Bahrain Medical Bulletin, Vol. 33, No. 3, September 2011

Best Evidence from the Cochrane Library

Jaffar M Al Bareeq, DLO, RCP, RCS (London)* Zbys Fedorowicz, Msc, DPH BDS**

Weight Reduction for Non-Alcoholic Fatty Liver Disease

Lijun Peng, Jiyao Wang, Feng Li

Background
Non-alcoholic fatty liver disease (NAFLD) is becoming a widespread liver disease. The present recommendations for treatment are not evidence-based. Some of them are various weight reduction measures with diet, exercise, drug, or surgical therapy.

Objective
To assess the benefits and harms of intended weight reduction for patients with NAFLD.

We included randomized clinical trials evaluating weight reduction with different measures versus no intervention or placebo in NAFLD patients.

Result
The review includes seven trials, five on aspects of lifestyle changes (e.g., diet, physical exercise) and two on treatment with a weight reduction drug 'orlistat'. In total, 373 participants were enrolled, and the duration of the trials ranged from 1 month to 1 year. Only one trial on lifestyle program was judged to be of low risk of bias. We could not perform meta-analyses for the main outcomes as they were either not reported or there were insufficient number of trials for each outcome to be meta-analyzed. We could meta-analyze the available data for body weight and body mass index only. Adverse events were poorly reported.

Conclusion
The sparse data and high risk of bias preclude us from drawing any definite conclusion on lifestyle program or orlistat for treatment of NAFLD. Further randomized clinical trials with low risk of bias are needed to test the beneficial and harmful effects of weight reduction for NAFLD patients. The long-term prognosis of development of fibrosis, mortality, and quality of life should be studied.

---

* Chief Editor
Bahrain Medical Bulletin-established 1979
** Director, Bahrain Branch of the UK Cochrane Centre
The Cochrane Collaboration
Kingdom of Bahrain
Email: jmab@batelco.com.bh; zbysfedo@batelco.com.bh

Treatment for Disseminated Intravascular Coagulation in Patients with Acute and Chronic Leukemia

Arturo J Martí-Carvajal, Daniel Simancas, Andrés Felipe Cardona

Background
Disseminated intravascular coagulation (DIC) is an acquired syndrome characterized by systemic intravascular activation of coagulation, leading to deposition of fibrin in the bloodstream; it could occur in patients with acute and chronic leukemia.

Objective
To assess the clinical effectiveness and safety of any pharmacological intervention for treating DIC in acute or chronic leukemia.

Result
Four randomized controlled trials (126 participants) met the inclusion criteria. These trials evaluated the human activated protein C, recombinant human soluble thrombomodulin, tranexamic acid and dermatan sulphate. Included RCTs reported data on mortality and bleeding. The included RCTs were classified as: 1) patients with or without leukemia, 2) patients with leukemia. However, data were not reported for the leukemia subgroup. We were not able to pool results from studies due to the inconsistency in the measurement and reporting of mortality and bleeding data. The included studies were at high risk of bias.

Conclusion
We found four RCTs, which reported mortality and bleeding data. It is not possible to determine whether human activated protein C, recombinant human soluble thrombomodulin, tranexamic acid and dermatan sulphate are effective or harmful for patients presenting with DIC in acute or chronic leukemia. The effects of these interventions need to be tested in sufficiently powered RCTs. Outcome measures should include in-hospital mortality from any cause, overall mortality, incidence of resolution of respiratory failure, renal failure, shock and safety. The definition of bleeding should be standardized in these patients.

Topical Anesthetics for Repair of Dermal Laceration

Anthony Eidelman, Jocelyn M Weiss, Cristy L Baldwin, Ikay K Enu, Ewan D McNicol, Daniel B Carr

Background
Topical local anesthetics are recognized as providing effective analgesia for numerous superficial procedures, including repair of dermal lacerations. The need for cocaine in topical anesthetic formulations has been questioned due to concern about adverse effects, and so novel preparations of cocaine-free anesthetics have been developed.

Objective
To compare the efficacy and safety of infiltrated local anesthetics with those of topical local anesthetics for repair of dermal lacerations and to evaluate the efficacy and safety of various single or multi-component topical anesthetics to identify cocaine-free topically applied local anesthetics that may provide equivalent analgesia to those containing cocaine.

Result
We included 23 RCTs involving 3128 patients. The small number of trials in each comparison group and the heterogeneity of outcome measures precluded quantitative analysis of data in all but one outcome, pain scores using a visual analogue scale. The majority of trials that compared infiltrated and topical anesthetics are at high risk of bias, which is likely to affect the interpretation of the results. Several cocaine-free topical anesthetics were found to provide effective analgesic efficacy. However, the data regarding the efficacy of each topical agent is mostly based upon single comparisons, in trials that have unclear or high risk of bias. Mild, self-limited erythematous skin induration occurred in one case after application of topical tetracaine-adrenaline-cocaine (TAC) where a total of 1042 patients were exposed. No serious complications were reported in any of the patients treated with either cocaine-based or cocaine-free topical anesthetics.

Conclusion
Based on mostly descriptive analysis, topical anesthetics are possibly an efficacious, non-invasive means of providing analgesia prior to suturing of dermal lacerations. However, additional well-designed RCTs with low risk of bias are necessary before definitive conclusions can be made.

Statins for Acute Coronary Syndrome

Noah Vale, Alain J Nordmann, Gregory G Schwartz, James de Lemos, Furio Colivicchi, Frank den Hartog, Petr Ostadal, Stella M Macin, Anho H Liem, Edward Mills, Neera Bhatnagar, Heiner C Bucher, Matthias Briel

Background
The early period following the onset of acute coronary syndromes (ACS) represents a critical stage of coronary heart disease with a high risk for recurrent events and deaths. The short-term effects of early treatment with statins in patients suffering from ACS on patient-relevant outcomes are unclear.

Objective
To assess the benefits and harms of early-administered statins in patients with ACS from randomized controlled trials (RCTs).

Result
Eighteen studies (14,303 patients) compared early statin treatment versus placebo or usual care in patients with ACS. Compared to placebo or usual care, early statin therapy did not decrease the combined primary outcome of death, non-fatal myocardial infarction (MI), and stroke at one

month (risk ratio (RR) 0.93, 95% confidence interval (CI) 0.80 to 1.08) and four months (RR 0.93, 95% CI 0.81 to 1.06) of follow-up. There were no statistically significant risk reductions from statins for total death, total MI, total stroke, cardiovascular death, revascularization procedures, and acute heart failure at one month and at four months, although there were favorable trends related to statin use for each of these endpoints. The incidence of episodes of unstable angina was significantly reduced at four months following ACS (RR 0.76, 95% CI 0.59 to 0.96). There were nine individuals with myopathy (elevated creatinine kinase levels > 10 times the upper limit of normal) in statin treated patients (0.13%) versus one (0.015%) in the control groups. Serious muscle toxicity was mostly limited to patients treated with simvastatin 80 mg.

Conclusion
Based on available evidence, initiation of statin therapy within 14 days following ACS does not reduce death, myocardial infarction, or stroke up to four months, but reduces the occurrence of unstable angina at four months following ACS.

Secondary Bone Grafting for Alveolar Cleft in Children with Cleft Lip or Cleft Lip and Palate

Jing Guo, Chunjie Li, Qifeng Zhang, Gang Wu, Scott A Deacon, Jianwei Chen, Haikun Hu, Shujuan Zou, Qingsong Ye

Background
Secondary alveolar bone grafting has been widely used to reconstruct alveolar cleft. However, there is still some controversy.

Objective
To compare the effectiveness and safety of different secondary bone grafting methods.

Result
Two of 582 potential studies met the inclusion criteria and were included. One trial compared alveolar bone grafting using artificial materials (InFuse bone graft substitute impregnated with BMP-2) with a traditional iliac graft. The other trial investigated the application of fibrin glue to the bone graft. Both trials were small with 21 and 27 patients and were assessed as being at high risk of bias. Any apparent differences between the interventions for outcomes in either study must therefore be treated with great caution and are not highlighted here.

Conclusion
Due to the high level of risk of bias in the two included trials, there is insufficient evidence to conclude that one intervention is superior to another.

Nutritional Advice for Improving Outcomes in Multiple Pregnancies

Celia K Ballard, Leanne Bricker, Keith Reed, Lorna Wood, James P Neilson

Background
Multiple pregnancies are associated with higher rates of perinatal mortality and morbidity than singleton pregnancies, mainly due to an increased risk of preterm birth. Because fetal outcome is best at a particular range of maternal weight gain, it has been suggested that women with multiple pregnancies should take special diets (particularly high-calorie diets) designed to boost weight gain. However, 'optimal weight gain' in the mother in retrospective studies may merely reflect good growth of her babies and delivery at or near term (both associated with good outcome) and artificially boosting weight gain by nutritional input may confer no advantage. Indeed, a high-calorie diet may be unpleasant to consume, and could lead to long-term problems of being overweight. It is therefore important to establish if specialized diets are actually of benefit to women with multiple pregnancies and their babies.

Objective
To assess the effects of specialized diets or nutritional advice for women with multiple pregnancies (two or more fetuses).

Result
A comprehensive search of the Cochrane Pregnancy and Childbirth Group's Trials Register found no potentially eligible trial reports.

Conclusion
There is no robust evidence from randomized trials to indicate whether specialized diets or nutritional advice for women with multiple pregnancies do more good than harm. There is a clear need to undertake a randomized controlled trial.

Male Circumcision for Prevention of Homosexual Acquisition of HIV in Men

Charles Shey Wiysonge, Eugene J Kongnyuy, Muki Shey, Adamson S Muula, Osric B Navti, Elie A Akl, Ying-Ru Lo

Background
Previous systematic reviews found inconsistent effects of male circumcision on HIV acquisition in men who have sex with men (MSM). However, a number of new studies have become available in the three years since the last systematic review.

Objective
To assess the effects of male circumcision for preventing HIV acquisition by men through sex with men.

Result
We found no completed RCT and included 21 observational studies with 71,693 participants. The only eligible RCT is currently ongoing among MSM in China. The pooled effect estimate for HIV acquisition was not statistically significant (20 studies; 65,784 participants; OR 0.86, 95% CI 0.70 to 1.06) and showed significant heterogeneity (I^2=53%). In a subgroup analysis, the results were statistically significant in studies of men reporting an insertive role (7 studies, 3465 participants; OR 0.27, 95% CI 0.17 to 0.44; I^2=0%) but not in studies of men reporting a receptive role (3 studies, 1792 participants; OR 1.20, 95% CI 0.63 to 2.29; I^2 = 0%). There was no significant association between male circumcision and syphilis (8 studies; 34,999 participants: OR 0.96, 95% CI 0.82 to 1.13; I^2 = 0%), herpes simplex virus 1 (2 studies, 2740 participants; OR 0.90, 95% CI 0.53 to 1.52; I^2=0%), or herpes simplex virus 2 (5 studies;10,285 participants; OR 0.86, 95% CI 0.62 to 1.21; I^2=0%). The overall GRADE quality of evidence was low. None of the included studies assessed adverse effects associated with male circumcision.

Conclusion
Current evidence suggests that male circumcision may be protective among MSM who practice primarily insertive anal sex, but the role of male circumcision overall in the prevention of HIV and other sexually transmitted infections among MSM remains to be determined. Therefore, there is not enough evidence to recommend male circumcision for HIV prevention among MSM at present. Further research should be of high quality and further explore interaction with the predominant sexual role.

Hands-on Therapy Interventions for Upper Limb Motor Dysfunction Following Stroke

Jackie Winter, Susan Hunter, Julius Sim, Peter Crome

Background
Recent studies have attempted to disaggregate therapeutic intervention packages by looking at the impact of structure and process characteristics of environment upon outcome. However, what is commonly referred to as the 'black box' of therapy has yet to be comprehensively unpacked. This failure to analyze the components of therapy means that it remains unclear how much therapy should be provided, who should provide it, and which patients should be targeted to ensure that functional outcomes are maximized. This review, therefore, seeks to assess the effectiveness of specific therapeutic interventions in the rehabilitation of the paretic upper limb post stroke.

Objective
To identify if specific hands-on therapeutic interventions enhance motor activity and function of the upper limb post stroke.

Result
Three studies, involving a total of 86 participants, met all the selection criteria and were included in the review. However, extreme levels of heterogeneity were evident. Therefore, we could not undertake a meta-analysis of the results and completed a narrative synthesis instead.

Conclusion

Overall, the review demonstrated that the limited evidence of benefit of stretching, passive exercises and mobilization, when applied to the hemiplegic upper limb following stroke, merits further research.