


Response to letter to the editor: 'Gonadal tumour screening in XY gonadal dysgenesis'

Sabine E. Hannema^{1,2,3,4}  | Katja P. Wolffenbuttel^{1,5} | Yolande van Bever^{1,6} |
Hennie T. Bruggenwirth^{1,6} | Remko Hersmus^{1,7} | J. Wolter Oosterhuis^{1,7,8} |
Leendert H. J. Looijenga^{1,7,8}

¹Erasmus MC, Sophia Children's Hospital, University Medical Center Rotterdam, DSD-Expert Center, Rotterdam, the Netherlands

²Department of Pediatric Endocrinology, Erasmus MC, University Medical Center, Rotterdam, the Netherlands

³Department of Pediatrics, Leiden University Medical Center, Leiden, the Netherlands

⁴Department of Paediatric Endocrinology, Amsterdam UMC Location Vrije Universiteit Amsterdam, Amsterdam, the Netherlands

⁵Department of Urology and Pediatric Urology, Erasmus MC, University Medical Center, Rotterdam, the Netherlands

⁶Department of Clinical Genetics, Erasmus MC, University Medical Center Rotterdam, Rotterdam, the Netherlands

⁷Department of Pathology, Erasmus MC, University Medical Center Rotterdam, Rotterdam, the Netherlands

⁸Department of Pathology, Princess Máxima Center for Pediatric Oncology, University Medical Center Utrecht, Utrecht, The Netherlands

Correspondence

Sabine E. Hannema, Department of Paediatric Endocrinology, Amsterdam UMC Location Vrije Universiteit Amsterdam, Amsterdam, the Netherlands.

Email: s.e.hannema@amsterdamumc.nl

To the Editor, We read with interest the letter by Barbar et al. We recognise the clinical scenario described by Barbar et al. of patients with XY gonadal dysgenesis or other types of differences/disorders of sex development (DSD) with a significant risk of germ cell cancer who are hesitant to undergo a prophylactic gonadectomy.¹ Whereas in children the situation is more complex, with parents having to make medical decisions on behalf of their child, adults with DSD can of course decide for themselves to undergo such surgery or not. However, careful counselling and accurate information are essential for patients to be able to make an informed decision. The multidisciplinary DSD team should make sure the individual understands the risk of developing germ cell cancer as well as the chance of remaining function of the gonad with regard to hormone production and fertility. In the patient described by Barbar et al. gonads were afunctional but in prepubertal children there may be some uncertainty about this, and in patients with partial gonadal dysgenesis residual function may vary and needs to be taken into consideration. The consequences of gonadectomy should be explained, that is, the need for and impact of hormone replacement therapy. In addition, the scenario where gonads are left in situ needs to be discussed.

In case of afunctional gonads hormone replacement therapy will also be necessary. Periodic monitoring of gonads is recommended but it should be clear that this is aimed at early detection of germ cell cancer rather than preventing germ cell cancer, as pre-malignant lesions cannot currently be reliably detected through blood tests or imaging. Sertoli cell markers unfortunately are of little help as our recent study showed that germ cell cancer was present in three out of eleven (27%) of those with undetectable serum AMH and inhibin B, which is similar to the 15–40% risk described for gonadal dysgenesis in general.² Although those with very low or undetectable AMH and inhibin B have a lower chance of having any germ cells, the risk of any remaining germ cells to develop into germ cell cancer may be higher because of the severe dysgenesis of the gonads. Lastly, social and cultural factors can also play a role and it is important to identify possible barriers, such as fear of anaesthesia or surgery, or worries about the costs of surgery or need to take leave from work, that may prevent some individuals from undergoing gonadectomy even when they are convinced of the need for the procedure. Peer support as well as psychological counselling may help individuals to weigh all the pros and cons when deciding on a prophylactic gonadectomy.

This is an open access article under the terms of the [Creative Commons Attribution-NonCommercial](https://creativecommons.org/licenses/by-nc/4.0/) License, which permits use, distribution and reproduction in any medium, provided the original work is properly cited and is not used for commercial purposes.

© 2024 The Authors. *Clinical Endocrinology* published by John Wiley & Sons Ltd.

Currently there is an ongoing international study investigating the practice of gonadectomy in individuals with DSD through the I-DSD registry (<https://sdmregistries.org/>). We agree with Barbar et al. that to increase knowledge in this field it would be highly valuable to also collect outcome data from individuals that choose to leave their gonads in situ.

ORCID

Sabine E. Hannema  <http://orcid.org/0000-0002-8996-0993>

REFERENCES

1. Barbar B, De Silva N, Cheetham T, Wood C, Quinton R. Gonadal tumour screening in XY gonadal dysgenesis. *Clin Endocrinol*. Published online January 27, 2024. doi:10.1111/cen.15015
2. Hannema SE, Wolffebuttel KP, van Bever Y, et al. Undetectable anti-mullerian hormone and inhibin B do not preclude the presence of germ cell tumours in 45,X/46,XY or 46,XY gonadal dysgenesis. *Clin Endocrinol*. 2023;99(1):58-63. doi:10.1111/cen.14909