

# Hormones and the heart



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The effect of hormones on the heart usually relates to tachycardias such as thyroid overactivity, bradycardias such as thyroid underactivity, and arrhythmias such as adrenaline excess. In this edition of *Heart and Metabolism*, we focus on the hormone “of the moment”—testosterone. We know that in chronic conditions testosterone depletion is quite common, eg, affecting nearly 50% of type 2 diabetics. The question has always surrounded the safety of replacing testosterone in those who are hypogonadal. Recently, the replacement of testosterone has been thought to increase cardiovascular risk. This has caused considerable consternation as the bulk of preceding trials suggested the opposite. So, it was particularly interesting to read a systemic review and meta-analysis of cardiovascular risk associated with testosterone replacement therapy (TRT).<sup>1</sup>

This report from a well-recognised unit does not support a causal link between TRT and adverse cardiovascular risk events.<sup>1</sup> Similarly, the European Medicines Agency (EMA) could find no evidence that TRT in hypogonadal men increased cardiovascular risk.<sup>2</sup> In an editorial, Wu reviewed the position of TRT and the absence of cardiovascular risk, but more information was needed with regard to benefit.<sup>3</sup>

Wu's reassurance that there is no obvious disadvantage in using TRT is alluded to by Professor Hugh Jones in his paper featuring in this edition of *Heart and Metabolism*, and even raises the possibility that TRT reduces mortality. The body of evidence, as discussed in this issue, is very much in favour of TRT improving quality and possibly quantity of life. This is

further reinforced by the Vlachopoulos et al paper, where they found that a low plasma testosterone in hypertensive patients was associated with an increased risk of major cardiac events.<sup>4</sup>

My personal approach is, if the patient is hypogonadal and there are no contraindications, to replace testosterone to normal levels (>12 nmol/L). Furthermore, there is increasing evidence that testosterone may be important with regard to reducing abdominal obesity, which in turn should therefore decrease cardiovascular risk further.<sup>5</sup>

Therefore, whilst there is a degree of confusion, we hope that this issue of *Heart and Metabolism* will help to clarify the position of TRT as a hormone that benefits the heart. ■

## REFERENCES

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