Ovarian Varicose Veins may Provoke Premature Ovarian Failure?

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Abstract

We will describe 2 cases of embolization of ovarian varicose veins in patients with confirmed diagnosis of premature ovarian failure that began menstruating again after the treatment.

Keywords: Premature ovarian failure; Ovarian varices; Varicocele; Embolization; Sclerotherapy

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Figure 1A: Ultrasound highlights varicose veins in the broad ligament of the uterus – mode B.

Figure 1B: Ultrasound confirms varicose veins beside the ovaries through the scale of colors.

Figure 2A: Ovarian Varicose veins confirmed by Pelvic Phlebography.

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After this treatment, the patient reported an improvement in her menstrual flow that used to last for 8 to 10 days, with dark coloring and with disabling menstrual cramps. Now, it lasts only around 3 days, with brighter and red coloring and with no menstrual cramps. Also, she no longer had intestinal constipation.

Case Report 2

35 year old woman, with premature ovarian failure, confirmed by exams FSH = 114.0 mUI/ml, LH = 61.8 mUI/ml laboratory, was submitted to treatment with the hormone progesterone and became pregnant after 1 month of treatment. On the 1st of June 2013, six months into her pregnancy, she began having disabling pain in the supra pubic region. The delivery of the child was through a caesarean operation. The baby born was female. Six months after the gestation, an ultrasound of ovarian veins was carried out, which confirmed varicose veins in both ovarian plexus (Right = 5.0 mm) (Left = 3.0 mm), with reflux on the right ovarian plexus confirmed by the doppler as shown in Figures 3A and 3B.
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Figure 3B: Ultrasound confirms varicose veins beside the ovaries through the scale of colors.

Figure 4A: Ovarian Varicose veins confirmed by Pelvic Phlebography.

Figure 4B: Embolization of pelvic varicose veins with metallic coil and 1% polidocanol.

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Due to complaints of pelvic pain and the risk of thrombosis and/or pulmonary embolism (7), it was decisive to treat her with sclerotherapy and embolization of pelvic varicose veins on the 26th of April 2014. (Figures 4A and 4B). The patient began menstruating normally again in May 2014.

She stated that her menstruation used to be very painful, with increased menstrual flow. Nowadays, it is painless and lasts only for 3 days.

Discussion

POF may occur due to genetic, autoimmune, iathrogenic or metabolic problems, but the largest portion of cases are idiopathic, and may result in infertility [1].

There are reports of the correlation between POF and endocrine (thyroid, diabetes) and non-endocrine diseases (Lupus, autoimmune disorders [8, 9]. POF is present in 1% of women younger than 40 and in 0.1% of women younger than 30 [10].

Researchers show that this pathology may result in a deficiency of estrogen and in anovulation, causing vasomotor symptoms (hot flashes and increased sweating), atrophic vaginitis, dyspareunia, primary and secondary amenorrhea and infertility [11].

There is no cure for POF, but hormonal therapy is highly recommended in order to relieve the symptoms [12,13].

Varicose veins beside the testicles cause alterations in hormonal production, dysfunction in the Leydig cells and a decrease in the production and motility of sperms, which leads to decreased male fertility and the dysfunction of hypothalamic-pituitary-testes axis(14-17).

Varicocele in men can be associated with oxidative stress and sperm DNA fragmentation, possibly resulting in fibrosis and testicular atrophy [18,19] Researches have already evidenced that varicose veins in lower limbs can be associated with oxidative stress, ulcers and lesions in tissues in the leg [20, 21].

Oxidative stress causes dysfunction of organs, interferes with angiogenesis and in gene expression [22,23]. Two studies have shown that oxidative stress is greater in varicose veins with insufficient valves [5,6].

Studies have shown that there are several genes involved in biological functions, such as the regulation of the hypothalamic-pituitary-gonadal axis, the regulation of oncogenes and the coordination of germinating cells. They play an important role in the endocrine system [24,25].

Although there aren't any studies relating ovarian varicose veins to oxidative stress, by analogy, we believe the same happens with the female germinating gland, causing depletion of the follicles, also lowering the ovarian reserve, provoking hormonal disorders and leading to alterations in the hypothalamic-pituitary-ovary axis.

Varicocelectomy in men corrects oxidative stress, hormonal disorders and sperm production, making men more fertile [26]. By treating varicose veins in lower limbs through surgery or through the use of compression therapy with elastic stockings, there is a decrease in oxidative stress and consequent scarring of the ulcer [20,21].

In relation to ovarian varicose veins, Galkin., et al. reported in medical literature that by treating 19 women who were considered to be infertile by embolization, 14 became pregnant [27]. We have also identified 23 cases of pregnancies after treating pelvic varicose veins through the same process [27-33].

In another work, we have reported the disappearance of intestinal constipation as well as pregnancy after the embolization of pelvic varicose veins in a patient who had endometriosis and who was infertile [30]. Some studies have already shown the relationship

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between varicocele and ovarian varicose veins with chronic intestinal constipation [34,35]. Research shows the correlation between endometriosis and infertility with ovarian varicose veins [36,37].

**Conclusion**
Varicose veins beside the testicles are associated with the dysfunction of this gland, semen abnormality and testicular atrophy. It is possible that ovarian varicose veins interfere with folliculogenesis and oogenesis, playing an important role in most cases of primary ovarian insufficiency. Still, more studies are required in order to confirm this association and solidify my theory.

**Conflicts of interest**
The authors declare that there are no conflicts of interest with respect to the authorship and/or publication of this paper.

**Bibliography**


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