fasting the patient is taken up as the first is the next day of preoperative antibiotic which is the third generation cephalosporin is given half an hour prior to the patient call to the operating room the ECG leads are fixed all surgeries done under spinal anaesthesia the parts are painted and draped as per the routine standards, following this am incision is placed at the groin skin crease after palpation of the femoral the vessels. The groin incision is depend and the great saphenous vein is exposed at the junction of the great saphenous vein with the common femoral vein the presence of any variation is noted. The data collected is transferred to the Microsoft Excel sheet for analysis. An analysis is done by using the SPSS software version 23.

Results and Observations

In the present study the mean age was 50.3 years, we had 5 males (40%) and 15 females (60%), left side in 6(30%), bilateral in 4(20%) right side in 10(50%). he most common indication for varicose vein surgery was venous claudication 15(80%). In the present study we had a mean BMI of 20.3kg/m2.

Type 1(40%), there was a triangular saphenous compartment containing the gsv and its tributaries. Type 2(10%), there was a fascial canal that contained GSV. Type 3(50%), there was a small fascial saphenous compartment with variable boundaries that contained the great saphenous vein and 1 or 2 of its tributaries. In the present study we the mean number of tributaries to the great saphenous vein was 4.89 ± 1.05

We had the superficial tributaries that ranged from three to seven in 50% of cases we had seven tributaries, in 255 we had 6 cases The length of the great saphenous vein in the saphenous compartment had a mean range of 6.15 cms with 5range of 5cms to 7.8 cms. duplication of the great saphenous vein was seen in 5% of the cases evaluated.

Discussion

The management of varicose veins is primarily a palliative one with treatment of the effect only varicose veins. Recurrence is one of the most common complication that occurs following varicose vein surgery and even with the best of the surgeon and techniques followed, recurrences are common. The most common cause for recurrence is the failure to identify the of the anatomical variations occur in the region of sapheno-femoral junction.

In our study we found 5% had duplication which is lower than previous studies like Mansberger et al who stated that duplication was seen in 24%,[8] Donnelly et al[9] who stated that duplication was seen in 18% but higher than study by Souroullas et al[10] who stated that duplication was seen in 2% our fin ding is similar to finding by Tavlasoglu et al[11] who stated that duplication was seen in 5.7%.

Ehab Mostafa Elzawawy stated that the mean number of tributaries to the great saphenous vein was 5.12 ±1.95[11] and Hemmati et al ted that the mean number of tributaries to the great saphenous vein was 3.87±0.99. In the present study we the mean number of tributaries to the great saphenous vein was 4.89 ± 1.05.[12]

Conclusion

In the present study we concluded the following

A careful meticulous dissection of the vein has to be done to search for all tributaries and the variations of the great saphenous vein so that recurrences can be presented

Source of Funding

None.

Conflict of Interest

None.

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