253 Use of Transfer Factor in Patients with Persistent Genital Human Papillomavirus Infection

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Background: Human papillomavirus (HPV) is the most common sexually transmitted infection worldwide. About 75 to 80% of sexually active Americans will be infected with HPV at some point in their lifetime. The risk of HPV infection seems to be related with age at first intercourse, younger age and number of sexual partners. HPV infection is limited to the basal cells of stratified epithelium of the skin or mucous membranes. There is a wide latency period, from months to years, before squamous intraepithelial lesions develop. Most HPV infections are cleared within 2 years by the immune system. Only in 5% to 10% of infected women with “high risk” types the infection persists determining a high risk of developing intraepithelial neoplasias, as cervical cancer, vulvar cancer, penile cancer, and/or anal cancer. The gynecological evaluation and Papanicolaou smear are the primary screening tools for detecting HPV infection. There is currently no specific treatment for HPV infection. The Transfer Factor (TF) or Dialyzable Leukocyte Extract is an immunomodulator that has been successfully used as an adjuvant in the treatment of intracellular infections such as recurrent herpes virus diseases. TF induces the expression of RNAm and IFN-γ and increases CD4+ cells. The IFN-γ activates macrophages, neutrophils, B lymphocytes, NK cells, and favours the differentiation of T cells into Th1 lymphocytes that are required for the control of intracellular path gens.

Methods: We used TF in a group of patients with persistent genital human papillomavirus infection.

Results: We included 12 patients, aged 19 to 45 years old (mean 30), with 14 to 23 years at first intercourse and a mean of 3 sexual partners in their lifetime. All of them had persistent HPV that had been treated before with local and ablative therapeutic options (including cervical freezing, cauterozing loop, imiquimod, podophyllin and/or cervical conization). Transfer factor was administered daily for 5 days, and subsequently at 7-day intervals for 5 weeks. We found an important improvement in the gynecological evaluation of cervix and perineal lesions and a significant reduction in the frequency of relapses.

Conclusions: Transfer factor could be used as an adjuvant in patients with persistent genital human papillomavirus infection.

254 Experimental Heterophyiasis: Histopathological & Immunological Study

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Background: The present study was conducted to evaluate the effect of immunosuppression on the course of infection, the extraintestinal pathological changes and the immune complexes deposits in kidneys and brain tissues with Heterophyes heterophyes infection in mice.

Methods: Seventy Swi-ss albino mice were divided into 4 groups; G (I) 30 immunocompetent infected mice, G (II) 30 immunosuppressed by cyclophosphamide, infected mice and G (III) 5 non-infected immunocompetent control mice and G (IV) 5 immunosuppressed non-infected. Groups I & II were infected with 300 metacercariae / mouse orally. Two weeks post infection (p.i.) 5 animals from each group were sacrificed at 14, 16, 18, 21, 25 and 28 days p.i., and the kidneys and brain were processed for tissue digestion with KOH and histopathological and immunofluorescence examination. The adult worms were counted by mucosal scraping of the intestines.

Results: The result of this study showed that the adult worm count was higher in G (II) and G (I). The kidneys of G (I) mice showed mild congestion of the glomeruli with lymphoid aggregates. While in G (II) mice, the glomeruli showed variation in size with mild thickening of their walls and the blood vessels showed moderate congestion with mild thickening of their walls. The brain in G (I) mice showed capillary haemorrhage with focal accumulation of endotheliocytes and histiocytes in a frame work of connective tissue. While in G (II) mice, the brain showed congestion, oedema and hypercellularity. In addition, gliosis accompanied with increased vascularity and endothelial hyperplasia was also observed. No adults or ova were detected by KOH digestion of the brains and kidneys. Mild immune complex deposits were detected from the 3rd week p.i. in G (I). The immunofluorescence reaction becomes moderate at the 4th week p.i. While in G (II) the immunofluorescence reaction was mild 2 weeks p.i. and became moderate at the 3rd week p.i.

Conclusions: These results proved that the H. Heterophyes antigen or immune complex deposits were detected in the kidneys and brain of infected mice. These deposits play an important role in the histopathological changes in the kidneys and brain of infected animals.

255 Chronic Obstructive Pulmonary Disease and Lung Cancer Share Inflammation Pathways

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Background: The relationship between inflammation, air obstruction and lung cancer is complex and there is still great uncertainty regarding their underlying pathophysiology. Our aim was to investigate the inflammation pathways that are implicated in both chronic obstructive pulmonary disease (COPD) and lung cancer.

Methods: A literature search was performed in PubMed to identify relative studies published until June 2011.

Results: The pathophysiology of both COPD and lung cancer includes dysregulation of the inflammation process, but the cascade of signaling events is not yet fully understood. Both lung cancer and COPD are associated with cigarette smoking that induces a chronic inflammatory state in the lung by generating reactive oxidant species. It is considered that shared inflammatory pathways involve genetic and epigenetic changes due to chronic tissue injury and abnormal tumor immunity in susceptible hosts. The proposed role of chronic inflammation is based on the 2-stage model of carcinogenesis. According to this model, genotoxic injury is crucial in tumorigenesis, followed by promotional events that result in clonal growth of modulated cells. Research has shown that chronic inflammation creates the necessary environment for the development of lung cancer, acting as a tumor promoter. This environment, in combination with cigarette smoke, induces the upregulation of mediators of the inflammatory response, such as cyclooxygenase-2. This leads to the production of inflammatory cytokines through lymphocytes, such as IL-1, IL-6, IL-8 and IL-10, as well as to the increased formation of chemotactic factors. Some of the latter mediators may suppress cell mediated immune response and promote angiogenesis. They also impact cell growth, resulting in the inhibition of apoptosis. Inflammatory factors promote oxidative stress, contribute to the generation of reactive oxygen, and cause oxidative DNA base modification. COX-2 also plays an important role in promoting epithelial-to-mesenchymal transition, present in both lung cancer and COPD. Thus, chronic inflammation plays a pathogenic role in lung cancer by inducing preneoplastic mutations and cellular damage.
Conclusions: Additional research is required to understand the cellular and molecular mechanisms that link COPD and lung cancer, in an effort to discover new methods of prevention and treatment.

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Risk Factors of Recurrent Upper Respiratory Infections in Children under 5 Years, Habana Vieja
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Background: Upper Respiratory Infections are the most common diseases in childhood. It is possible to get even with no risk factors; although, if there are more factors, the higher it is the probability of illness.

Methods: It was carried out an analytic study of cases and controls to identify risk factors associated with Recurrent Upper Respiratory Infections (RURI) in children under 5 years old from Habana Vieja municipality between January and June of the 2008, 40 children with RURI were studied selected by convenience sampling and 40 controls. Surveys were relatives. The group of cases was compared with the group control and then it was analyzed if the exhibition factor was associated to the RURI by means of the test of square chi, for that which was considered as significant a $P<0.05$ in which case the test of odds ratio was applied (OR) to determine if really the factor or characteristic is or not of risk.

Results: The most common was RURI was Adenoiditis with 18 cases (45%). All the cases had personal and family history of allergy, compared with 37.5% and 62.5% respectively in controls; (OR = 25.4 $P = 0.0001$ and OR = 16.3 $P = 0.001$). The adequate breastfeeding was more frequent in controls (OR = 2.5 $P = 0.048$). 70% of the cases were exposed to the smoke of the tobacco, and controls only 25% (OR = 8.2). 92.5% of the homes of the cases and 70% of the controls had animals, especially dogs. The cold (92.5%), temperature changes (80%) and humidity (80%) were considered environmental risk factors in this study (OR = 14.5 $P <0.001$; OR = 16.5 $P < 0.001$; OR = 13.2 $P <0.002$).

Conclusions: Risk factors affecting the RURI are: personal and family history of allergy, inadequate breastfeeding, exposure to the smoke of tobacco and the presence of domestic animals, cold, changing weather and humidity.

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Long Term Asbestos Exposure as a Cause of Eosinophilic Pleural Effusions
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Background: Exposure to asbestos can cause several different types of pleural disease: first diffuse malignant mesothelioma, plural plaques or calcification, loculated pleural abnormality called “rounded atelectasis” and benign pleural effusions (PE).

Objective: To determine the frequency of various pleural diseases related to asbestos exposure.

Methods: A retrospective analysis of 6 cases of PE related to the occupational asbestos exposure (AE) was made, after exclusion of other possible causes of PE. They were evaluated in the period of 7 years.

Results: All cases were male and almost all were more than 60 years old. All cases had more then 30 years from the first occupational AE (5 in building construction and sixt in mine). All of them reported pleuritic chest pain, or feeling heavy in their chest. The chest radiographs showed small to moderate-sized PE, which was bilateral by tree patients (pts) by the others with plural calcifications in one of them. One of the pts had 3 episodes of PE and evidence of parental asbestos. PE was serous exudate and serosanguineous in 2 pts, with polymorphonuclear leucocytes, mononuclear cells and eosinophils (EO). We have evaluated the number of EO in the pleural fluid (PF), from the smear of PF colored by May-Grunwald-Giems. The PF differential WBC consisted predominately EO and mononuclear cells. At 4 pts more than 30% EO were found in PF and 21% and 17% in other 2 pts respectively. During the follow up period of 3 years no other cause of PE has been found and there has been no evidence of mesothelioma in all the pts.

Conclusions: Exposure to asbestos can cause PE with predominant presence of Eo cells.

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A Novel Therapeutical Option in Resistant Ganglionar and Cutaneous Tuberculosis
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Background: Transfer factor was first described in 1955 and constitutes a Dialyzable Leukocyte Extract. It has been widely used in several infectious diseases and malignancies with satisfactory results. Although not yet fully clarified, among the mechanisms of action the most accepted is the enhancement of the cellular immunity.

Methods: We tested transfer factor in a 1 year old and 3 months patient diagnosed with Ganglionar Tuberculosis. 1 week after the administrarion of the Bacillus Calmette-Guérin vaccination, the present developed fever, cervical, submandibular, supraclavicular, inguinal and axillary lymphadenopathy. Later on the patient developed cutaneous clinical manifestations of tuberculosis such as scrofuloderma, fistulas, hypertrophic scars and ultimately, quiloids. The patient had previously undergone short-term strictly supervised treatment for tuberculosis with very poor results. When the treatment was first administered, the patient had the following data: Total White Blood Count 12.9 Lymphocytes: 29% (12–46) CD3: 26.3% (17–33) Natural Killer Cells (CD56) 2.1% (3–7) B cells (CD19) 2.1% (3–7) T helper Cells (CD3/CD4) 21.6% (42–58) Cytotoxic T cells (CD3/CD8) 5.1% (17–33) Natural Killer Cells (CD56) 2.1% (3–7) B cells (CD19) 67.6% (0–10).

Results: At the end of the treatment, the patient’s immune system was enhanced in terms of cell count and improvment of skin manifestations. Total White Blood Count 6.5 Lymphocytes: 51.3% (48.5–51.2) T helper cells (CD3/CD4) 31.2% (26.3%) Cytotoxic T Cells (CD3/CD8) 14.6% Natural Killer cells (CD56) 12.2% B cells (CD19) 98.5%. Cidation process was improved, with involution of skin lesions os scrofuloderma and fistulas. Lymphadenopathy was no longer encountered. We have followed the patient for a year and half and no relapses have been encountered.

Conclusions: We consider Transfer Factor a valuable option as adyuvant therapy in cases of ganglionar and cutaneous tuberculosis refractory to conventional treatments. To our knowledge, this is the first report of a case of the disease treated satisfactorily with transfer factor.

ALLERGY TO ANTIMICROBIALS

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Penicillin Allergy Evaluation: Experience from a Drug Allergy Clinic in Kuwait
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