McArdle's Disease and Acute Renal Failure

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Sir,

Recently Tabata et al. [1] described a case of rhabdomyolysis and acute renal failure in a 45-year-old man with McArdle's disease (myophosphorylase deficiency). Their review of the literature identified only 15 cases of McArdle's disease, all males, in which this complication has been reported.

We recently studied a 38-year-old woman with acute renal tubular necrosis following moderate exercise. This woman was subsequently diagnosed as having McArdle's disease by clinical, biochemical and histopathological criteria and this would appear to be the first reported observation of this symptom complex in a female. The disproportionately high sex incidence of acute renal failure in males with McArdle's disease does not seem surprising given the generally larger muscle mass of males and thus the greater potential for challenging renal function with myoglobin released from muscle during periods of muscle stress.

Tabata et al. [1] noted the rarity in which acute renal failure occurs in association with McArdle's disease and attributed this to care taken by these individuals to limit their own exercise capacity. This explanation fails to explain our case where the bout of rhabdomyolysis was preceded by only moderate exercise, well within this lady's painless exercise capacity. Tabata et al. themselves failed to identify the factors responsible for their patients' episode of rhabdomyolysis and renal failure. Also,

patients with McArdle's disease characteristically display a 'second wind phenomenon', where with sustained exercise symptoms may lessen or disappear. These observations suggest that severe physical muscle trauma alone, as during vigorous exercise or a grand malconvulsion, is only one cause of the rhabdomyolysis. Other factors must also be implicated in the aetiology of the muscle damage. We feel that acute renal failure secondary to rhabdomyolysis of McArdle's disease is probably more common than suggested by the literature due to the relatively benign nature of McArdle's disease in general and thus it is relatively difficult to recognise.

Myophosphorylase deficiency should be considered with renal insufficiency of uncertain aetiology, even in the absence of a history suggesting excessive muscle stress.

Reference

1 Tabata, T.; Kikunami, K.; Matsushita, Y.; Inoue, T.; Inoue T.; Okamoto, T.; Kono, N.; Takahashi, M.; Tarui, S.; Morii, H.: Acute renal failure in McArdle's disease. *Nephron* 44:371–374 (1986).