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Abstracts

From innate immunity to adaptive immunity: a continuum

By M. Fougereau. *(lecture pp.181-188)*

By the end of the nineteenth century, after what is generally referred to as the Pastorian revolution, there were two opposing visions of immunity: that of the German school with Paul Ehrlich, based on the dominating role of circulating antibodies, and that of the French (or Franco-Russian) school, with Elie Metchnikoff and phagocytosis. In reality, these two conceptions cover two aspects of body defences, which were opposed for a very long time as adaptive immunity (antibodies and later on cellular immunity with T lymphocytes), and innate immunity (phagocytosis and NK cells). Following the much more recent hypotheses of Charles Janeway, these notions literally exploded with the identification of defence mechanisms in invertebrates. As is often the case, both innate and adaptive immunity were found to be closely associated in a unified physiology of the immune system, one of the most fascinating fields (with the central nervous system) in higher vertebrates. This communication reviews this complex topic.

Key words: immunity, immune system, lymphocytes, antibodies, immunoglobulins, Toll-Like Receptors (TLR).

Proposed standardisation of two-dimensional echocardiography in snakes

By L. Schilliger, D. Tessier, J. ~L. Porcheron and V. Chetboul. *(communication pp. 189-196)*

Echocardiography is a diagnostic tool of choice for ante mortem evaluation of heart diseases. The specific anatomical features of the snake's heart (mobility within the coelomic cavity, single ventricular cavity, tubular sinus venosus opening into the right atrium, and presence of three arterial trunks) have direct consequences on echocardiographic examination, its usable projections (ventral and right and left lateral), and the visualised structures. Echocardiography is still rarely used in snakes. In this article, we suggest a standardisation of two-dimensional echocardiography in snakes (technique, transducer position, cutting planes), in the same way as it is done in man and carnivores, to improve the veterinarian's knowledge of heart diseases in snakes, and thereby contribute to the development of cardiology in exotic animals.

Key words: Exotic pets, reptiles, snakes, ophidians, echocardiography.

An introduction to normal and pathological behaviour in psittacine birds

By J. ~P. André. *(communication pp.197-202)*

This article describes the general principles of normal and abnormal behaviour in psittacine birds. It is written by a clinician for veterinarians lacking experience with this increasingly frequent type of patients. It is now clear that captivity is often associated with behavioural disorders, often very difficult to treat. They include abnormal reactions of fear and/or aggression, excessive screaming, stereotypies, feather picking, overgrooming, or deviant sexual behaviour. Appropriate education of parrot owners could limit the development of

such behavioural disorders. Owners must learn to understand their bird's capacities and natural behaviour, and avoid anthropomorphic interpretations.
Key words: psittacine birds, behaviour, cognitive abilities, behavioural disorders.

Behaviour of pet rabbits and clinical consequences

By Ch. Bulliot. *(communication pp.203-208)*

This article presents the main aspects of normal and abnormal behaviour in pet rabbits. This information is essential for veterinary practitioners, as behavioural disorders are often triggered by an inadequate environment or a concomitant disease.

Key words: rabbit, normal and abnormal behaviour, environmental enrichment.

Bacterial and fungal diseases of equine guttural pouch: recent surgical advances

By O.M. Lepage. *(communication pp.209-212)*

Fungal and bacterial pathogens can cause very serious diseases of the guttural pouches in horses. Guttural pouch mycosis may cause severe and unpredictable epistaxis, which sometimes requires emergency measures. Transarterial embolization of the affected arteries is the most effective treatment to date. In severe or chronic bacterial infection, it is important to drain the empyema or the pus concretions as best as possible. The modified Garm technique has been shown recently to provide good drainage of the whole pouch, and specifically of its lateral compartment. This technique is performed in tranquilized horses under endoscopic guidance.
Key words: horse, guttural pouch, transarterial embolization, mycosis, empyema, modified Garm technique.

Emerging diseases of wildlife in Europe: lessons to draw to prevent a resurgence of avian influenza

By M. Artois, D. Bicout, J. Coppalle, D. Doctrinal, I. Durand, J. Hars and Ph. Sabatier. *(communication pp.213-220)*

The incursion of Highly Pathogenic Avian Influenza among wildfowl in Europe in 2006 was a new illustration of the health risk presented by wildlife to humans and domestic animals. To help anticipate similar incursions and avoid the pitfalls of poor communication, this paper describes how this risk was analysed and managed in the past for other wildlife diseases in Europe. The author also proposes a general methodology to anticipate such events.
Key words: wildlife, health risk: analysis, management, communication.

Animal emerging diseases: challenges and opportunities

By E. Camus. *(communication pp.221-226)*

Emerging animal diseases have become increasingly important over the past few years, as shown by the outbreaks of avian influenza, bluetongue or West Nile Fever. These diseases often originate from tropical countries, from which they threaten or reach western countries. Emerging diseases are associated with social, economical, financial, international, biological, collaborative and media challenges.

They also offer opportunities to improve the necessary North/South solidarity, reinforce the veterinary services, develop new research themes and specialities, review the teaching of epidemiology, and find new ways to circulate information.
French veterinary expertise has all the necessary characteristics to meet these challenges.
Key words**: **animal emerging diseases, North/South, challenges, opportunities.

Canine atopic dermatitis: a genetic disease?

By P. Prélaud.(communication pp.227-232)

Canine atopic dermatitis is defined as a pruritic dermatitis associated with a genetic predisposition to develop allergic reactions against environmental allergens. There is a strong breed predisposition, with variations in clinical phenotypes. Few studies have been done on the genetic basis of canine atopic dermatitis. The use of consensual diagnostic criteria will help the development of genetic research. Canine atopic dermatitis provides an interesting animal model for genetic studies, since dogs do not suffer from other chronic allergic diseases or psoriasis. Genomic screening is helped by the homogeneity of dog breeds, and by the prevalence of atopic dermatitis in certain breeds, such as French bulldogs, West Highland White Terriers, or Labrador Retrievers. It is now possible to study the polymorphism of certain genes in dogs coding for molecules involved in non-specific cutaneous defence mechanisms (toll-like receptors, corneocyte differentiation proteins…).
Key words: atopic dermatitis, dog, genes.

Familial canine dermatomyositis

By E. Guaguère and E. Bensignor. (communication pp.233-236)

Dermatomyositis is a rare inflammatory condition affecting the skin and the muscles in man and in dogs. Familial canine dermatomyositis is mainly described in predisposed breeds, such as Collies and Shetland sheepdogs, but sporadic cases have been reported in other breeds (Chow-Chow, Labrador Retriever, Welsh Corgi, German Shepherd, and Beauceron). This article reviews the main epidemiological, clinical, diagnostic and therapeutic data on this disease in dogs, and provides comparisons with familial dermatomyositis in children.

Key words: dermatology, dog, dermatomyositis, pentoxifylline.

Canine ichthyosis

By E. Bensignor and E. Guaguère.(communication pp.237-242)

Ichthyosis includes a group of hereditary disorders affecting the process of corneogenesis, characterised by scaling of the skin with or without epidermal proliferation or dermal inflammation. In dogs, ichthyosis varies in its clinical presentation (particularly the type of scaling), medical and zootechnical seriousness based on the breed, and therapeutic response. Also, certain types of canine ichthyosis may provide good spontaneous models to study ichthyosis in man. Epidermolytic ichthyosis is due to a lack of epidermal keratins (K10). Non-epidermolytic ichthyosis described in dogs is similar to lamellar ichthyosis in man, caused by a lack of activity of transglutaminases 1. Non-epidermolytic ichthyosis is associated with a dull coat and whitish or greyish scaling affecting the whole body, resembling pityriasis, psoriasis, or fish scales. In hairless areas, the skin is rough, described as "sandpaper skin", and may become gradually pigmented. Digital pads and nose may be

affected as well. Sometimes, hair anomalies (woolly, short, fine, or frizzy) are seen. General symptoms (growth retardation, bilateral keratoconjunctivitis sicca) are observed in certain Cavalier King Charles at a very young age (as early as 2 to 3 months). Epidermolytic ichthyosis is associated with scales in a striated pattern, often pigmented, with moderate exfoliation, and sandpaper skin. Digital pad involvement has not been described. Diagnosis is based on anamnesis (age of onset, breed), symptoms, and skin biopsies. Histopathology of the lesions is used to distinguish epidermolytic from non-epidermolytic forms. Ultrastructural studies of the biopsies may help define the type of ichthyosis. The prognosis depends on the type of ichthyosis and the breed. The objective of the treatment, which is exclusively symptomatic, is to correct the excessive production of scales and improve skin hydration with keratolytic shampoos containing sulphur, salicylic acid, and emollients.

Key words: ichthyosis, dog, genodermatosis.

Identification of genes involved in genodermatoses: example of naso-plantar keratodermia in theFrench breed Dogue de Bordeaux

*By C. André, E. Guaguère, A. Thomas, E. Bensignor and G. Queney.**(communication pp.243-248)*

The genetic structure of the canine species, with over 300 breeds created and modified by man, provides a unique model to identify genes and alleles responsible for genetic diseases. Our laboratory has been working for over ten years to deliver genomic resources to further our understanding of the genetic bases of particular traits or of genetic diseases in dogs, with a view to using them as models for the same traits in humans. We present here our chromosome mapping studies carried out on candidate genes or genes involved in genodermatoses, as well as our on-going molecular genetics study on naso-plantar keratodermia in the French breed Dogue de Bordeaux.

Key words: dog, genetics, genodermatosis, keratodermia, genes.