TOPIC INFO

TOPIC:	WOMEN AND VEINS
SPEAKER:	KATHLEEN GIBSON
TITLE:	VASCULAR SURGEON
AFFILIATION	LAKE WASHINGTON VASCULAR SURGEONS PLLC
TIME:	30 minutes

PRACTICE GAP ANALYSIS: WOMEN AND VEINS

Describe the problems or gaps in practice this activity will address:

What are you trying to change?

Women can experience a vascular problem called deep vein thrombosis (DVT), DVT can permanently damage the veins resulting in long-term leg pain, swelling, skin changes and possibly leg sores. This condition is known as the post-thrombotic syndrome.
DVT can also break off and travel to the lungs, resulting in a pulmonary embolus (PE), which can be fatal.
Certain women are at greater risk for developing DVT, especially those on contraceptives.
Pelvic-derived lower extremity varicosities are more common than most clinicians appreciate. In general, nonsaphenous venous reflux occurs in about 10% of patients. More than one third of this group has varicosities that arise from the pelvis1. In a recent study, 1350 patients with lower extremity varicosities were evaluated with both duplex ultrasound and CT venography to ascertain the source of reflux. A pelvic reflux source was noted in 8.6% of patients2. In another study, 741 female patients with varicose veins from two separate clinics were evaluated with duplex and transvaginal ultrasound. These studies found a pelvic reflux source in 19.5% of patients in one group and 21.5% in the other. Approximately 80% of the pelvic reflux patients were noted to have reflux in the gonadal vein3. Multiple additional studies show similar results leading to the conclusion that approximately one in every five female patients will have lower extremity varicosities as a result of pelvic venous disease.

What is the problem?

Several specific potential risk factors for a fatal outcome from a COC-induced PE were identified. Recognition of these in combination with a high suspicion of VTE in COC users may reduce the risk of a fatal outcome.
Pelvic venous disease classically presents with a constellation of symptoms that have been described as pelvic congestion syndrome However, many patients are sometimes unaware that they have vaginal varicosities and may not provide this history. It is, therefore, very important that an assessment of
the vaginal region be performed during the lower extremity ultrasound examination.

How did you assess and/or measure these issues?

How was the educational need/practice gap for this activity identified? Place an X by each source utilized to identify the need for this activity.
Attach copies of documentation for each source indicated (REQUIRED)
* please make sure when selecting your needs assessment data and references that you highlight applicable components.

	Method	Example of required document
	Previous participant evaluation data	Copy of tool and summary data
	Research/literature review	Abstract(s) or articles
x	Expert Opinion	Summary
	Target audience survey	Copy of tool and summary data
	Regulatory body requirements	Requirements summary

		Data from public health sources	Abstract, articles, references
		Other (describe)	

Describe the needs of learners underlying the gaps in practice:

What are the causes of the gaps in practice? Check all that apply

	x	Lack of awareness of the problem,		Poor self-efficacy,
	x	Lack of familiarity with the guideline,		Inability to overcome the inertia of previous practice, and
		Non-agreement with the recommendations,		Presence of external barriers to perform recommendations
		Other		

Why does the gap exist? Check all that apply

	x	Lack of Knowledge competence		Lack of time to assess or counsel patients
		Performance-based.		Cost / Insurance/reimbursement issues
		Lack of consensus on professional guidelines		Patient Compliance Issues
		Other:		

What do learners need to be able to know or do to be able to address the gaps in practice?

Explain your CME Objectives here
Be able to differentiate between types of contraception and their risks of venous thromboembolic events.
Describe the typical presentation of a woman with symptomatic pelvic venous reflux (pelvic congestion syndrome).
Outline treatment options for patients with symptomatic varicose veins

CME OBJECTIVES WOMEN AND VEINS

State at least three or more things that participants should be able to do after they participate in this CME activity. Please note these objectives should be measurable, specific, actionable and timely.
Upon completion of this activity, attendees should be able to:

1	Be able to differentiate between types of contraception and their risks of venous thromboembolic events.
2	Describe the typical presentation of a woman with symptomatic pelvic venous reflux (pelvic congestion syndrome).
3	Outline treatment options for patients with symptomatic varicose veins

The ACCME does not want you to use the words - think, understand, know, appreciate, learn, comprehend, be aware of, be familiar with, etc. as they are not measurable.

You can use words such as Analyze, Categorize, Classify, Compare, Conclude, Construct, Critique, Define, Demonstrate, Describe, Discuss, Evaluate, Identify, List, Name, Outline, Show

COMPETENCIES: WOMEN AND VEINS

What ACGME or IOM related competency is associated with this activity? (check all that apply)

	x	Patient Care	x	Practice-Based Learning and Improvement	x	Medical/Clinical Knowledge
		Procedural Skills		Interdisciplinary Teams		Teams and Teamwork
		Communication Skills		Professionalism		Systems-based Practice
		Quality Improvement		Utilization of Informatics		Evidence-based Practice

What is the activity designed to change

x	**Competence** - (knowing how to do something) Selecting this option requires the CME activity being planned provide participants with an opportunity to: • hear information related to advances or best practice • hear examples of application in practice of information presented	
	Performance- (actually doing something) Selecting this option requires the CME activity being planned provide participants with an opportunity to: • practice what they have learned during the CME activity • receive feedback about doing what they have learned during the CME activity	
	Patient Outcomes- (actually measure change in patients) Selecting this option requires the CME activity track change in patient outcomes: • provide tangible improvements and data to support overall change to patient outcomes	

What potential barriers do you anticipate attendees may encounter when incorporating new objectives into their practice?

x	Lack of time to assess or counsel patients	Other – describe:
	Cost	
	No perceived barriers	
	Lack of administrative support/resources	
	reimbursement issues	
	Insurance/	

Describe how will this educational activity address these potential barriers and the strategies used?

RESULTS: WOMEN AND VEINS

please describe the results expected (outcomes) for this activity in terms of specific improvements in patient care and/or other work related to the practice of medicine.

	Your description
x	Improvements in patient care based on evidence-based treatment
	Reduce Health care costs
x	Streamline care of patients

MEASURING YOUR SUCCESS: WOMEN AND VEINS

Will use pre-and post CME activity questionnaire to measure success.
Please provide 3 questions and answers that will asked to the audience before and after your talk. The answer to these questions should be in your presentation. Please highlight the correct answer and limit your possible answers to a maximum of 4 with only one correct answer. The others can be partially correct or wrong

Question 1. Which hormonal contraceptive has the lowest risk of venous thromboembolic events?

Answers

1	2nd Generation combined (estrogen/progesterone) contraceptive
2	4th Generation combined (estrogen/progesterone) contraceptive
3	Implanted progesterone (Depo-Provera)
4	Hormone secreting IUD

Feedback:

1. 2nd Generation combined (estrogen/progesterone) contraceptive
2. 4th Generation combined (estrogen/progesterone) contraceptive
3. Implanted progesterone (Depo-Provera)
4. Hormone secreting IUD – Correct Answer.

Discussion: Combined hormonal contraceptives (COCs) are widely prescribed and impart an increased risk of venous thromboembolism (VTE). There are different combinations of medications used for COCs, and the overall odds ratio for deep vein thrombosis in a large case/control study showed the overall odds ratio (OR) for VTE in women taking COCs compared to controls was 5.3 (CI 4. 0-7. 0). In terms of overall risk of COCs, both

duration of use and generation of contraceptive have an impact on degree of risk. In the first year of use, users have a 8-fold increase in risk of VTE. By four years of use, this risk has dropped to a 3-fold increase. First generation COCs are no longer widely prescribed. The risk of VTE is 3-fold higher with 2nd generation COCs, and there is a 6-7 fold increase with 3rd and 4th generation COCs. Desogestrol containing contraceptives carry the highest risk of VTE, with an OR of 11.4 (95% CI 6.0-22.0). Non-oral hormonal contraceptives, with the exception of hormone secreting IUDs, also increase the risk of VTE. The table below listed the OR and 95% CI for VTE compared to controls for different types of non-oral hormonal contraceptives. Understanding the risks of various contraceptives is especially important when counseling women with a known thrombophilia.

Non-oral hormonal contraceptives

Contraceptive	OR	95 % CI
Transdermal estrogen patch	7.9	3.5-17.7
Vaginal ring	6.5	4.7-8.9
Implanted progesterone	1.4	0.6-3.4
Levonorgestrel IUD	0.6	0.4-0.8
Depo-provera	2.2,	1.3-4.0

References:
Bergendal A, Persson I, Odeberg J, et al. Association of venous thromboembolism with hormonal contraception and thrombophilic genotypes. Obstet Gynecol. 2014 Sep;124(3):600-9. PMID: 25162263

Lidegaard O, Nielsen LH, Skovlund CW, Lokkegaard E. Venous thrombosis in users of nonoral hormonal contraception: follow up study, Denmark 2001-2010. BMJ. 2012;10:344. PMID: 22577198

Question 2: Which of the following would not be considered a typical symptom for a woman with symptomatic pelvic venous reflux (pelvic congestion syndrome):

Answers

1. Dyspareunia
2. Menorrhagia
3. Pelvic heaviness
4. Urinary frequency
5. Vulvar itching

Feedback:

1. Dyspareunia
2. Menorrhagia: Correct Answer.

   Discussion: Typical symptoms of pelvic venous reflux include aching or heaviness in the pelvis, vulva, or leg, usually worse with menses, prolonged standing, or exercise. Chronic pelvic pain is common and is defined as noncyclical pelvic pain of more than 6 months duration. Dyspareunia and urinary frequency are also common as is vulvar varicose veins which may ache or itch. Pelvic vein incompetence can be a missed source of varicose veins in the limb, and up to 25% of women with recurrent varicose veins are found to have pelvic venous incompetence as the source of the recurrence. Pelvic venous incompetence causing varicose veins in the limb usually occur after pregnancy. Menorrhagia is not a typical symptom for pelvic venous reflux. Duplex ultrasound can be used to differentiate pelvic venous reflux from other patterns of varicose veins in the limb. Trans-abdominal ultrasound, transvaginal ultrasound and cross-sectional imaging with CT or MRI have been used to further delineate the source of refluxing pelvic veins. Venography with selective cannulation of the ovarian veins and internal iliac veins can also, be used, sometimes with intent to treat.

   References:
   Asciutto, A Mumme, K C Asciutto, and B Geier. Pelvic vein incompetence influences pain levels in patients with lower limb varicosity. Phlebology August 2010 25: 179-183.

   Gibson K, Minjarez R, Ferris B, Neradilek M, Wise M, Stoughton J, Meissner M. Clinical presentation of women with pelvic source varicose veins in the perineum as a first step in the development of a disease-specific patient assessment tool

   Marsh P, Holdstock J, Harrison C, Smith C, Price BA, Whiteley MS. Pelvic vein reflux in female patients with varicose veins: comparison between and private vein clinic and the vascular department of a National Health Service District General Hospital, Phlebology 2009;24:108-13.
3. Pelvic heaviness
4. Urinary frequency
5. Vulvar itching

Question 3: Which treatment option for varicose veins does not require the use of post-treatment compression stockings or bandaging?

Answers

1. Cyanoacrylate closure (adhesive)
2. Endothermal laser ablation
3. Endothermal radiofrequency ablation
4. Sclerotherapy (injection)
5. Surgical stripping

Feedback:

1. Cyanoacrylate closure (adhesive): Correct Answer.

   Discussion: Compression stocking or bandaging are standard of practice following most kinds of intervention to treat varicose veins with a saphenous source, the most common presentation of symptomatic varicose veins. Compression therapy is thought to decrease pain and bruising following intervention, although many patients find stockings to be uncomfortable and difficult to don. Of the currently available minimally invasive methods for treatment of the great saphenous vein, the only method that does not include the use of compression stockings in the IFU is closure with cyanoacrylate adhesive. Studies have shown that closure rates, bruising, and post procedure pain are excellent without the use of post-operative compression stockings.

   References:

Gibson K, Minjarez R, Gunderson K, Ferris B. Need for adjunctive procedures following cyanoacrylate closure of incompetent great, small and accessory saphenous veins without the use of post-procedure compression: three month data from a post-market evaluation of the VenaSeal system (the WAVES Study). Phlebology 2019; 34(4):231-7.

Proebstle, T. M. et al. Three-year European follow-up of endovenous radiofrequency-powered segmental thermal ablation of the great saphenous vein with or without treatment of calf varicosities. J. Vasc. Surg. 54, 146–152 (2011).

2. Endothermal laser ablation
3. Endothermal radiofrequency ablation
4. Sclerotherapy (injection)
5. Surgical stripping