Controversies & updates in Vascular Surgery

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Vulvar varicose veins during pregnancy

PATHOGENESIS

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Disclosure

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I have the following potential conflicts of interest to report:

- [ ] Consulting
- [ ] Employment in industry
- [ ] Shareholder in a healthcare company
- [ ] Owner of a healthcare company
- [ ] Other(s)
- [x] I do not have any potential conflict of interest
Pathogenesis

• anatomical structures

• varicose heredity

• specific factors related to pregnancy
Anatomical structures

The venous drainage of the vulva is double

- forward
  by the lateral pudendal veins

- backward
  by superficial perineal veins
Anatomical structures

- COMMON FEMORAL v.
- SAPHENO-FEMORAL junction
- PUENDAL LATERAL v.
- ANTERIOR LABIAL v.
- INTERNAL Iliac v.
- PUDENDAL MEDIAL v.
- SUPERFICIAL PERINEAL v.
- POSTERIOR LABIAL v.

Key:
- Aponeurotic crossing
- Alcock's canal
Varicose heredity

- study of twins (2,060 pairs sex ♀)
- concordance rate for varicose veins:
  - 67% in homozygous twins
  - 45% in heterozygous twins

>> there is a genetic factor but ...

- discordance rate = 33% in homozygous twins

>> there are others factors:
  - environnemental, hormonal & hemodynamic

specific factors related to pregnancy

- **hormonal factors**
  - **hyperprogesteroneemia**  >> relaxation of smooth muscle fibers  
    >> parietal tonicity ↓  >> compliance ↑  >> venous dilatation ↑
  - **hyperoestrogenism**  >> capillary permeability↑, vasodilatation ↑

- **mechanical factors**
  - impediment to venous return by pregnant uterus  
  - ↑ lumbar lordosis  >> positional compression of the LRV

- **hemodynamic factors**
  - ↑ blood volume + 50%  
    (between 8-9 months) *
  - ↑ intra-venous pressure x 3  
    (with placenta growth = high flow AV communicat°)
  - ↑ flow of ovarian veins x 60  
    (from the 36th weeks) **

** Hodgkinson CP. Physiology of the ovarian veins during pregnancy. Obstetrics and Gynecology 1953; 1: 26-37
Draining path = Alcock’s canal

EXTERNAL ILIAC v. → COMMON FEMORAL v. → SAPHENO-FEMORAL junction → PUDDENDAL LATERAL v. → ANTERIOR LABIAL v. → Alcock’s canal → SUPERFICIAL PERINEAL v. → POSTERIOR LABIAL v. → INTERNAL ILIAC v. → PUDDENDAL MEDIAL v. → aponeurotic crossing → Alcock’s canal
Leak point = P point

- EXTERNAL ILIAC v.
- COMMON FEMORAL v.
- SAPHENO-FEMORAL junction
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- POSTERIOR LABIAL v.

Alcock’s canal

leak point = P point *

* Franceschi C. Phlébologie 2004; 57: 237-42
Leak point

= reverse flow in an anatomical drainage pathway
left P point
varicose veins in the left labia majora
right P point
ANATOMICAL STRUCTURES

DRAINING TRUNKS

VULVA
ANATOMICAL STRUCTURES

DRAINING TRUNKS

VULVAR VARICOSE VEINS

VARICOSE HEREDITY
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