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Response to comment on long-term male fertility after treatment with radioactive iodine for DTC

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We thank Dr Nayana Tara Vasireddy and colleagues (1) for their observations regarding our published research (2). We welcome the opportunity to further discuss our findings.

With regard to the first comment, it has been shown that overt hyper- or hypo- thyroid states affect semen quality negatively (3, 4). In our study, some of the participants were overtly hypothyroid upon semen cryopreservation affecting their semen quality negatively. This is shown by the lower sperm quality of the overt hypothyroid patients upon semen cryopreservation in our study.

The effect of subclinical hyper- or hyperthyroidism on semen quality has not been well researched or documented. Upon study evaluation, the thyroid-stimulating hormone (TSH) and thyroxine levels of the participants indeed show that participants experienced subclinical hyperthyroidism. This is expected, as most of these participants are in follow-up for their thyroid carcinoma. One can speculate that semen quality would increase if participants became euthyroid. However, current results already show that reproduction is not greatly affected in these participants, indicating that this increase in semen quality parameters would not be clinically relevant. In addition, we found no significant correlations between TSH values and semen quality parameters in additional analysis (data not shown) in our current participants, indicating that TSH levels in the current subclinical hyperthyroid participants did not affect their semen quality.

As for the second remark, it is known that permanent hypoparathyroidism affects 2% of the patients undergoing total thyroidectomy (5, 6). Unfortunately, we do not have information on the parathyroid status of the current

participants. Therefore, we are not able to evaluate the effect of calcium levels or PTH levels on semen quality.

Declaration of interest

The authors declare that there is no conflict of interest that could be perceived as prejudicing the impartiality of this response.

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References

- 1 Vasireddy NT, Mori KS, Asirvatham AR & Mahadevan S. Comment on long-term male fertility after treatment with radioactive iodine for DTC. *European Journal of Endocrinology* 2022 **186** L7. (<https://doi.org/10.1530/EJE-21-1206>)
- 2 Nies M, Arts EGJM, van Velsen EFS, Burgerhof JGM, Muller Kobold AC, Corssmit EPM, Netea-Maier RT, Peeters RP, van der Horst-Schrivers ANA, Cantineau AEP *et al.* Long-term male fertility after treatment with radioactive iodine for differentiated thyroid carcinoma. *European Journal of Endocrinology* 2021 **185** 775–782. (<https://doi.org/10.1530/EJE-21-0315>)
- 3 Krassas GE, Pontikides N, Deligianni V & Miras K. A prospective controlled study of the impact of hyperthyroidism on reproductive function in males. *Journal of Clinical Endocrinology and Metabolism* 2002 **87** 3667–3671. (<https://doi.org/10.1210/jcem.87.8.8714>)
- 4 Krassas GE, Papadopoulou F, Tziomalos K, Zeginiadou T & Pontikides N. Hypothyroidism has an adverse effect on human spermatogenesis: a prospective, controlled study. *Thyroid* 2008 **18** 1255–1259. (<https://doi.org/10.1089/thy.2008.0257>)
- 5 Ritter K, Elfenbein D, Schneider DF, Chen H & Sippel RS. Hypoparathyroidism after total thyroidectomy: incidence and resolution. *Journal of Surgical Research* 2015 **197** 348–353. (<https://doi.org/10.1016/j.jss.2015.04.059>)
- 6 Asari R, Passler C, Kaczirek K, Scheuba C & Niederle B. Hypoparathyroidism after total thyroidectomy: a prospective study. *Archives of Surgery* 2008 **143** 132–137; discussion 138. (<https://doi.org/10.1001/archsurg.2007.55>)

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