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Neil Armstrong syndrome and impaired thermoregulation

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Neil Armstrong syndrome applies both to Earth with common magnesium (Mg) deficits and with Mg deficits invariably occurring in Space (S); this can trigger acute temporary heart failure i.e., (catecholamine (C) cardiomyopathy). Whereas the normal CO_2 levels on Earth are 0.03% in S, during the Euro Mir 94 missions, for example, levels, over 10 times higher (0.5-0.7% CO_2). It has been postulated that there is, with S flight, an intracellular shift of calcium (Ca) conducive to vasospasm and damage to mitochondria. Mg is a Ca blocker and strong antioxidant and is required for thermoregulation with loss of Mg in sweat and renal Mg loss and dehydration; this will increase potential for heart failure and hypertension. C levels in S are twice supine levels on Earth. Armstrong, during his last 20 lunar minutes, notified Houston twice during a 4 minute interval that he was "short of breath" along with heart rates up to 160; tachycardia will intensify oxidative stress in S from Mg ion deficits, high C, high free fatty acids and vicious cycles. This syndrome: Severe dyspnoea, severe thirst, severe tachycardia corrected by fluid replenishment, applies to Earth as well; it would be more likely to occur in post-menopausal women with 90% of cases of C cardiomyopathy reported in this group, marathoners particularly at the finish line and those in the tropics, particularly with water shortages. It is likely to be corrected, relatively quickly either by intravenous fluids or a subcutaneous Mg injection.

Biography

William J Rowe is a board certified Specialist in Internal Medicine. He has received his MD at the University of Cincinnati and was in private practice in Toledo, Ohio for 34 years. He is a former Assistant Clinical Professor of Medicine at the University of Ohio, School of Medicine at Toledo. He has been listed in the Marquis Who's Who of the World from 2002-2009, 2013, 2014, 2015 and 2016.

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