EDITORIAL

OBESITY, INFLAMMATION AND ENDOTHELIAL DYSFUNCTION

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Cardiovascular disease is the leading cause of morbidity and mortality in obese individuals. Obesity dramatically increases the risk of development of metabolic and cardiovascular disease. This risk appears to originate from disruption in adipose tissue function leading to a chronic inflammatory state and to dysregulation of the endocrine and paracrine actions of adipocyte-derived factors. These, in turn, impair vascular homeostasis and lead to endothelial dysfunction. An altered endothelial cell phenotype and endothelial dysfunction are common among all obesity-related complications. A crucial aspect of endothelial dysfunction is reduced nitric oxide (NO) bioavailability. A systemic pro-inflammatory state in combination with hyperglycemia, insulin resistance, oxidative stress and activation of the renin angiotensin system are systemic disturbances in obese individuals that contribute independently and synergistically to decreasing NO bioavailability. On the other hand, pro-inflammatory cytokines are locally produced by perivascular fat and act through a paracrine mechanism to independently contribute to endothelial dysfunction and smooth muscle cell dysfunction and to the pathogenesis of vascular disease in obese individuals. The promising discovery that obesity-induced vascular dysfunction is, at least in part, reversible, with weight loss strategies and drugs that promote vascular health, has not been sufficiently proved to prevent the cardiovascular complication of obesity on a large scale. In this review we discuss the pathophysiological mechanisms underlying inflammation and vascular damage in obese patients.
Human mast cells (first described in 1879 by Paul Ehrlich) develop from committed precursors in the bone marrow expressing the differentiation marker CD34+ and distinct from the three other myeloid cells. Mast cells are present in various tissues especially near blood vessels, epithelia and nerves and they are activated by cross-linking of FcεRI, but also by a number of neuropeptides. NGF mediates a number of inflammatory and autoimmune states in conjunction with an increased accumulation of mast cells which appear to be involved in neuroimmune interactions and tissue inflammation. Here we report some relationships between mast cells and nerve growth factor (NGF).
Natural Killer (NK) cells mount a fast and efficient immune response against tumor cells and are currently a major focus in the development of anti-cancer cell-based therapies. Due to major differences between the murine and human NK cell receptor system, a non-human primate model would be helpful to evaluate the efficiency of NK-cell based therapies prior to clinical applications. In humans, B7-H6 has been shown to facilitate the elimination of lymphoma cells through the interaction with its receptor NKp30. The common marmoset (Callithrix jacchus) is a new world monkey readily used in biomedical research due to its easy management and proximity to humans. In this study, we demonstrated the expression of B7-H6 antigen in marmoset B-lymphoblastoid cell lines. In addition, a method was established to isolate B- or NK-cells from peripheral blood of marmosets with purities of up to 97%. We detected the expression of B7-H6 in lymphoma cells and for the first time in leukemic blasts of human acute myeloid leukemia (AML). Marmoset NK cells were shown to lyse marmoset B lymphoblastoid cell line (B-LCL) cells by up to 28.4% and human B-LCL cells by up to 20%. This effect was abrogated when the NK cells were pre-treated with an anti-NKp30 specific antibody. Also, marmoset NK cells were able to lyse primary leukemic AML cells and lymphoma cells by up to 8.3 and 20.3%, respectively. Stimulation of marmoset NK cells with recombinant B7-H6 induced phosphorylation of ERK1/2 and proliferation rates. Furthermore, the secretion of IL-1β, IL-8, IFN-γ and TNF-α was significantly increased upon B7-H6 stimulation. In conclusion, we demonstrated that non-human primate NK cells have similar mechanisms for the lysis of tumor cells as human NK cells. Thus, this animal model constitutes a very promising tool for the development and evaluation of novel NK-cell based therapies.
IF YOU HAVE AN ACTIVE VAGUS NERVE, CANCER STAGE MAY NO LONGER BE IMPORTANT

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The parasympathetic system, and primarily the vagus nerve, informs the brain about multiple signals and returns the body to homeostasis. Recent studies have shown that vagal nerve activity independently predicts prognosis in cancer. Here, we take this one step further and show that when vagal nerve activity is high, cancer stage no longer predicts tumor burden. We examined whether vagal nerve activity, indexed by Heart Rate Variability (HRV), moderated the effects of initial tumor stage on tumor burden at follow-up. Patients’ HRVs were derived from ECGs near diagnosis in colorectal cancer (CRC) and in prostate cancer (PC) patients. Outcomes included the tumor markers carcinoembryonic antigen (CEA) at 12 months for CRC and prostate-specific antigen (PSA) at 6 months for PC. As would be expected, initially advanced tumor stages of CRC or PC predicted higher tumor marker levels at follow-up than did early stages. However, this occurred only in patients with low, not high, vagal activity (HRV). Furthermore, in patients with advanced tumor stage at diagnosis, high HRV predicted lower tumor marker levels than did low HRV, in both cancers. Estimating a cancer patient’s prognosis by determining his tumor stage needs to also consider the vagal nerve activity. This activity is easily measurable, and it determines in which subjects the tumor stage is prognostic. Importantly, higher vagal activity may even protect against the adverse effects of advanced cancer stage. These findings, observed in two distinct cancers, support the hypothesized neuroimmunomodulatory effects of vagal nerve activity on tumors.
ENVIRONMENTAL RISK FACTORS FOR WOMEN WITH POLYCYSTIC OVARY SYNDROME IN CHINA: A POPULATION-BASED CASE-CONTROL STUDY

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Polycystic ovary syndrome (PCOS) is a common reproductive endocrinology disease with heterogeneous phenotype. Environmental factors are thought to be involved in the development of PCOS. The present study aimed to explore the potential environmental risk factors of PCOS. A cross-sectional study and stratified population-based case-control study were carried out. Pre-designed questionnaires were prepared, including questions about medication history, contact history of endocrine disruptors (EDs), environment and habituation. Fasting blood was collected for measurement of sex hormone, glucose and insulin. Matched logistic regression analysis was used to find the potential independent risk factor of PCOS. One thousand eight hundred fifty-four participants (aged 12-44 years) were analyzed in the cross-sectional investigation. One hundred sixty-nine PCOS patients and 338 matched controls were compared. PCOS patients were more frequent than controls in eating plastic-packaged food ($p=0.001$), contacting pesticide ($p=0.021$), eating fruit with pericarp ($p=0.001$), living beside a garbage heap ($p=0.001$), working at an acid plant ($p=0.028$), taking Chinese patent drugs ($p=0.001$), smoking ($p=0.028$) and drinking alcohol ($p=0.001$). However, PCOS patients were less likely to use kitchen ventilators ($p=0.002$), eat canned food ($p=0.049$), contact decorated materials, use skin care products ($p=0.01$) and cosmetics ($p=0.027$). No difference was found in taking antiepileptic drugs ($p=0.93$). Eating plastic-packaged food ($p=0.001$, OR=44.449), eating fruit with pericarp ($p=0.03$, OR=5.7) and drinking alcohol ($p=0.001$, OR=29.632) were found to be the independent risk factors for PCOS. The existence of an association between EDs and PCOS was proved. Plastic-packaged food, fruit with pericarp and drinking alcohol should be avoided as possible as we can. However, the causal relationships among these factors and PCOS should be proved by further research.
ESTROGENS CONTROL INFLAMMATION IN EXPERIMENTAL COLITIS

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There is now a wealth of experimental evidence indicating that the deficit in endogenous estrogen facilitates the onset of inflammation that can be antagonized by estrogen replacement therapy. This work investigated the role of estrogen in the control of intestinal inflammation in a panel of colitis models, focusing on the morphological changes, the activity of mast cells, the expression of cytokines (IL-1β, IL-6, and TNF-α), fibronectin and reactive oxygen species. Two hundred adult male rats were divided into 4 groups: colitis was induced in Group I and Group II but only the latter was treated with estrogen; Group III received estrogen only, and Group IV saline. Colitis was induced in 4 models using: iodoacetamide; iodoacetamide + enteropathogenic E. coli; 2,4,6-Trinitrobenzene sulfonic acid; and dextran sulfate sodium salt. Macroscopic and microscopic evaluations of abdominal structures as well as molecular analysis were made on days 7, 14, 28 and 56. There was a significant improvement in the health condition of the estrogen-treated rats: the inflammation scores were reduced by at least 10-15%, the number of mast cells in the colon decreased by 30%, fibronectin expression was only 50% and reactive oxygen species decreased by 30%. In addition, there was a significant decrease in TNF-α, IL-6 and IL-1β expression by about 25%. In conclusion, there was an improvement in the inflammatory status in all estrogen-treated groups through the duration of the experiment at all-time points. In addition, there was less tissue necrosis as depicted by less fibronectin and a marked antioxidant effect.
Vascular endothelial growth factor-B (VEGF-B) is an important member of the VEGF protein family. Recent animal studies indicated that VEGF-B signaling had determinant roles in insulin resistance, lipid distribution and metabolism in type 2 diabetes. The clinical significance of VEGF-B in type 2 diabetes is still not clear. This study aimed to correlate VEGF-B levels with biochemistry characteristics and target organ damage in type 2 diabetic patients. Serum VEGF-B levels were measured using ELISA. A cross-sectional control study, which included 180 type 2 diabetic patients and 62 healthy subjects, was carried out. Diabetic patients who were undergoing insulin therapy were not included. This results showed that serum VEGF-B levels did not differ between the type 2 diabetic patients and the healthy controls (169.2±118.8 vs 163.5±115.2 pg/mL; P=0.734). VEGF-B levels in type 2 diabetic patients were significantly associated with the levels of c-peptide, total cholesterol and triglyceride. T-test analysis showed that the associations of serum VEGF-B levels with insulin resistance, pancreatic reserve, HDL and LDL were not significant. Regression analysis showed that VEGF-B levels were significantly correlated with diabetic retinopathy and nephropathy. No significant association between VEGF-B and macro-vasculopathy was found. In conclusion, our study findings suggested that VEGF-B levels did not differ between the type 2 diabetic patients and the normal controls. High VEGF-B levels might correlate with the presence of hyperlipidemia and target organ damage in type 2 diabetic patients.
GROWTH FACTORS AND METABOLIC MARKERS IN CORD BLOOD: RELATIONSHIP TO BIRTH WEIGHT AND LENGTH

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Low birth weight and length for gestational age are associated with a high risk of short stature and metabolic syndrome in adulthood. The mechanisms that link prenatal growth to adult stature and metabolic syndrome have not yet been entirely clarified. The aim of our study was to evaluate the relationship between standardized anthropometric measures at birth and insulin-like growth factor (IGF)-I, IGF-II, insulin, adiponectin, and non-esterified fatty acid (NEFA) cord blood levels in the general population. One hundred fifty-eight random newborn subjects (77F, 81M) from Genoa, Italy, were analyzed. Anthropometric parameters were measured and standardized according to standard Italian tables. Insulin values were treated as categorical, since in several cases the results fell below detection cut-off. Mean birth weight was 3,214.23±488.99 gr and mean length was 49.82±2.17 cm. Females had higher mean IGF-I (p=0.04), and were more likely to have insulin values either <2 µU/ml or >4.5µU/ml (p= 0.04) compared to males. Weight and length SD scores (SDS) were higher in subjects with elevated insulin levels (p=0.002). A moderate correlation was found between weight and IGF-II (r=0.354). Multivariable analysis demonstrated that standardized birth weight was associated with IGF-II and insulin values. Our data highlight the importance of IGF-II in fetal growth and suggest that gender differences should be taken into consideration when evaluating prenatal growth.
Probiotics (PB) are living microorganisms that act as a commensal population in normal intestines and confer numerous beneficial effects on the host. The introduction of probiotics in the treatment of inflammatory bowel disease (IBD) prolongs remission. The aim of this study was to investigate the intestinal and hepatic effects of PB supplementation in an experimental IBD model in mice induced by 2,4,6-trinitrobenzene sulfonic acid (TNBS). In the first step of the experimental procedure, CD-1 male mice, 5 to 6 weeks old, were randomly divided into 3 groups and inoculated intrarectally with, respectively, saline, alcohol, or TNBS to assess the experimental IBD model. In the second step, mice treated, or not, with TNBS inoculation, were treated with PB (Lactobacillus Casei, Bifidobacterium Lactis) for 1, 2 or 3 weeks, on a daily basis. Large bowel (colon and rectum) and liver were processed for histological alterations, according to a scoring system. Large bowel was also assessed for apoptosis by TUNEL assay. TNBS induced, as expected, severe damage and inflammation in the large bowel, including nuclear alterations and apoptosis, and, to a lesser extent, to the liver. Administration of PB determined significant reduction of both histological alterations and apoptosis. PB administration in advance protects from inflammation. In conclusion, supplementation with Lactobacillus casei, Bifidobacterium lactis supplementation reduces tissue damage of intestinal mucosa and liver after 2,4,6-trinitrobenzenesulfonic acid treatment in mice.
*lactis* PB is able to ameliorate the colitis by reversing the histological changes caused by TNBS in mice. Experimentation in human subjects is needed to prove their efficacy in reducing histological alterations that may be present in subjects with IBD.
DEGENERATIVE EVENTS IN RETINA AND OPTIC NERVE INDUCED BY INHIBITION OF CARNITINE TRANSPORT

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Biochemical and pharmacological evidence supports the hypothesis that the mechanism of action of mildronate [3-(2,2,2-trimethylhydrazinium)propionate dihydrate] is based on its regulatory effect on carnitine concentration. The present study demonstrates that carnitine acts as a neuroprotective agent both in optic nerve head and in retinal ganglion cell (RGC) by means of antioxidant and antiradical activities. In fact, carnitine normalized the increase in caspase-3, cellular apoptosis susceptibility protein (CAS) and inducible nitric oxide synthase (iNOS) expression by stabilizing mitochondrial membranes, as assessed by quantitative and qualitative analysis. This research shows that the neuroprotective effects of carnitine result, at least partially, from anti-neurodegenerative (anti-apoptotic) and anti-inflammatory mechanisms. It is suggested that the molecular conformation of carnitine can facilitate its easy binding to mitochondria, and regulate the expression of different signal molecules, hence maintaining normal cellular signaling and survival by modulating caspase-3 activity.
Interferon α (IFNα) is the most used adjuvant treatment in clinical practice for melanoma (MEL) high-medium risk patients; however, the use of IFNα has yielded conflicting data on Overall Survival (OS) and disease free survival (DFS) rates. Starting from these considerations, we carried out an analysis on our MEL patients who received adjuvant IFNα therapy, in order to identify possible predictors for their outcome. A total of 140 patients were included in our analysis. Patients with Breslow thickness ≤ 2.00 mm presented a significantly longer mean DFS than patients with Breslow ≥ 2.01 mm (p = 0.01). Using non-parametric Spearman’s Coefficient test we found association between DFS and Breslow thickness (p < 0.001) and between DFS and ulceration (p = 0.03). Performing Multiple Regression test, Breslow thickness (p < 0.001) remained the only statistically significant predictor. From the OS analysis we found that patients with lower Breslow values ≤ 2.00 mm (p < 0.0001), and absence of ulceration (p < 0.004) showed a significantly better long-term survival. From the current analysis we found that the use of low dose IFNα is justified only for cutaneous melanoma ≤ 4.01 mm that was not ulcerated; patients with Breslow ≥ 4.01 mm, in our opinion, should not carry out adjuvant treatment with low dose IFNα, because its side effects could be higher than the its benefits.
FLAKE SIZE-DEPENDENT CYTO AND GENOTOXIC EVALUATION OF GRAPHENE OXIDE ON IN VITRO A549, CaCo2 AND VERO CELL LINES

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This study was carried out by varying both graphene oxide (GO) concentration (10 μg/mL, 50 μg/mL, 100 μg/mL) and flakes sizes of 1320 nm and 130 nm. Characterization by scanning electron microscopy and Raman spectroscopy demonstrate that the area of GO flakes varies of one order of magnitude but their chemical structure remains unmodified. A 24-h cytotoxicity test showed, for A549, a loss in the viability, while the test exhibits overall a positive increase in the viability for CaCo2 and Vero. A 24-h comet assay shows a marked GO genotoxicity: for micrometer-sized GO flakes the genotoxicity is in positive correlation with the concentration, while for nanometer-sized GO flakes there was a high degree of genotoxicity at the lowest concentration tested.
SALIVARY STEROID HORMONE RESPONSE TO WHOLE-BODY CRYOTHERAPY IN ELITE RUGBY PLAYERS

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Saliva represents a low stress, not-invasively collected matrix that allows steroid hormone monitoring in athletes by reflecting type, intensity and duration of exercise. Whole body cryotherapy (WBC) consists of short whole-body exposures to extremely cold air (-110° to -140°C) which, despite being initially used to treat inflammatory diseases, is currently acquiring increasing popularity in sports medicine. Cryostimulation practice is now widely accepted as an effective treatment to accelerate muscle recovery in rugby players. The aim of this work was to study the changes of steroid hormones in saliva of rugby players after both 2 and 14 consecutive WBC sessions, in order to investigate the effects of the treatment on their salivary steroid hormonal profile. Twenty-five professional rugby players, belonging to the Italian National Team, underwent a 7-day cryotherapy protocol consisting of 2 daily sessions. Saliva samples were taken in the morning prior to the start of the WBC, in the evening after the end of the second WBC, and in the morning of the day after the last WBC session. The samples were analyzed for cortisol, DHEA, testosterone and estradiol using competitive enzyme-linked immunosorbent assays. Cortisol and DHEA showed a reduction already after the 2 WBC sessions of the first day; after 14 consecutive WBC sessions cortisol, DHEA, and estradiol levels decreased, while testosterone increased as did the testosterone to cortisol ratio. These results were confirmed by the fact that the majority of subjects showed variations exceeding the critical difference (CD). In conclusion, we found that WBC acutely affects the salivary steroid hormone profile, and the results are evident already after only one twice-daily session. Most significantly, after one-week of consecutive twice-daily WBC sessions, all the hormones were modified. This is the first experimental report that links changes in the hormonal asset to WBC.
BIOCHEMICAL ASSESSMENT OF GROWTH FACTORS AND CIRCULATION OF BLOOD COMPONENTS CONTAINED IN THE DIFFERENT FRACTIONS OBTAINED BY CENTRIFUGATION OF VENOUS BLOOD

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The aim of this study was to evaluate a biochemical marker with different elements of a normal blood serum and centrifuged blood serum after a different rotation system. For this technique, we used five fractions of a blood Concentrated Growth Factors system (bCGF) and a particular device for the different rotation program. Blood samples were collected from 10 volunteers aged between 35 and 55 in the Operative Unit of the “Sapienza” University of Rome with only a fraction of different biochemical elements. Through an individual blood phase separator tube of venous blood, active factions of serum and 4 fractions of red buffy coat were taken. The biochemical markers with 14 elements were examined at times: P1-11 minutes, P2-12 minutes, P3-15 minutes. Exclusively biological materials which are normally applied in the regeneration techniques for different defects and lesions were used with this technique. After specific rotation programs, a different result was obtained for each cycle: P1, P2, P3. In test tubes obtained by separated blood, we observed a higher concentration of proteins, ions, and other antigens compared to normal blood plasma. Examining the biochemical results of different elements, we observed an increase (P ≤ 0.01). Since each person’s DNA is different, we could not have the same results in 5 fractions of blood concentration, we did, however, find a good increase in only a fraction of proteins, immunoglobulin and different ions. We obtained five fractions after centrifugation, and we had an increase in different biochemical elements compared to normal blood (P ≤ 0.01) which is significant at different times. These biochemical elements were stimulated by different growth factors, which are used by the immune system, and they induced the formation of hard and soft tissues and good regeneration.
A randomized, placebo-controlled study on the effects of a nutraceutical combination of red yeast rice, *Silybum marianum* and octasonol on lipid profile, endothelial and inflammatory parameters

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The aim of this study was to evaluate the effects of a combination of red yeast rice, *Silybum marianum* and octasonol compared to placebo on lipid profile, endothelial, and inflammatory parameters in low risk dislipidemic patients. One hundred and thirty-four dislipidemic patients were randomised to take placebo or a patented nutraceutical association in tablet form (Zeta Colest®), 1 tablet/day (immediately after the dinner), for three months in a double-blind, placebo-controlled trial. At baseline and after 3 months the following were evaluated: body weight, body mass index (BMI), fasting plasma glucose (FPG), lipid profile, soluble intercellular adhesion molecule-1 (sICAM-1), soluble vascular cell adhesion molecule-1 (sVCAM-1), soluble E-selectin (sE-selectin), metalloproteases-2 and -9 (MMP-2 and MMP-9), high sensitivity C-reactive protein (Hs-CRP), interleukin-6 (IL-6), and tumor necrosis factor-α (TNF-α). The nutraceutical combination decreased total cholesterol and low density lipoprotein cholesterol compared to baseline (p = 0.042, and p = 0.041, respectively) and to placebo (p = 0.039, and p = 0.037, respectively). Triglycerides were reduced by the active treatment (p = 0.039), but not by placebo, even if, in group to group comparison, no differences were recorded (p = 0.061). All adipocytokines were reduced by the nutraceutical combination, in particular p = 0.044 for sICAM-1, p = 0.045 for sVCAM-1, p = 0.040 for sE-selectin, p = 0.035 for MMP-2, p = 0.039 for MMP-9, p = 0.038 for Hs-CRP, p = 0.036 for TNF-α, and p = 0.036 for IL-6 compared to baseline, and p = 0.042 for sICAM-1, p = 0.043 for sVCAM-1, p = 0.042 for sE-selectin, p = 0.031 for MMP-2, p = 0.038 for MMP-9, p = 0.038 for Hs-CRP, and p = 0.043 for TNF-α, respectively, compared to placebo. We can conclude that a combination of red yeast rice, *Silybum marianum* and octasonol was effective in improving lipid profile, endothelial, and inflammatory parameters in low risk dislipidemic patients.
TRACHEOBRONCHIAL STENOSIS EVALUATED BY INSPIRATORY AND EXPIRATORY THREE-DIMENSIONAL COMPUTED TOMOGRAPHY AND IMPULSE OSCILLATION WITH THREE-DIMENSIONAL COLOR IMAGING IN A PATIENT WITH RELAPSING POLYCHONDРИTIS

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Patients with relapsing polychondritis (RP) and airway stenosis have difficulty performing conventional spirometry that requires maximum forced expiration. We report a patient with RP who showed progressive severe bronchial stenosis on three-dimensional computed tomography (3D-CT) and impulse oscillation (IOS) with 3D color imaging using a Mostgraph®. The forced oscillation technique using IOS allows within-breath evaluation without forced expiration. A 68-year-old man who had RP presented with dyspnea due to stenosis of the trachea and left main bronchus (lt. mb). Stenting was performed twice in two years. Chest 3D-CT revealed a marked difference in the extent of bronchial collapse during expiration compared with inspiration. The forced expiratory volume in 1 second (FEV₁₀₀), reactance at 5Hz (X₅), resonant frequency (Fres), and integrated low frequency reactance area (ALX) measured by IOS showed temporary improvement after placement of the first stent, but respiratory resistance at 5Hz (R₅) and 20Hz (R₂₀) remained poor. 3D color images of respiratory resistance obtained with a Mostgraph® already showed high values at the time of diagnosis, resembling the features of chronic obstructive disease (COPD). 3D color images were helpful for interpreting the changes of IOS parameters during the clinical course. In conclusion, 3D-CT in inspiration/expiration and noninvasive IOS with 3D color imaging are useful for assessing airway stenosis in RP while reducing the burden of repeated spirometry.
Transforming Growth Factor-β (TGF-β) and Matrix metalloproteinases (MMPs) especially MMP-2 and MMP-9, secreted by a pool of cells from dermic-epidermic tissue, might be associated with a poor prognosis of cancer. We examined the effect of solar radiation on the secretion of TGF-β, MMP-2 and MMP-9 by \textit{ex vivo} PBMC and dermic-epidermic cell pool. The two pools of cells in culture were photo tested using a solar simulator which reproduces the natural light source. The cells were incubated in serum-free medium in the absence and presence of PHA. After two 5 and 45 min exposure times, the supernatant of the cultures was removed at 24 and 48 h and analyzed for TGF-β, and disrupted cell samples for MMP-2 and MMP-9 by RT-PCR. The data obtained by Optical Density by ELISA showed significant differences in the production of TGF-β to the exposed cultures compared to control at 24 and 48 h, respectively. The increases in the MMP-2 and MMP-9 concentrations depending on the exposure time were observed. In conclusion, the UV radiation emitted by the solar simulator was able to stimulate the cells from extracellular matrix in \textit{in vitro} culture to TGF-β production, MMP-2 and MMP-9 expressions and their mRNAs. Since such MMPs and TGF are related to the evolution of cancer and its pathogenesis, these findings confirm that UV radiation can contribute to the prognosis of such diseases based on the MMP and TGF-β secretion.
LETTER TO THE EDITOR

MAGNETIC RESONANCE IMAGING FEATURES OF CEREBELLAR VERMIS MEDULLOBLASTOMA IN AN ADULT CANINE PATIENT

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A seven-year-old, not-castrated male, Airedale Terrier presented with a history of ataxia and intention tremor of the head of three-week duration. Neurologic examination demonstrated severe hypermetria, intention tremor of the head and a bilateral menace response deficit. Magnetic resonance imaging revealed a well demarcated cerebellar vermis mass, hypointense on T1-weighted images, hyperintense on T2-weighted images, with multiple small foci of high signal similar to that of CSF. Foci dispersed in the mass creating a speckled appearance. Homogeneous faint, wispy post-contrast enhancement of the mass was noted; as a result the tumor became isointense to gray matter and was not clearly evident in post contrast images. The histopathological diagnosis of the excised tumor was cerebellar medulloblastoma.
We present a case of large pedunculated myxoma (61×39 mm) in the left ventricular cavity with anterior-septal and anterior free wall akinesia. Angiographic study showed normal coronary arteries, but the clinical signs strongly suggested a previous myocardial infarction. We can not exclude the possibility that the ventricular akinesia results from embolization of tumor fragments. For a time, cardiac myxomas were believed to arise from mural thrombi. In this case the presence of blood stasis or low-velocity blood flow related to wall motion abnormalities may have played a role in improving tumor growth.
LETTER TO THE EDITOR

ATRIAL NATRIURETIC PEPTIDE AND VASOPRESSIN-PRESENCE IN THE CILIARY BODY OF EYE IN THE PIG (*SUS DOMESTICUS*)

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The aqueous humor is produced in the ciliary body, therefore in this study we investigated the atrial natriuretic peptide (ANP) and vasopressin (VP)-presence in the ciliary body of the pig eye since these peptide are involved in the homeostasis of body fluids. The results show ANP-presence in the epithelial cells and in the endothelial cells of the blood vessels and VP-presence in the epithelial cells, in the endothelium of canal of Schelmm and in the muscle cells of the blood vessels. These peptides might regulate the synthesis and the composition of the aqueous humor and regulate the hydrodynamic flow and haemodynamic flow of the blood.