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IN BRIEF

PHARMACOTHERAPY

Cardiac safety of strontium ranelate

In contrast to previous findings, a nested case–control study did not find evidence of an increased risk of cardiac events associated with the use of strontium ranelate in women with postmenopausal osteoporosis. Using the UK Clinical Practice Research Datalink (CPRD) and linked datasets, the researchers evaluated annual incidence rates for first definite myocardial infarction (1,352 cases), myocardial infarction with hospitalization (1,465 cases) and cardiovascular death (3,619 cases) in women treated for postmenopausal osteoporosis with strontium ranelate. Neither current nor past use of strontium ranelate was associated with an increased risk of a cardiac event.

Original article Cooper, C. *et al.* Ischaemic cardiac events and use of strontium ranelate in postmenopausal osteoporosis: a nested case–control study in the CPRD. *Osteoporos. Int.* doi:10.1007/s00198-013-2582-4

CARDIOVASCULAR DISEASE

Androgens, autophagy and apoptosis

Sex steroid hormones regulate autophagy during myocardial infarction in rats, a research team from Australia shows. Moreover, *ex vivo* experiments reveal a novel mechanism of action for androgens during ischaemia–reperfusion through downregulation of the antiapoptotic protein Bcl-XL, a key controller of the crosstalk between autophagy and apoptosis. This action shifts the balance towards apoptosis, leading to aggravated cardiac damage in both male and female rats.

Original article Le, T.Y. *et al.* Role of androgens in sex differences in cardiac damage during myocardial infarction. *Endocrinology* doi:10.1210/en.2013-1755

ADRENAL CANCER

Epigenetic regulation of steroid biosynthesis gene expression in aldosteronomas

Integrated genome-wide methylation and gene expression profiling of aldosteronomas ($n=25$), normal adrenal cortical tissue ($n=10$) and nonfunctioning adrenocortical tumors ($n=13$) has determined that altered methylation in aldosteronomas is associated with dysregulated expression of genes involved in steroid biosynthesis. Specifically, *AVPR1A* and *PRKCA* were downregulated and hypermethylated, and *CYP11B2* was upregulated and hypomethylated in aldosteronomas.

Original article Howard, B. *et al.* Integrated analysis of genome-wide methylation and gene expression shows epigenetic regulation of *CYP11B2* in aldosteronomas. *J. Clin. Endocrinol. Metab.* doi:10.1210/jc.2013-3495

NUTRITION

Cognitive rehabilitation after brain injury through diet

Dietary intervention with branched-chain amino acids—precursors for *de novo* glutamate synthesis—improves sleep disturbances after brain injury in mice, in part through activation of orexin neurons. Mild brain injury in mice caused a persistent inability to maintain wakefulness and decreased orexin neuron activation during wakefulness. Feeding mice a dietary supplement of branched-chain amino acids reinstated activation of orexin neurons and improved wake deficits in these animals.

Original article Lim, M. M. *et al.* Dietary therapy mitigates persistent wake deficits caused by mild traumatic brain injury. *Sci. Transl. Med.* **5**, 215ra173 (2013)