Medical Care of Transgender and Gender Non-Conforming Patients

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Disclosures

- The uses of hormones described in this presentation are not FDA approved.
- No financial disclosures.
Learning Objectives

- Gain knowledge that can be applied in both the inpatient and outpatient setting.

- Develop awareness of the challenges transgender patients face in a healthcare environment.

- Differentiate between the different estrogens and progestogens and the amount of associated VTE risk.

- Describe the pelvic anatomy of transgender patients who have undergone gender affirming bottom surgery.
Case: A transgender woman is admitted to the hospital...

A 51-year-old transgender woman presents to the Emergency Department with abdominal pain and rigors. She is diagnosed with choledocholithiasis and ascending cholangitis. She undergoes ERCP with removal of the stone, and she is now being admitted. Her medication regimen includes:

- Estradiol 2mg oral twice a day
- Medroxyprogesterone 2.5mg oral daily

She has been on these hormones for 10 years and underwent vaginoplasty 8 years ago.

In addition to treating her for her primary medical issues, you consider what to do with her hormones given the risk of VTE in the hospital.
Live Poll:

Go to the Conference App NOW to submit your vote!

1. Find the session “Medical Care of Transgender and Gender Non-Conforming Patients” in the schedule by scrolling or entering “Transgender” or “Johnson” in the top search bar

2. Click on the Session, then on the VOTE icon

3. Submit Vote!
Thinking about VTE prevention, what are your next steps for her hormones?

A. Hold them while she is in the hospital

B. Continue them at the same home doses

C. Talk to the patient
Transgender patients often find healthcare environments a scary place.

A 2015 survey of transgender and gender non-conforming patients found:

- 33% have had at least one negative experience with a healthcare provider in the past year.
- 23% did not see a doctor when they needed to because of fear of being mistreated.
- 78% desired hormone therapy but only 49% received it.
- 31% reported none of their providers knew they were transgender.

Transgender patients need our help.

- In a 2015 survey, 39% of transgender people reported current serious psychosocial distress (vs 5% in the US population)
- 40% had attempted suicide in their lifetime (vs 4.6% in the US population)
- Gender affirming therapy has been shown to significantly improve depression, anxiety, psychosocial functioning, somatization, hostility, and phobias.

Always talk to the patient before considering any change to their hormone medications.

Does being on estrogen and progesterone increase her risk of VTE?

A. Yes

B. No

C. It’s complicated
The type of hormone and route of administration make a big difference.

<table>
<thead>
<tr>
<th>“Estrogen”</th>
<th>“Progestogen”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conjugated equine estrogen (CEE)</td>
<td>Medroxyprogesterone acetate (MPA)</td>
</tr>
<tr>
<td>Estradiol oral</td>
<td>Micronized progesterone</td>
</tr>
<tr>
<td>Estradiol transdermal</td>
<td></td>
</tr>
</tbody>
</table>
The WHI showed adverse effects with hormone therapy in postmenopausal women.

Oral conjugated equine estrogens (CEE) + medroxyprogesterone (MPA) increase risk of VTE in post menopausal women, as does CEE alone (though lower risk).

Manson J. JAMA 2013;310(13):1353
Conjugated equine estrogen has higher VTE risk than estradiol.

Population based case-control study of 384 post menopausal women comparing oral estradiol to CEE with the primary outcome of venous thrombosis showed increased risk with CEE.

Table 3. Risk of Venous Thrombosis, Myocardial Infarction, and Ischemic Stroke Associated With Current Oral Conjugated Equine Estrogens Use Compared With Current Oral Estradiol Use

<table>
<thead>
<tr>
<th>Event Type</th>
<th>Estradiol Use</th>
<th>CEEs Use</th>
<th>Reference Estradiol Use</th>
<th>CEEs Use Adjusted Odds Ratio (95% CI)</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Case</td>
<td>Control</td>
<td>Case</td>
<td>Control</td>
<td></td>
</tr>
<tr>
<td>Venous thrombosis</td>
<td>29</td>
<td>114</td>
<td>39</td>
<td>87</td>
<td>2.08 (1.02-4.27)*</td>
</tr>
<tr>
<td>Myocardial infarction</td>
<td>29</td>
<td>114</td>
<td>38</td>
<td>87</td>
<td>1.87 (0.91-3.84)</td>
</tr>
<tr>
<td>Ischemic stroke</td>
<td>23</td>
<td>114</td>
<td>25</td>
<td>87</td>
<td>1.13 (0.55-2.31)</td>
</tr>
</tbody>
</table>

Oral estrogen has increased VTE risk, but transdermal estrogen does not.

- Meta-analysis of seven population based observational studies.

- Significant amount of heterogeneity in all but the transdermal estrogen only group is likely due to mixing of different types of estrogen and progestogen.

- Adding a progestogen appeared to increase risk, but what types were used?

<table>
<thead>
<tr>
<th>Hormone Therapy</th>
<th>Cases</th>
<th>RR (95% CI)</th>
<th>$I^2$ (p value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nonuse</td>
<td>22,633</td>
<td>1 (Reference)</td>
<td></td>
</tr>
<tr>
<td>Transdermal E-only</td>
<td>403</td>
<td>0.97 (0.87-1.09)</td>
<td>0% (0.85)</td>
</tr>
<tr>
<td>Transdermal E + P</td>
<td>332</td>
<td>1.23 (1.08-1.41)</td>
<td>54% (&lt;0.01)</td>
</tr>
<tr>
<td>Oral E-Only</td>
<td>989</td>
<td>1.48 (1.39-1.58)</td>
<td>60% (0.02)</td>
</tr>
<tr>
<td>Oral E + P</td>
<td>2,114</td>
<td>1.88 (1.80-1.97)</td>
<td>95% (&lt;0.01)</td>
</tr>
</tbody>
</table>

Medroxyprogesterone acetate is higher risk than other progestogens.

Medroxyprogesterone (MPA) acetate confers higher risk for VTE than other progestogens.

This was the progestogen used in the WHI study.
Progesterone is lower risk than other progestogens.

The metanalysis showed no increase risk of VTE with adding progesterone to transdermal estrogen.

There was significantly increased risk with other progestogens.

Transdermal estrogen plus micronized progesterone may not increase risk of VTE in post menopausal women.

What about studies of VTE risk in the transgender population?

In a 2016 retrospective chart review of 676 trans women on oral estrogen covering 1286 years of hormone treatment:

- 93.8% were on oral estradiol; 6.2% were on CEE.
- One patient had VTE or 0.15% of the population
- 7.8 events per 10,000 person years

This is a lower rate than the general population VTE risk of 8-27 per 10,000 person years.

Table 1 shows that the study population had other characteristics that would lower risk.

<table>
<thead>
<tr>
<th>Table 1. Baseline characteristics of transgender women (N = 676)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (y)</td>
</tr>
<tr>
<td>BMI (kg/m²)</td>
</tr>
<tr>
<td>White</td>
</tr>
<tr>
<td>African American</td>
</tr>
<tr>
<td>Race unreported or refused to report</td>
</tr>
<tr>
<td>Asian</td>
</tr>
<tr>
<td>&gt;1 race</td>
</tr>
<tr>
<td>American Indian or Alaska Native</td>
</tr>
<tr>
<td>HIV positive</td>
</tr>
<tr>
<td>BMI ≥ 30 kg/m²</td>
</tr>
<tr>
<td>Current smoker</td>
</tr>
<tr>
<td>Hypertension</td>
</tr>
<tr>
<td>Dyslipidemia</td>
</tr>
<tr>
<td>Diabetes mellitus</td>
</tr>
<tr>
<td>Renal disease (eGFR &lt; 60)</td>
</tr>
</tbody>
</table>

BMI = body mass index; eGFR = estimated glomerular filtration rate.
*Data are presented as mean ± SD or number (percentage).
Case: Decreasing risk of VTE

You discuss the data around risk of blood clots with oral estradiol and medroxyprogesterone.

You suggest that the safest route for estrogen would be an estradiol patch.

You explain that while we don’t have strong data on micronized progesterone, it is probably low risk, and you would want to balance that risk against the risk of declining mental health should it be stopped.

She decides to switch to an estradiol patch and declines micronized progesterone.

She is very grateful for your knowledge and support of continuing her hormones, sharing that she had delayed coming to the hospital due to concerns about being told she had to stop her hormones.
Case Continued: Pelvic Anatomy?

The nurse is concerned about low urine output, and while she agrees to monitor urine output without a catheter, she also would like to know about the patient’s anatomy if one should need to be placed...
What pelvic organs does she have given her history of vaginoplasty?

A. Penis
B. Testicles
C. Prostate
D. Vagina
E. All of the above
F. C & D
Vaginoplasty Anatomy
Metoidioplasty & Phalloplasty Anatomy

Transgender patients are at high risk of avoiding or delaying care, and we can help by providing care that respects the impact of gender affirmation on their health.

While many forms of estrogen and progestogen increase risk of VTE, this risk can be mitigated by using transdermal estrogen and micronized progesterone, particularly during high risk periods such as hospitalizations.

The pelvic anatomy of transgender people who have had gender affirming bottom surgery is both similar and different from cis gendered anatomy.
Thank you!

Ingersoll Gender Center
Simon Adriane
Proudly Virginia Mason
Jessica Rongitsch MD
Kevin Hatfield MD
Jess Guh MD