Comment on long-term male fertility after treatment with radioactive iodine for DTC

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We read with great interest the article titled 'Long-term male fertility after treatment with radioactive iodine for differentiated thyroid carcinoma' by Neis *et al.* (1). The authors have studied semen analysis, hormonal evaluation and fertility-focussed questionnaires to evaluate the long-term male fertility after treatment with radioactive iodine for differentiated thyroid carcinoma. We would like to submit a couple of observations.

Guidelines recommend that patients with differentiated thyroid cancer need to be on levothyroxine therapy for suppression of thyrotropin. The degree of thyrotropin suppression varies based on the risk stratification. As per Table 2 in the article, the participants had a median thyroid-stimulating hormone value of 0.5 mU/L with a range of <0.1–7.7 mU/L and a median free thyroxine value of 23.3 pmol/L with a range of 18.3–32.4 pmol/L, suggestive of them having overt/subclinical thyrotoxicosis (1). There is evidence that thyrotoxicosis per se will affect male fertility by affecting the hypothalamic–pituitary–testicular axis and also affect sperm quality (2). We submit that discussion of the thyrotoxic state of the participants and its possible effects on male fertility would add to the merit of the current paper.

Further, there is no mention of the parathyroid status of the participants. Patients undergoing total thyroidectomy may sometimes develop hypoparathyroidism. In case of such a scenario, the participants would have been on calcium, calcitriol or recombinant human parathyroid

hormone treatment which may not mimic the normal physiology of calcium metabolism. There is evidence that normal calcium metabolism is important for normal sperm quality, especially normal sperm motility (3). It would have been interesting to note the parathyroid status of the participants and discuss the effects of hypoparathyroidism on sperm quality.

Declaration of interest

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