

# Primary and secondary venous insufficiency

It is an expansion of the superficial veins respectively veins of the superficial venous system of the lower extremities. It is one of the most common diseases in developed countries. It has been found out that by the age of fifty, half of the population already has some form of venous insufficiency.

**Varicose veins** also called **varix** of the lower extremities are divided into:

1. **primary** (idiopathic) and
2. **secondary** (postthrombotic).

## Primary varix

The most common type of varicose veins. A certain level of dilatation of DK veins is seen in half of adult men and 2/3 of women. A more severe form of the disease occurs in up to 20% of the population.

### Forms of varices

- Microvarices;
- reticular (affects smaller veins);
- trunk varices (affects v. saphena magna and/or parva).

### Pathogenesis

The genetic background of the congenital weakening of the vein wall and immobility of the venous valves has a great influence. The effect of progesterone is also involved. Another important factor of pathogenesis is **valve insufficiency in the junctions between the deep and superficial systems** which leads to over-pushing blood from deep na povrch during working muscle pump.

An additional factor for the formation of the varices can be **increased intra-abdominal pressure, working while standing, sitting**. Congestion occurs in the venous system, resulting in capillary proliferation, increased permeability of the vascular wall, and subsequently the leakage of substances into the interstitium (fibrinogen).

### Klinical pciture

At first, varicose veins are just a cosmetic problem. Then there are typical problems - **'feeling of heaviness or tension in the limbs'** (especially in the evening, in the hot weather), **'night cramps'**, **'burning or itchy skin'**, **'eczema'** to **'leg ulcer'**.

Among the main complications of varicose veins are **'thrombophlebitis'** and **'rupture of varix'**.

### Diagnosis

The extent of the varicosities can be determined by physical examination. Continuation of the pressure wave induced by tapping on the varices distally is indicative of valve insufficiency. By palpation, it is possible to detect enlarged openings in the fascia, through which insufficient perforators pass.

Basic tests – Perthes test and Trendelenburg test – they are not used anymore. These days we use **ultrasonography, USG** for diagnosis.

### Therapy

Minor phlebectases can be treated with injections of a *sclerosing solution* followed by a compression bandage. If the whole saphena is relatively well and only small vein branches are dilated, we will remove them by small incisions.

Typical operation for affected saphenous veins – Babcock's operation (**stripping**). Based in the careful dissection of the point of entry of the saphena magna into the femoral vein in the "fossa ovalis" in the groin. At this point, we ligate all venous tributaries(v. circumflexa ilium spf., v. epigastrica spf., vv. pudendae ext.) and we cut the trunk at



Varix on the right lower extremity

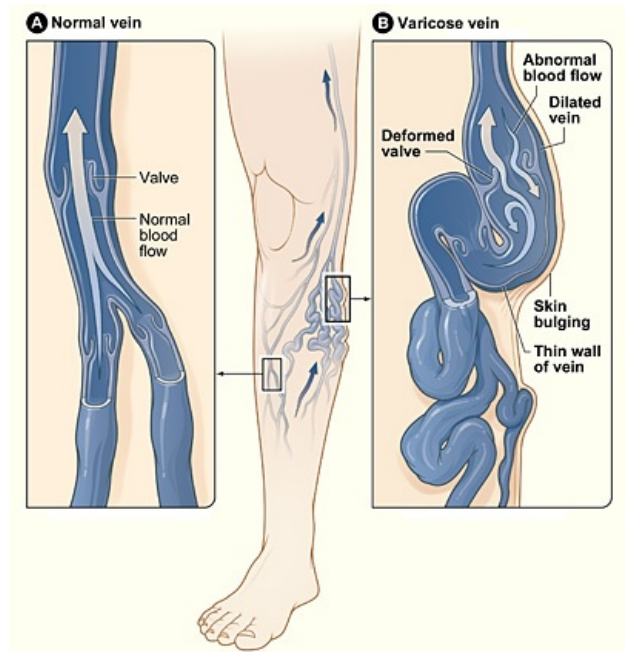


Diagram of varicose veins of the lower extremity



Ulceration on the dorsum of the leg

the outlet. Then we dissect the saphenous vein in front of the inner ankle and insert the endostrip. We pass the wire through the saphenous vein. At the end, it has an extension on which the entire saphena is inserted when the wire is pulled through the canal.

Both saphenous veins are used for bypass, that is why it is important to consider this operation very carefully. We always try to ligate insufficient perforators.

## Secondary varices

### Pathogenesis

**Consequences of the deep vein thrombosis:** Hypertension in the superficial venous system during deep vein occlusion. Possibly due to post-thrombotic syndrome – damage to the valves of the deep veins during recanalization thrombosis.

### Klinical picture

They tend to be smaller and more dispersed. Skin changes, eczema, skin atrophy with pigmentation and **leg ulcer develop more quickly. To diagnose the development of the disease is used ultrasonography'** and also flebography.

### Therapy

Mostly conservative – **suitable position, bandaging, taking care of skin**. In the case of a leg ulcer, it is good to ligate the supply vein and cover the ulcer with skin grafts.

- Occlusion of pelvis vein – cross-over bypass sapheno-femoral.
- Occlusion of femoral vein – safeno-popliteal bypass.



leg ulcer

## References

### Related articles

- Chronic venous insufficiency
- Venopharmacy
- Perthes test
- Trendelenburg test

### Source

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