

Effects of therapy on subclinical hyperthyroidism and bone mineral density

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Background/Aims: Subclinical hyperthyroidism is known to increase fracture risk. However, there is limited evidence to determine whether treatment leads to a significant benefit. Bone mineral density is a reliable predictor of fracture risk, whereby for a decrease in bone mineral density of one standard deviation below the age-adjusted mean, the relative risk of a fracture is 1.5 in all sites apart from the hip and spine. The aim of this study is to determine whether treatment of subclinical hyperthyroidism leads to any improvement in bone mineral density. **Methods:** A systematic review was performed using PubMed, Cochrane Library and Embase from inception to July 2015 without language restrictions. Search terms used included: 'subclinical hyperthyroidism', 'treatment', 'therapy' and 'bone mineral density'. **Results:** Five studies were identified, including one randomized controlled trial, three intervention studies and one prospective case-control study. Four studies that evaluated elderly patients, postmenopausal women or those who have a multinodular goiter with subclinical hyperthyroidism demonstrated a significant increase in bone mineral density after treatment. Treatment options studied were methimazole, radioactive iodine or thyroidectomy. A small scale randomized controlled trial involving 40 participants showed no benefit in treating pre-menopausal women with subclinical hyperthyroidism. **Conclusion:** Small-scale clinical studies show that treatment of subclinical hyperthyroidism improves bone mineral density in postmenopausal women, the elderly and those with a multinodular goitre. However, large-scale randomized controlled trials directly evaluating whether treating subclinical hyperthyroidism reduces fracture risk with stratification for confounding factors are needed to confirm this benefit.

Long term efficacy of the Anterior Elevate® approach for vault prolapse

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Background/Aims: The long-term efficacy and subjective cure rate of single-incision vaginal approach (Anterior Elevate®) to treat anterior and apical vault prolapse was studied. This study evaluated symptomatic, functional and subjective quality-of-life outcome four years post-surgery. **Methods:** Retrospective, non-randomised study of women with vaginal vault prolapse. Outcome measures include symptomatic relief from, and recurrence of, prolapse, improvement in sexual function, rate of mesh extrusions or surgical revisions, and sequelae of operative complications. **Results:** Sixty-one of sixty-three eligible patients with grade 4 cystocele, were assessed at a median follow up of 4.4 years. Overall post-operative anatomical success rate was 95.2%. Of the 79.5% (n=50) patients that reported pre-operative vaginal lump/dragging sensation, 94% (n=47) patients reported a marked improvement in the symptoms of prolapse, 56% (n=28) reported improved sexual function, and 4.9% (n=3) of procedures resulted in mesh extrusions. Data analysis reported no significant correlation between age and improved outcomes. **Conclusion:** Results suggests this single-incision technique results in improved symptomatic and functional outcomes. Subjective cure rates propose the long-term efficacy of the Anterior Elevate system to be promising, with sustained therapeutic benefit for pelvic organ prolapse correction.

Statin-associated necrotizing autoimmune myopathies in the Indigenous population: a case series from north Queensland

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Background/Aims: To describe clinical and histopathological features of statin associated necrotizing autoimmune myopathies (NAM) in Indigenous Australians and increase awareness of this condition amongst treating physicians. **Methods:** Cases were collected through the Rheumatology Department at The Townsville Hospital between March 2012 and January 2015. A chart review was performed to obtain retrospective information about each case. We detail patient demographics, presenting features, histopathological findings, autoimmune profile, treatment and outcomes. **Results:** 4 Indigenous Australians were identified as having a biopsy-confirmed statin-associated NAM. All patients had been on atorvastatin for at least 2 years and had significant proximal weakness with average CK level on presentation 16,820 U/L. Predisposing factors for myopathy included vitamin D deficiency and diabetes mellitus (all cases), with primary hypothyroidism and liver cirrhosis identified in two other cases. Two individuals were positive for the auto-antibody anti-HMGCR. Histopathological findings included muscle necrosis with varying degrees of membrane attack complex deposition and MHC-1 upregulation. Treatment involved various combination of prednisolone, IVIG, methotrexate and mycophenolate. Recovery was slow but favorable in all cases with an average length of inpatient stay of 54 days. There was a significant delay in diagnosis of 1-3 months in two of the cases. **Conclusion:** The statin-associated necrotizing autoimmune myopathies are rare but important disorders with significant morbidity. Given the prevalence of cardiovascular disease in Indigenous Australians, further research is required to promote earlier diagnosis and improved treatment outcomes.

Sun-protective behaviours of primary school students at swimming carnivals in Townsville

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Background/Aims: It is well known that ultraviolet radiation (UVR) is the primary environmental factor for the development of skin cancer. Queensland government primary school students are expected to wear swim-shirts when participating in water-activities but these are not compulsory when competing. Hat and shirt-wearing behaviours of primary school students in Townsville were observed at swimming carnivals. Method: Inter-school swimming carnivals held in March each year from 2009 to 2015 inclusive were observed. Of the 41 schools observed, 66% were Cancer Council Queensland-accredited SunSmart Schools (SSS). **Results:** Less than a third of all students observed wore a hat and only 77% wore a shirt while not competing. Students attending non-government schools were more than twice as likely to be seen wearing a hat compared to public students, although the proportions for both groups were low at 41% vs 18.2% respectively. The proportion of student spectators wearing a hat and shirt were similar, irrespective of their SunSmart status (hats: SSS 36.3% vs. non-SSS 23.6%; shirts: SSS 77.3% vs. non-SSS 76.2%). **Conclusion:** Student spectators at swimming carnivals need encouragement to wear a hat and shirt, particularly since UVR reflected off pool water presents an additional risk factor for over-exposure. SunSmart status was not associated with improved sun-protective behaviours. Voluntary use of swim-shirts may be a significant barrier to the uptake of sun-protection at swimming carnivals, where the risk of sunburn is high. A comprehensive, school community-based sun-protection intervention is being trialled in Townsville schools to improve declining sun-protection practices.