Gender dysphoria and transgender medicine in the year 2018

Christian A. Koch^{1,2,3,4} · Vin Tangpricha⁵

Published online: 31 October 2018

© Springer Science+Business Media, LLC, part of Springer Nature 2018

It is with great pleasure to introduce guest editor Prof. Vin Tangpricha, whom I have known for more than 10 years now, after he presented a lecture in Jackson, Mississippi, on the topic of osteoporosis. He is not only an outstanding speaker and clinical researcher in bone metabolism, but is also an expert in transgender medicine [1–3].

Growing up in Germany in the 1980s, one of the evening family shows I and others regularly watched was *Dynasty* (called “The Denver Clan” in Germany), an American television soap opera revolving around the Carringtons, a wealthy family residing in Denver, Colorado. It explored issues such as rape, homosexuality, and racial integration, topics that are still contemporary nowadays. Although Bavaria, the German state in which I grew up, has been considered conservative during those days, I had a more progressive mind, often asking questions that were not well perceived. I remember one night when my brother and his girlfriend’s group took me out for a “show night” surprise, during which we attended a transvestite show and encountered transvestites. This should not be confused with “transgender” or “transsexual” people, as transvestites are considered cross-dressers—meaning dressing and acting in a style or manner traditionally associated with the opposite sex. Interestingly, in some cultures, transvestism is practiced for religious reasons. This behavior has already been referred to in the Hebrew Bible. In 1910, Magnus Hirschfeld used the term “transvestite” to describe people who habitually

wore clothes of the opposite sex. The sexual orientation of these individuals could be heterosexual, homosexual, bisexual, or asexual (<https://en.wikipedia.org/wiki/Transvestism>).

At first, my brother and I were shocked by this show because we did not know what and how to think about these individuals. To explore the unknown can be challenging and, for many people, it is angst/anxiety provoking. Of course, how perceptions of individual people are formed depends on their respective communities and how they grew up. Needless to say, this early encounter with transvestites as well as watching *Dynasty* and other soap operas in the 1980s have helped me to become more open-minded and educated about many things, and I now do not perceive it as a shame or a bad thing to walk on the Reeperbahn in Hamburg. In fact, this spring in April, I and many other runners even ran there in the context of the annual Haspa Marathon Hamburg. Well, in case you now wonder about my orientation, I can tell you that I am not gender dysphoric but do care for such patients. In Germany, there are highly specialized centers and so-called Fellows of the European Committee of Sexual Medicine in various major cities, including Hamburg, Bremen, Muenster, and others [4–6]. In the USA, there are also a few recognized centers with an emphasis on caring for gender dysphoric patients. Guest editor Prof. Tangpricha and the authors of this wonderful guest issue are part of such specialized care centers and have written outstanding, very contemporary, and helpful articles on emerging topics in this field of medicine [7–14]. Compared to my previous location in Jackson, Mississippi, with only a few such patients referred to and seen by local endocrinologists and many gender dysphoric patients, therefore, traveling to neighboring states like Louisiana and Georgia, the plethora of such patients now seen by me here in Germany has helped me to learn more about sex hormone therapy. For instance, I have seen many female-to-male individuals who, on only transdermal testosterone therapy (Tostran), had stopped menstrual cycles without the need for additional medroxyprogesterone acetate tablets (5–10 mg) or injections (150–300 mg every 3 months intramuscularly). On the other hand, male-to-female individuals often do not like to

✉ Christian A. Koch
Christian.koch65@gmail.com

¹ Medcover GmbH Germany, Berlin / Hannover, Germany

² Carl von Ossietzky University of Oldenburg, Oldenburg, Germany

³ Technical University of Dresden, Dresden, Germany

⁴ University of Louisville, Louisville, KY, USA

⁵ Division of Endocrinology, Metabolism and Lipids at Emory University School of Medicine and the Atlanta VA Medical Center, Atlanta, GA, USA

take oral or transdermal estrogen preparations such as estradiol and, therefore, only take the antiandrogen cyproterone acetate 5–10 mg to successfully suppress gonadotropins.

At my current location, it has been common practice for gender dysphoric individuals to undergo an extensive thrombophilia screening, including search for a Factor V Leiden (R506Q) mutation, prothrombin (factor II, 20210G>A) mutation, factor VII (Marburg 1, 1601G>A) activating protease mutation, fibrinogen alpha (6534A>G) mutation, D-dimer concentration, prothrombin time, partial thromboplastin time, lupus anticoagulant, protein C and S deficiency, and antithrombin III deficiency. As pointed out by Prof. Tangpricha, there are scarce data but some concerns of cardiovascular disease, especially in transgender women [15]. A study from the year 2000 involving 30 transsexual males (median age 32 years, range 20–44 years) on either oral ethinylestradiol (n = 5) or transdermal 17beta-estradiol (n = 15) plus the antiandrogen cyproterone acetate and involving 17 transsexual females (median age 27 years, range 18–37 years) treated with intramuscular testosterone esters showed a decrease in tissue-type plasminogen activator (tPA) after oral estrogen administration, which could be explained by an increase in hepatic tPA clearance, leaving endothelial tPA synthesis unchanged [16]. In 2010, a retrospective cohort study including 162 male-to-female and 89 female-to-male individuals showed that cross-sex hormone therapy rarely leads to venous thromboembolism [17]. However, this likely depends on the respective hormone (application form and dose) regimen. It is important to collect and publish more data on this topic in the future and I wish to thank Prof. Tangpricha and all the authors of this special guest issue for their excellent contributions.

Compliance with ethical standards

Conflict of interest Prof. Koch declares that he has no conflict of interest related to this article.

References

1. Tangpricha V. Emerging topics in transgender medicine. *Rev Endocr Metab Disord*. 2018. <https://doi.org/10.1007/s11154-018-9468-x>.
2. Hembree WC, Cohen-Kettenis PT, Gooren L, Hannema SE, Meyer WJ, Murad MH, et al. Endocrine treatment of gender-dysphoric/gender-incongruent persons: an Endocrine Society clinical practice guideline. *J Clin Endocrinol Metab*. 2017;102(11):3869–903.
3. Tangpricha V, Hannema SE, Irwig MS, Meyer WJ 3rd, Safer JD, Hembree WC. 2017 American association of clinical endocrinologists/endocrine society update on transgender medicine: case discussions. *Endocr Pract* 2017;23(12):1430–1436.
4. Jacobeit JW, Gooren LJ, Schulte HM. Long-acting intramuscular testosterone undecanoate for treatment of female-to-male transgender individuals. *J Sex Med*. 2007;4(5):1479–84.
5. Schneider F, Neuhaus N, Wistuba J, Zitzmann M, Heß J, Mahler D, et al. Testicular Functions and Clinical Characterization of Patients with Gender Dysphoria (GD) Undergoing Sex Reassignment Surgery (SRS). *J Sex Med*. 2015 Nov;12(11):2190–200.
6. Koch CA, Zitzmann M. Introduction to endocrinological aspects of andrology-what is new? *Rev Endocr Metab Disord*. 2015;16(3):175.
7. Nobili A, Glazebrook C, Arcelus J. Quality of life of treatmentseeking transgender adults: a systematic review and meta-analysis. *Rev Endocr Metab Disord*. 2018. <https://doi.org/10.1007/s11154-018-9459-y>.
8. Panagiotakopoulos L. Transgender medicine - puberty suppression. *Rev Endocr Metab Disord*. 2018. <https://doi.org/10.1007/s11154-018-9457-0>.
9. Abramowitz J. Transgender medicine- transitioning transgender children to adulthood. *Rev Endocr Metab Disord*. 2018. <https://doi.org/10.1007/s11154-018-9458-z>.
10. Mattawanon N, Spencer JB, Schimmer DA 3rd, Tangpricha V. Fertility preservation options in transgender people: a review. *Rev Endocr Metab Disord* 2018. <https://doi.org/10.1007/s11154-018-9462-3>.
11. Irwig MS. Cardiovascular health in transgender people. *Rev Endocr Metab Disord*. 2018. <https://doi.org/10.1007/s11154-018-9454-3>.
12. Gooren LJ, T'Sjoen G. Endocrine treatment of aging transgender people. *Rev Endocr Metab Disord*. 2018. <https://doi.org/10.1007/s11154-018-9449-0>.
13. Gerth J, Becerra-Culqui T, Bradlyn A, Getahun D, Hunkeler EM, Lash TL, et al. Agreement between medical records and self-reports: implications for transgender health research. *Rev Endocr Metab Disord*. 2018. <https://doi.org/10.1007/s11154-018-9461-4>.
14. Korpaisarn S, Safer JD. Gaps in transgender medical education among healthcare providers: a major barrier to care for transgender persons. *Rev Endocr Metab Disord*. 2018. <https://doi.org/10.1007/s11154-018-9452-5>.
15. Getahun D, Nash R, Flanders WD, Baird TC, Becerra-Culqui TA, Cromwell L, et al. Cross-sex hormones and acute cardiovascular events in transgender persons: a cohort study. *Ann Intern Med*. 2018;169(4):205–13. <https://doi.org/10.7326/M17-2785>.
16. Giltay EJ, Gooren LJ, Emeis JJ, Kooistra T, Stehouwer CD. Oral, but not transdermal, administration of estrogens lowers tissue-type plasminogen activator levels in humans without affecting endothelial synthesis. *Arterioscler Thromb Vasc Biol*. 2000;20(5):1396–403.
17. Ott J, Kaufmann U, Bentz EK, Huber JC, Tempfer CB. Incidence of thrombophilia and venous thrombosis in transsexuals under cross-sex hormone therapy. *Fertil Steril*. 2010;93(4):1267–72.

Prof. Koch is affiliated with the Carl von Ossietzky University as well as the Technical University of Dresden, MK III, Germany. He also is Adjunct Professor at the University of Louisville, KY, and works at Medcover GmbH Germany. Before June 2017, Koch had served as a tenured professor at the University of Mississippi Medical Center in Jackson, MS, and Staff Physician at the G.V. (Sonny) Montgomery VA Medical Center.

Vin Tangpricha is a Professor of Medicine in the Division of Endocrinology, Metabolism and Lipids at Emory University School of Medicine in Atlanta, Georgia. Dr Tangpricha received his medical degree from Tufts University School of Medicine and completed his internal medicine residency and endocrinology fellowship at Boston University Medical Center. He completed his Ph.D. degree in molecular medicine on the topic of vitamin D at Boston University School of

Medicine. He currently serves as the Program Director for the endocrinology fellowship training program and the American Board of Internal Medicine Physician Scientist Research Track internal medicine residency

program at Emory. He serves on the Endocrine Society guidelines committee for the hormone treatment of gender-non-conforming and gender incongruent patients and is a member of the American Association of Clinical Endocrinologists and World Professional Association for Transgender health (WPATH) board of directors. He is co-author of the WPATH Standards of Care for transgender persons. He has received a number of awards including the first Emory Transgender Advocate Award in 2011 and the American Association for Clinical Endocrinologists 2016 Outstanding Service for an Underserved Community for his work with the transgender community. He is the president of the World Professional Association for Transgender Health and the chair of the hormone chapter for the WPATH Standards of Care, version 8. He is a co-investigator on a number of grants with his colleagues in the Emory School of Public Health that focuses on transgender health. He maintains a busy practice in Atlanta serving the transgender community at three hospitals including Emory Main campus, Emory Midtown Hospital and the Atlanta VA Medical Center.