Coronary artery disease is the main cause of death worldwide. Lipoprotein(a) (Lp(a)), is an independent risk factor for coronary artery disease in which concentrations are genetically regulated. Contradictory results have been published about physical activity influence on Lp(a) concentration. This research aimed to determine associations between different physical activity levels and Lp(a) concentration. A descriptive and cross-sectional study was made in 1340 randomly selected subjects (males = 598; females = 712) to whom a complete clinical history, the International Physical Activity Questionnaire, and Lp(a) level determination were made. Statistical analysis was carried out to assess qualitative variables relationship by χ2 and differences between means by one-way analysis of variance. Strong association (χ2 = 9.771; P = 0.002) was observed among high physical activity levels with Lp(a) concentration. Results are shown as absolute frequency, percentages, and mean ± standard deviation. Eighty-eight percent (n = 202) of Spanish, Mexican, and Cuban transplant hospital personnel were in favor of related LKD and 24% nonrelated LKD (n = 555). Attitudes were more favorable among centers in Cuba 97% (n = 195), followed by Mexico 88% (n = 793) and by Spain 87% (n = 1014; P <.001). According to job category, 91% (n = 617) of physicians were in favor, 88% (n = 543) of nurses, 85% (n = 198) of health care assistants, and 85% (n = 198) of auxiliary personnel. Attitudes were related to variables: attitude toward deceased donation (P <.001), discussion about organ donation and transplantation (P <.001), and attitude toward living liver donation (P <.001). Conclusions Attitudes toward LKD in Hispanic/Latin Transplant Hospitals were favorable and could encourage an increase in LKD in the coming years assuming suitable sociopolitical and economic condition, as well as support from nephrologists.


In response to epidemic levels of serogroup B meningococcal disease in Cuba during the 1980s the VA-MENGENOC-BC® vaccine was developed and introduced into the National Infant Immunization Program in 1991. Since then the incidence of meningococcal disease in Cuba has returned to the low levels recorded before the epidemic. A total of 420 Neisseria meningitidis strains isolated collected between 1983 and 2005 in Cuba were analyzed by multilocus sequence typing (MLST). The set of strains comprised 167 isolated from disease cases and 253 obtained from healthy carriers. By MLST analysis, 63 STs were identified; 32 of which were reported as a new ST. The Cuban isolates were associated with 12 clonal complexes and the most common were the ST-32 (246 isolates), ST-53 (86 isolates) and ST-41/44 (36 isolates).

This study also showed that the application of VA-MENGENOC-BC®, the Cuban serogroups B and C vaccine, reduced the frequency and diversity of the hypervirulent clonal complexes ST-32 (vaccine serogroup B type-strain) and ST-41/44, and also impacted on other lineages. Lineages ST-8 and ST-11 were no longer found during the post-vaccination period. The vaccine also affected the genetic composition of the carrier-associated meningococcal isolates. The number of carrier isolates belonging to hypervirulent lineages decreased significantly after vaccination, and ST-53, a sequence type common in carriers, became the predominant ST.

Cuban Research in Current International Journals

The following selection—alphabetical by title—reflects Cuban medical publishing in international journals over the last quarter on an array of topics. Links to these journal articles may be found at www.medicc.org/mediccreview.


Abstracts


Introduction Living donor kidney (LKD) transplantation provides better results than deceased donor transplantation, involving minimum risk for the donor. However, LKD donation rates are low in most countries. We analyzed attitudes toward LKD in transplant hospitals in Spain, Mexico, and Cuba. Materials and Methods Data were obtained from five transplant hospitals through the International Collaborative Program “Proyecto Donante Vivo. Mucria” in three countries: Spain (n = 1168), Mexico (n = 903), and Cuba (n = 202). The random sample (2273 employees) was stratified according to job category. The instrument used to evaluate attitude was a validated questionnaire. Statistical analysis included Student t test, the χ2 test, and multivariate analysis. Results Eighty-eight percent (n = 202) of Spanish, Mexican, and Cuban transplant hospital personnel were in favor of related LKD and 24% nonrelated LKD (n = 555). Attitudes were more favorable among centers in Cuba 97% (n = 195), followed by Mexico 88% (n = 793) and by Spain 87% (n = 1014; P <.001). According to job category, 91% (n = 617) of physicians were in favor, 88% (n = 543) of nurses, 85% (n = 198) of health care assistants, and 85% (n = 198) of auxiliary personnel. Attitudes were related to variables: attitude toward deceased donation (P <.001), discussion about organ donation and transplantation (P <.001), and attitude toward living liver donation (P <.001). Conclusions Attitudes toward LKD in Hispanic/Latin Transplant Hospitals were favorable and could encourage an increase in LKD in the coming years assuming suitable sociopolitical and economic condition, as well as support from nephrologists.


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Delayed cerebral ischaemia as a clinical expression of vasospasm is one of the main complications of subarachnoid haemorrhage. In some cases, ischaemic manifestations can be related to cerebral emboli, but the relationship between vasospasm, damaged endothelial lining, and embolism, remains to be proven. The case is presented of a 56-year-old female patient who, 5 days after the clipping of an aneurysm in the left middle cerebral artery (MCA), suffered transient ischaemic attacks (TIAs) of this arterial territory. Transcranial Doppler ultrasonography showed an increment of the left MCA mean flow velocity, and 12 microembolic signals were detected in 30 mins. The coexistence of microembolic signals with severe vasospasm in the same arterial segment might suggest a causal relationship between cerebral embolism, severity of vasospasm, and TIAs.


Objective To distinguish Cuban children clinically referred because of ADHD from an at-risk community sample and a community control group in terms of symptoms, associated difficulties and impairment of family and peer relations. Method Parents and teachers of 1036 children (6–8 years old) completed an established ADHD rating scale and a behavioral screening measure, including peer functioning. We also...
administered a structured clinical interview and measures of family impairment to the clinical sample and to an at-risk community-based subsample. Results Although both clinical and at-risk groups displayed more externalizing and internalizing symptoms than controls, referred children were not only characterized by higher levels of ADHD symptoms, but also by greater impairment of family and peer relations than at-risk community children or community controls. Conclusion The findings suggest that ADHD has major consequences on the family and peer functioning of Cuban children, which may lead to their referral for treatment.


Duplicated middle cerebral artery (DMCA) is an anomalous vessel arising from the internal carotid artery. The incidence DMCA is relatively low, and an association between this anomaly and cerebral aneurysms has been documented. There is a controversy whether DMCA may have perforating arteries. This is an important fact to consider in aneurysm surgery. We report the case of a 34-year-old black woman who suffered a subarachnoid hemorrhage and the angiography a left DMCA, and an aneurysm in an inferior branch of the main MCA. The DMCA and the MCA had perforating arteries. The aneurysm was clipped without complications. The observation of perforating arteries in our patient confirms that the DMCA may have perforating arteries. This is very important to be considered in cerebral aneurysms surgery. Moreover, the DMCA may potentially serve as a collateral blood supply to the MCA territory in cases of MCA occlusion.


Novel therapeutic peptides are increasingly making their way into clinical application. The cationic and amphipathic properties of certain peptides allow them to cross biological membranes in a non-disruptive way without apparent toxicity increasing drug bioavailability. By modifying the primary structure of the Limulus-derived LALF(32-51) peptide we designed a novel peptide, L-2, with antineoplastic effect and cell penetrating capacity. Interestingly, L-2 induced cellular cytotoxicity in a variety of tumor cell lines and systemic injection into immunocompetent and nude mice bearing established solid tumor, resulted in substantial regression of the tumor mass and apoptosis. To isolate the gene transcripts specifically regulated by L-2 in tumor cells, we conducted suppressive subtractive hybridization (SSH) analysis and identified a set of genes involved in biological processes relevant to cancer biology. Our findings describe a novel peptide that modifies the gene expression of the tumor cells and exhibits antitumor effect in vivo, indicating that peptide L-2 is a potential candidate for anticancer therapy.


A multicenter, double-blind, placebo-controlled trial was carried out to evaluate the intra-lesional infiltration of recombinant epidermal growth factor (EGF) in Wagner’s grade 3 or 4 diabetic foot ulcers (DFUs). Subjects (149) were randomised to receive EGF (75 or 25 µg) or placebo, three times per week for 8 weeks and standard good wound care. The main endpoint was granulation tissue covering ≥ 50% of the ulcer at 2 weeks. It was achieved by 19/48 controls versus 44/53 in the 75 µg group (odds ratio (OR): 7.5; 95% confidence interval (CI): 2.9-18.9) and 34/48 in the 25 µg group (OR: 3.7; 1.6–8.7). Secondary outcome variables such as end-of-treatment complete granulation response (28/48 controls, 46/53 with 75 µg and 34/48 with 25 µg EGF), time-to-complete response (controls: 5 weeks; both EGF dose groups: 3 weeks), and wound closure after follow-up (25/48 controls, 40/53 with 75 µg and 25/48 with 25 µg EGF) were also treatment dependent. Multivariate analyses yielded that they were significantly enhanced by 75 µg EGF treatment and neuropathic versus ischemic ulcers. Most adverse events were mild and no drug-related severe adverse reactions were reported. It was concluded that recombinant human EGF (rHEGF) local injections offer a favourable risk-benefit balance in patients with advanced DFU.

Introduction Xenotransplantation is far from becoming a clinical reality. However, in vital organs it could be used as a bridge until a human organ becomes available, in an emergency situation. We analyzed the attitude toward xenotransplantation among personnel in transplant-related services in several hospitals in Spain and Latin America. Methods A random sample stratified by type of service and job category (n = 738), in transplant-related services (procurement units, transplant units, and transplant patient follow-up units) was examined in eight hospital centers from three different countries: Spain (n = 349), Mexico (n = 269), and Cuba (n = 120). A self-administered validated questionnaire was completed anonymously. Results Based on the assumption that all the results of xenotransplantation were similar to those achieved with human donors, most respondents [66% (n = 484)] would be in favor. The employees from Cuban centers had the most favorable attitudes (72% in favor), followed by the Spanish centers (64%) and the Mexicans (61%; P < .013). However, the differences were mainly determined by job category: Physicians showed the most favorable attitudes and auxiliary staff the least (67% vs 40%; P < .010). Attitudes were significantly related to beliefs about different types of human donation [deceased (P < .001) and living (P < .001)], the possibility of needing a transplant for oneself (P < .001), and a favorable attitude toward donating the organs of a deceased family member (P = .004).

Conclusions Currently, a third of health care employees working in transplant-related services are not in favor of xenotransplantation. More information should be provided about the subject, especially in centers with preclinical xenotransplantation programs.


Approximately one third of the world’s population is infected with Mycobacterium tuberculosis and 9.27 million new cases of TB occurred in 2007. Developing countries disproportionately shoulder the global burden of disease with the highest estimated rates in the world, with an estimated 55% of global cases in Asia and 31% in the African region. The incidence of new sputum smear positive in Rwanda through recent national survey was an estimated 162 per 100 000 population. The aim of our study was to evaluate the prevalence of smear positive pulmonary TB among patients at the University of Butare Teaching Hospital, a tertiary care hospital in South province, Rwanda. In addition, some aspects of the performance of the pulmonary TB diagnosis are discussed. The overall prevalence of sputum smear positive cases were 17.3% (63 of 364) and most of the positive patients were within the age range 15–44 years. The highest percentage of TB was seen in the age group of 15–24 years compared with the lowest percentages in the age group below 14 years and above 45 years. A total of 63 (17.3%) suspects were found to have at least one positive. Of these, 56 (88.9%) of those with one or more positive smears and 92% of those who fulfilled the case definition were detected from the first specimen and 7 (11.1%) were positive on the second specimen but not the first. The third specimen did not have any additional diagnostic value for the detection of AFB. The prevalence of sputum smear positive cases of 17.3% increases with age up to the age 44 years. Our result show that examining two spura smears was sufficient for the detection of AFB in our laboratory. Further research involving different laboratories from all of the regions of Rwanda is needed to reassess these findings.


Nerve conduction is profoundly affected in Spinocerebellar ataxia 2 (SCA2) even before the onset of the disease, but there is no information regarding its progression to the final stage of SCA2. In order to study the progression patterns of nerve conduction abnormalities in SCA2 we performed a prospective follow up evaluation of sensory and motor conduction in 21 SCA2 mutation carriers—initially presymptomatic—and 19 non-SCA2 mutation carriers during 20 years. The earliest electrophysiological alterations were the reduction of sensory amplitudes in median and sural nerves, which could be found 8 to 5 years prior disease onset and in the last 4 years of the preclinical stage respectively. These abnormalities were followed by the increase of sensory latencies and decrease of conduction velocities. Sensory amplitudes progressively decreased during the follow-up clinical stage, rendering almost all patients with abnormal amplitudes and lack of sensory potentials, with faster propagation of sensory nerve fibers with larger CAG repeat lengths. Peripheral motor nerves showed the later involvement. These findings were used to define three distinct stages that describe the progression of the peripheral neuropathy. We suggest that sensory amplitudes could be useful biomarkers to assess the progression of peripheral nerve involvement and therefore to evaluate future clinical trials of therapeutic agents.


Objective To analyze the attitude of nursing personnel about organ donation and transplantation in hospitals in Spain and Latin America, and factors that affect this attitude. Methods Data were selected from 12 hospitals and 32 primary care centers participating in an international study (Proyecto Donante, Murcia) in 4 countries including Spain (n = 650), Mexico (n = 428), Cuba (n = 89), and Costa Rica (n = 27). The sample was random and stratified by type of service among nursing personnel (n = 1194). Attitude was evaluated using a psychosocial questionnaire. Results Of nursing personnel surveyed, 77% (n = 922) were in favor of organ donation. No differences were found according to whether they were directly involved in transplantation-related services (P < .05). Attitude in favor of organ donation varied between countries: 92% in Cuba, 85% in Costa Rica, 80% in Mexico, and 73% in Spain (P < .001). This attitude was also related to donation of a family member’s organs (P < .001), having discussed organ donation and transplantation within the family (P < .001), the concept of brain death (P < .001), fear of body mutilation (P < .001), and manipulation of the body after death (P = .001). Conclusion Attitude toward deceased organ donation among nurses varies between countries. There is a discrepancy between those in favor vs actual donation rates in countries and work centers. These fears may become worse when donation is seen as common in daily clinical practice.