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Index

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Editorial

Promoting Research into Zoonotic Illnesses

I have been an amateur aquarist since the age of 10 and have thoroughly enjoyed maintaining and breeding fresh water and marine aquarium fish. Observing them twice daily for a few minutes is relaxing to the point of being meditative for me. In fact, studies have reported numerous health benefits of observing aquarium fish, among which are reduced blood pressure.

Humans have coexisted with animals for thousands of years. Pets provide companionship and joy to the humans. Yet, living with pets is not entirely without health risks to us as well as to them. There are several infectious diseases that humans can contract from their pets (zoonotic illnesses) and vice versa (reverse zoonotic illnesses). While some are mild, others can be lethal.

Unfortunately, there is little in medical literature on illnesses transmitted by aquarium fish. While there are experts in fish diseases as well as others in human infections, there is a dearth of experts on fish borne and transmitted illnesses. Last week, I realized this at transient personal cost, an a yet undetermined illness overnight decimated 95% of the fish in my bedside aquarium. Earlier that morning, having noticed slightly clouded aquarium water and sluggish fish, I intervened immediately dipping my arms into the aquarium and in a rush neglecting to wash them with soap for about 15 minutes. That night, I experienced a severe gastro-intestinal infection resulting in rapid dehydration and near delirium. Fortunately, with excellent medical care provided by our son who is a brilliant physician I recovered over three days experiencing interesting cognitive symptoms such as memory lapses and derealization. On perusing the literature, I became acutely aware both of my ignorance of zoonotic illnesses and of the paucity of literature on them.

There are several million individuals involved in the fish keeping hobby. Furthermore, there are nearly a billion individuals interacting with animals, birds and fish worldwide. The pet industry is estimated to be worth over 100 billion dollars annually. There is inadequate data on the number of people affected by and dying from zoonotic illnesses, but the numbers could well be in millions. Some of the zoonotic illnesses are leptospirosis, mange, cat scratch disease, rabies, psittacosis, worm infestations, campylobacteria's, salmonella, toxoplasmosis, tuberculosis, swine flu, bird flu, Ebola, brucellosis, cryptococcoses, equine encephalitis, and Zika fever. Among reverse zoonotic illnesses are influenza, mumps, salmonella, ringworm, giardiasis and tuberculosis. The effects on animals of inhaling secondary human smoke are not yet adequately researched.

Bridging the lacunae in our knowledge of zoonotic and reverse zoonotic illnesses would go a long way towards making pet keeping a safer and happier hobby both for pets and humans. Meanwhile, I have just ordered several pairs of arm length gloves.

Rajesh M. Parikh, M.D., D.P.M., D.N.B.
Director, Medical Research

Abstracts

Clustering of motor and nonmotor traits in leucine-rich repeat kinase 2 G2019S Parkinson's disease nonparkinsonian relatives: A multicenter family study

Mestre TA, Pont-Sunyer C, Kausar F, Visanji NP, Ghate T, Connolly BS, Gasca-Salas C, Kern DS, Jain J, Slow EJ, Faust-Socher A, Kasten M, Wadia PM, Zadikoff C, Kumar P, de Bie RM, Thomsen T, Lang AE, Schüle B, Klein C, Tolosa E, Marras C

Movement Disorders 2018; 33:960-5.

OBJECTIVES:

The objective of this study was to determine phenotypic features that differentiate nonparkinsonian first-degree relatives of PD leucine-rich repeat kinase 2 (LRRK2) G2019S multiplex families, regardless of carrier status, from healthy controls because nonparkinsonian individuals in multiplex families seem to share a propensity to present neurological features.

METHODS:

We included nonparkinsonian first-degree relatives of LRRK2 G2019S familial PD cases and unrelated healthy controls participating in established multiplex family LRRK2 cohorts. Study participants underwent neurologic assessment including cognitive screening, olfaction testing, and questionnaires for daytime sleepiness, depression, and anxiety. We used a multiple logistic regression model with backward variable selection, validated with bootstrap resampling, to establish the best combination of motor and nonmotor features that differentiates nonparkinsonian first-degree relatives of LRRK2 G2019S familial PD cases from unrelated healthy controls.

RESULTS:

We included 142 nonparkinsonian family members and 172 unrelated healthy controls. The combination of past or current symptoms of anxiety (adjusted odds ratio, 4.16; 95% confidence interval, 2.01-8.63), less daytime sleepiness (adjusted odds ratio [1 unit], 0.90; 95% confidence interval, 0.83-0.97], and worse motor UPDRS score (adjusted odds ratio [1 unit], 1.4; 95% confidence interval, 1.20-1.67) distinguished nonparkinsonian family members, regardless of LRRK2 G2019S mutation status, from unrelated healthy controls. The model accuracy was good (area under the curve = 79.3%).

CONCLUSIONS:

A set of motor and nonmotor features distinguishes first-degree relatives of LRRK2 G2019S probands, regardless of mutation status, from unrelated healthy controls. Environmental or non-LRRK2 genetic factors in LRRK2-associated PD may influence penetrance of the LRRK2 G2019S mutation. The relationship of these features to actual PD risk requires longitudinal observation of LRRK2 familial PD cohorts.

The C2 pedicle width, pars length, and laminar thickness in concurrent ipsilateral ponticulus posticus and high-riding vertebral artery: A radiological computed tomography scan-based study

Kothari MK, Dalvie SS, Gupta S, Tikoo A, Singh DK

Asian Spine Journal 2018 Dec 7. doi: 10.31616/asj.2018.0057.

STUDY DESIGN:

Retrospective radiological study.

PURPOSE:

We aimed to determine the prevalence of ponticulus posticus (PP) and high-riding vertebral artery (HRVA) occurring simultaneously on the same side (PP+HRVA) and in cases of PP+HRVA, to assess C2 radio-anatomical measurements for C2 pars length, pedicle width, and laminar thickness.

OVERVIEW OF LITERATURE:

PP and HRVA predispose individuals to vertebral artery injuries during atlantoaxial fixation. In cases of PP+HRVA, the construct options thus become limited.

METHODS:

Consecutive computed tomography scans (n=210) were reviewed for PP and HRVA (defined as an internal height of <2 mm and an isthmus height of <5 mm). In scans with PP+HRVA, we measured the ipsilateral pedicle width, pars length, and laminar thickness and compared them with controls (those without PP or HRVA).

RESULTS:

PP was present in 14.76% and HRVA in 20% of scans. Of the 420 sides in 210 scans, PP+HRVA was present on 13 sides (seven right and six left). In scans with PP+HRVA, the C2 pars length was shorter compared with controls (13.69 mm in PP+HRVA vs. 20.65 mm in controls, $p<0.001$). The mean C2 pedicle width was 2.53 mm in scans with PP+HRVA vs. 5.83 mm in controls ($p<0.001$). The mean laminar thickness was 4.92 and 5.48 mm in scans with PP+HRVA and controls, respectively ($p=0.209$).

CONCLUSIONS:

The prevalence of PP+HRVA was approximately 3% in the present study. Our data suggest that, in such situations, C2 pedicle width and pars length create important safety limitations for a proposed screw, whereas the translaminar thickness appears safe for a proposed screw.

Acquired zinc deficiency in a renal transplant recipient with gastrointestinal tuberculosis responding promptly to oral correction

Ghuge P, Karia R, Malkani RH

Saudi Journal of Kidney Disease and Transplantation 2018; 29:1199-1202.

Zinc deficiency is an uncommon condition, known to occur in two forms: inherited type, known as Acrodermatitis enteropathies and the acquired type. Cutaneous clinical manifestations observed include characteristic dermatitis on acral, periorificial, and anogenital areas through an unknown mechanism. The patient had a combination of causes which lead to a state of zinc deficiency. We are presenting it due to the rarity of acquired acrodermatitis in patients of gastrointestinal tuberculosis and renal transplant recipients. We emphasize the awareness about this condition, especially in resource-poor settings, where serum zinc levels may not be available, and a trial of oral zinc may be given.

Engraftment Syndrome: Clinical features and predictive factors in autologous stem cell transplant

Sheth V, Jain R, Gore A, Ghanekar A, Saikia T

Indian Journal of Hematology and Blood Transfusion 2018;34:448-53.

Engraftment Syndrome (ES) maybe observed in patients who undergo autologous stem cell transplant (SCT). To investigate clinical criteria for ES diagnosis and analyse the risk factors for this complication, we reviewed all auto-SCT cases (Lymphoma and Myeloma) performed during the past 9 years at two tertiary care centres. We analysed all patients with a non-infectious fever, developed within 7 days of engraftment (first day of ANC of 500 on two consecutive days) in 178 patients undergoing autologous stem cell transplant. A total of 46/178 (25.8%) patients developed non-infectious fever and one or more clinical signs of ES within 7 days of engraftment. In all, 29 (61%) fulfilled the Maiolino and 12 (26%) the Spitzer criteria. The incidence of engraftment syndrome using the Maiolino criteria in our study was 29 (15%), which compares well with Spanish study (13% using same criteria) and the original Maiolino study (20%). All patients with ES satisfactorily recovered and discharged with a median of 20 days from hospital. There was no significant difference in number of days of hospitalisation and days of antibiotics between the ES and non ES arms. All patients recovered without any morbidity and only 1 (2%) patient required readmission for fungal pneumonitis. 8 (17%) patients required ICU admission due to delay in initiation of steroids. None of the factors including number of chemotherapy cycles, conditioning regime, disease status, CD34 collection, growth factors and day of WBC engraftment except female ($p = 0.064$) were statistically significant (in univariate or multivariate analysis). Our study shows that engraftment syndrome is common in autologous transplant setting. Maiolino criteria to diagnose ES is more sensitive in our setting. If detected and treated early there is not much morbidity or mortality related to ES.

Presenting signs and patient co-variables in Gaucher disease: outcome of the Gaucher Early Diagnosis Consensus (GED-C) Delphi initiative

Mehta A, Kuter DJ, Salek SS, Belmatoug N, Bembi B, Bright J, Vom Dahl S, Deodato F, Di Rocco M, Goker-Alpan O, Hughes DA, Lukina EA, Machaczka M, Mengel E, Nagral A, Nakamura K, Narita A, Oliveri B, Pastores G, Pérez-López J, Ramaswami U, Schwartz IV, Szer J, Weinreb NJ, Zimran A

Internal Medicine Journal 2018 Nov 10. doi: 10.1111/imj.14156.

BACKGROUND:

Gaucher disease (GD) presents with a range of signs and symptoms. Physicians can fail to recognize the early stages of GD owing to a lack of disease awareness, which can lead to significant diagnostic delays and sometimes irreversible but avoidable morbidities.

AIMS:

The Gaucher Earlier Diagnosis Consensus (GED-C) initiative aimed to identify signs and co-variables considered most indicative of early type 1 and type 3 GD, to help non-specialists identify 'at-risk' patients who may benefit from diagnostic testing.

METHODS:

An anonymous, three-round Delphi consensus process was deployed among a global panel of 22 specialists in GD (median experience 17.5 years, collectively managing almost 3000 patients). The rounds entailed data gathering, then importance ranking and establishment of consensus, using 5-point Likert scales and scoring thresholds defined a priori.

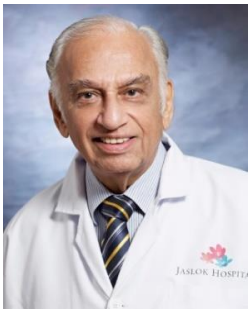
RESULTS:

For type 1 disease, seven major signs (splenomegaly, thrombocytopenia, bone-related manifestations, anaemia, hyperferritinaemia, hepatomegaly, and gammopathy) and two major co-variables (family history of GD and Ashkenazi-Jewish ancestry) were identified. For type 3 disease, nine major signs (splenomegaly, oculomotor disturbances, thrombocytopenia, epilepsy, anaemia, hepatomegaly, bone pain, motor disturbances, and kyphosis) and one major co-variable (family history of Gaucher disease) were identified. Lack of disease awareness, overlooking mild early signs, and failure to consider GD as a diagnostic differential were considered major barriers to early diagnosis.

CONCLUSIONS:

The signs and co-variables identified in the GED-C initiative as potentially indicative of early GD will help to guide non-specialists and raise their index of suspicion in identifying patients potentially suitable for diagnostic testing for GD.

Legends of Jaslok



Dr Prakash K. Pispati, our, Director of Rheumatology, was associated with Jaslok Hospital and Research Centre for over 30 years. He was born in Baroda in 1938. His father was a doctor, and grandfather a priest in a temple. He completed his schooling in a Marathi medium vernacular school in Mumbai, subsequently graduated in Chemistry and Microbiology from St. Xaviers' College Mumbai, and then studied at the Grant Medical College and Sir JJ Group of Hospitals. He was a Pharmacology Gold Medallist, MSc in Medicine, and MD from Grant Medical College, Mumbai.

Dr. Pispati thereafter spearheaded Ibuprofen research as Medical Director of Boots Pharmaceuticals. He received training in Rheumatology from the Royal National Hospital for Rheumatic Diseases, Bath, UK, and the Albert Einstein Medical Center, Philadelphia, USA, as well as New York.

He was a very passionate rheumatologist, a prolific debater and orator, which earned him recognition from India's first Prime Minister Pandit Jawaharlal Nehru, as well as President Radhakrishnan. He was young at heart, with a tremendous spirit of adventure. He did parasailing, paragliding, helicopter and floatplane trips in Alaska, landing in remote lakes and areas and exploring them. He was a regular tennis player, was interested in sailing and flew in a glider plane down Mount Everest.

Dr Pispati brought Rheumatology to India, was the past Secretary and past President of the Indian Rheumatology Association, past president of the Asia Pacific League of Associations for Rheumatology, was awarded the APLAR Masters award and the American College of Rheumatology Masters Award. He was awarded the M. N. Passey Distinguised Services Award by the Indian Rheumatology Association and was recognised as a Leader in Rheumatology by CMC Vellore. He helped the formation of Rheumatology societies in Sri Lanka, Bangladesh, Pakistan, East Africa, Myanmar and Oman. He was also Editor of the first two Editions of the Manual of Rheumatology. and Editor-in-Chief of the e-Bulletin Voice of APLAR which reaches over 3,000 rheumatologists and immunologists. He published the first Textbook of Rheumatology in India (two editions) and was Emeritus Editor 3rd edition 2009. He was also a fellow of the Royal Society of Medicine, London.

Dr. Prakash Pispati was energetic, enthusiastic and loved to teach and inspire younger doctors. He was very active till his sudden demise on 18th October 2018. His memory will always be cherished.