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Short Commentary

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Vulnerable Kidneys During Fasting: (Owing to a Case)

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Case Report

52-year-old woman, being followed up at primary care setting due to hypertension for about five years. Not yet at menopause, but having fluctuations in lipid profile, she was temporarily on cholesterol lowering agent. Since she was overweight with documented insulin resistance (HOMA score:4.32) and having slightly higher liver enzymes and uric acid level, she was advised for isometric exercise, meanwhile owing to gonalgia, she was reluctant to walk at least half an hour a day.

She was keen on Ramadan Intermittent Fasting (RIF) for a month because of religious purposes. We did not permit RIF taking into consideration of her recent creatinine level indicating lower GFR.

In contrary to the recommendations, she started fasting observance with a promise to have her kidney function evaluation after five days. Not very surprisefully, not only creatinine rose 33% more than before fasting, but higher potassium level associated, so results were immediately discussed with her and her also family medicine physician husband. She stopped fasting and encouraged to consume more water than usual throughout the day. Eventually, same GFR levels are obtained as before RIF.

Discussion

RIF is a religious fasting starting from dawn (before sunrise) until sunset (dusk) without eating and drinking each and every year for a month duration for Muslim people.[1] Especially, people with diabetes are more prone to complications such as hypoglycaemia[2] and deterioration of kidney function test,[3,4] so that whom not to allow fasting is critical by the healthcare professionals.[5] Although above presented case was not having diabetes but with overweight, insulin resistance, hypertension, dislipidemia and steatohepatitis, she is very prone for the development of diabetes later in her life with also already having higher risk of cardiovascular disease. Dehydration is one of the important factors in this case that may lead to acute tubular necrosis unless temporarily deteriorate the kidney function especially for the vulnerable kidneys. Although rise in potassium level was not compatible with the GFR level, use of ARB or ACE inhibitors may lead to potassium retention. In people with diabetes-although our case is not one of them- apart from the reduced kidney function, type V renal tubular acidosis may develop which is hyporeninemic hypoaldosteronism, that will give rise to potassium retention, as well. This entity not proven in our case, but level of the element was within normal limits again, a couple of days after ceasing the fasting with adequate hydration.

* Case was also accepted as poster presentation at 25th International Eastern Mediterranean Family Medicine Congress 2026. 07-10 May 2026, Mersin, Türkiye.

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