Original Research Paper

Volume - 13 | Issue - 01 | January - 2023 | PRINT ISSN No. 2249 - 555X | DOI : 10.36106/ijar

Medical Science

DUPLICATE GREAT SAPHENOUS VEIN- A RARE CASE REPORT

Dr. Vijetha Bandla	Junior Resident, Dr. D. Y. Patil medical college and hospital, Pimpiri, Chinchuwad-411018.
Dr. Mahendra Wante*	Associate Professor, Dr. D. Y. Patil medical college and hospital, Pimpiri, Chinchuwad-411018. *Corresponding Author
Dr. Dakshayani Nirhale	Head of the Unit & Professor, Dr. D. Y. Patil medical college and hospital, Pimpiri, Chinchuwad-411018.
Dr. Ramya Vajja	Junior Resident, Dr. D. Y. Patil medical college and hospital, Pimpiri, Chinchuwad-411018.
Dr. Joseph Kurian	Senior Resident, Dr. D. Y. Patil medical college and hospital, Pimpiri, Chinchuwad-411018.
Dr. Anoop Burra	Junior Resident, Dr. D. Y. Patil medical college and hospital, Pimpiri, Chinchuwad-411018.
Dr. Abhinav Arigela	Junior Resident, Dr. D. Y. Patil medical college and hospital, Pimpiri, Chinchuwad-411018.

ABSTRACT The Great Saphenous Vein (GSV) is the longest vein in the body. Originating from the dorsal pedal venous arch and courses medially, anterior to the medial malleolus, entering the common femoral vein approximately 4 cm inferior and lateral to the pubic tubercle. Duplicated great saphenous vein is very rare in its course, tributaries and termination. Anterior or posterior Accessory vein, bifurcated vein and segmental hypoplasia are the other rarest variants. Duplicated great saphenous vein (GSV) is very rare in its course, tributaries and termination. We have reported a case of unilateral duplication of great saphenous vein during surgery of a 58year old male patient who had long standing varicose veins with perforators in the left leg at our institution. True duplication of GSV is a rarity in the occurrence. Due to lack of a clear definition and parameters for identification plus different anatomical variations, the incidence of duplication of GSV is reported to be between 1% and 20%.

KEYWORDS : Varicose veins, GSV, Variation, Duplicate Vein.

INTRODUCTION:

Great saphenous vein the longest vein lies within saphenous compartment, bounded superficially by saphenous fascia and posteriorly by the deep fascia. Ligation and stripping of the GSV and its tributaries is still the affordable surgical interventional therapy, so before planning surgery it is important to have knowledge and understanding of the anatomical variations of these veins. From the reported scientific literature, apart from of an accessory or duplicated GSV as many as five different types of anatomical variations of GSV in the thigh and knee regions are established [1].

Due to presence of duplicated GSV and other anatomical variations of GSV recurrence of varicose vein is a likely complication even after surgery. From the report of various studies different types of anatomical variations are established which involve the presence of an anterior and posterior accessory vein, duplicated GSV, bifurcated GSV and segmental hypoplasia [2]. Persistent accessory GSV and duplicated GSV are clinically significant anatomical variations. The Anterior accessory saphenous vein (AASV) is found in 14% of patients with varicose veins[3]. The posterior accessory saphenous vein (PASV) indicates any venous segment that ascends parallel to the GSV and is located posteriorly, both in the leg and thigh.

In rare cases the vein may be diminished in caliber or not visualized in some segments along the saphenous compartment is called as segmental hypoplasia of the GSV [4]. The GSV getting divided at knee and united to form single at mid-thigh and terminates in the femoral vein is termed as bifurcated vein [5].

Case Presentation:

A 58year old male patient clinical signs and symptoms of left lower limb varicose veins with SFJ and perforator incompetence. Colour doppler confirmed the findings but reported accessory GSV. Patient was taken up for Trendlenberg surgery with perforator ligation. Intraoperatively saphenofemoral junction was dilated Figure 1. Accessory GSV which was reported in color doppler was found to be bigger in diameter within the same compartment running parallel to each other and having caliber similar to great saphenous vein suggestive of duplicate GSV (Figure 2).

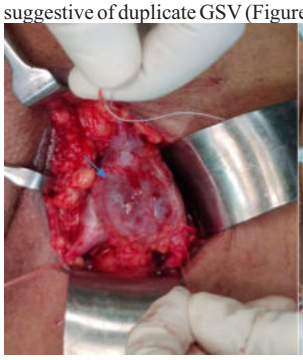

Figure 1 : Dilated Saphenofemoral junction

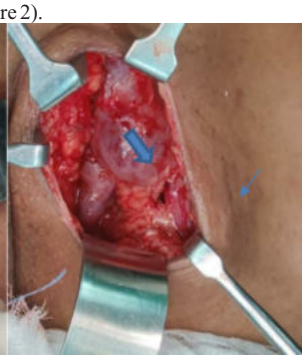

Figure 2: Showing GSV and Duplicate GSV

DISCUSSION:

The incidence of double GSV is reported between 1% and 20% in different studies. May be due to the lack of clear definition and objective parameters for identification [4]. The research through cadaveric, saphenogram and USG studies, many variations of GSV have been reported. Five types of duplication of GSV with incidence of 32% was reported in one detailed cadaveric study of 50 lower limbs in Vidharbha region of India [1].

In duplex examination of lower limb Van Dijk et al observed the duplication in 20% of the cases[6]. An ultrasonographic Duplex study proves less common incidence of true duplication of GSV as compared to previous literature suggested. Only 1% of duplication of GSV in thigh region is reported by Chen and Prasad by ultrasonography [2] Ricci et al study showed true duplication of the GSV in 1% of the population and exclusively in the thigh but never in the leg[7].

This vast variation of incidences can be attributed to accessory

saphenous vein or large tributaries running parallel to the GSV getting interpreted as double GSV. ASVs are the tributaries parallel to GSV and named as anterior or posterior accessory GSV. Accessory vein is smaller in size as compare to GSV and has different cutaneous drainage. True duplication of the GSV occurs only when there are two venous trunks with same caliber running parallel to each other within the same saphenous compartment. True duplication of the GSV is observed exclusively in the thigh and never in the leg. When duplication persists, both GSVs lie in the same plane [8]. A unilateral duplicated GSV just below the knee at the level of medial condyle of tibia with eventual reunion of both to form a single saphenous vein with eventual termination into femoral vein was reported by Nakhate et al [9]. It is recommended that the duplicated GSV should be treated to avoid an important risk of recurrence of venous insufficiency [10].

In our case the anomalous vein had same caliber as main GSV and it was within same venous compartment in the thigh above knee running parallel to each other and getting united to form a small sapheno varix before entering in to left femoral vein. Our findings were in accordance with many previous findings and definition of duplicated GSV.

CONCLUSION:

Duplicate GSVs are very uncommon as their occurrence rate is estimated to be 1%. It's not be confused with AASP. To avoid recurrence of venous insufficiency we should diagnose and treat duplicated GSV.

REFERENCES:

1. Dr Surekha W. Meshram1, Dr. Yogesh Ganorkar2, Dr V.P. Rukhmode, Dr.Tarkeshwar Golghate;Study of Variation of Great Saphenous Veins and Its Surgical Significance;IOSR-JDMS;Vol 17/2 Ver.10 February. (2018), PP 21-26
2. Al-Adawi, S. S. H., Al-Aufi, A., Stephen, E., Abdelhady, I., Al-Mawali, H., & Al-Wahaibi, K. (2021). Anatomical variations of the saphenous fascia in the omani population. *Indian Journal of Vascular and Endovascular Surgery*, *8*(1), 55.
3. Kurt, A., Akturk, Y., & Hekimoglu, B. (2014). A rare anatomical variation of the greater saphenous vein. Case report. *Medical Ultrasonography*, *16*(1), 60-62.
4. Caggiati, A., & Mendoza, E. (2004). Segmental hypoplasia of the great saphenous vein and varicose disease. *European journal of vascular and endovascular surgery*, *28*(3), 257-261.
5. Kumar, N., Aithal, A. P., Swamy, R. S., Nayak, S. B., Rao, M. K., & Abhinitha, P. (2017). Bifurcated great saphenous vein: A report on its therapeutic and diagnostic perspectives. *Journal of Cardiovascular Echography*, *27*(3), 107.
6. van Dijk, L. C., Wittens, C. H., Pieterman, H., & van Urk, H. (1996). The value of pre-operative ultrasound mapping of the greater saphenous vein prior to 'closed'in situ bypass operations. *European journal of radiology*, *23*(3), 235-237.
7. Ricci, S., & Caggiati, A. (1999). Does a double long saphenous vein exist?. *Phlebology*, *14*(2), 59-64.
8. Mozzon L,Venier E, Gonano N and Biasi G (1989). On a case of double saphenous crook, Phelbology 14-15.
9. Joy, G., & Sawant, V. G. (2014). A rare variation of great saphenous vein. *Journal of Evolution of Medical and Dental Sciences*, *3*(61), 13625-13628.
10. Kockaert, M., de Roos, K. P., van Dijk, L., Nijsten, T., & Neumann, M. (2012). Duplication of the great saphenous vein: a definition problem and implications for therapy. *Dermatologic surgery*, *38*(1), 77-82.