Intrauterine insemination via coeliotomy  •  Acute-phase proteins on the surface of leucocytes  •  Chiari-like malformation in a Cavalier King Charles Spaniel  •  Review of head trauma in postnatal domestic animals  •  Effective duration of clip application in sheep  •  Intra-articular injections for osteoarthritis in horses  •  Kunjin flaviviral encephalomyelitis in a horse  •  Vitamin D in short-beaked echidnas

Authors of a case report conclude that early recognition of dysphagia and expeditious intervention are crucial for a favourable neurological outcome in clinical cases of congenital caudal occipital malformation syndrome (COMS). 3

Otherwise known as Chiari-like malformation, this syndrome is common in Cavalier King Charles Spaniels, but up to 65% of dogs with this condition remain subclinical and require no intervention. The malformed occipital bone causes cerebellar and brainstem crowding in the caudal fossa of the cranium and physical obstruction to the flow of cerebrospinal fluid.

This case report describes an unusual case of COMS in a 4-year-old Cavalier King Charles Spaniel that presented with sudden onset vomiting, gagging and severe inspiratory dyspnoea, requiring anaesthesia and positive-pressure ventilation. This was presumed to be secondary to neurogenic dysphagia, which is a common presenting sign of Chiari malformations in humans, but has been rarely described in veterinary literature. Decompressive surgery of the foramen magnum in this case was deemed essential, given the unique life-threatening clinical signs, and the dog responded rapidly. There was no recurrence of clinical signs in the 3 years after surgery.

A review examines neurotrauma studies in paediatric humans and experimental animal models and outlines the pathophysiological and biomechanical events likely to be operative in head trauma of postnatal domestic animals. 4

Most of our knowledge of neonatal and adolescent traumatic brain injury (TBI) in domestic animals is derived from human studies, which are often inappropriately extrapolated to the paediatric population from reactions of the adult brain, or from laboratory rodent models. The developing brain shows an age-dependent response to TBI and the immature nervous system often responds differently to that of an adult. The outcome in young animals after TBI is complex, in part because recovery is superimposed upon developmental events. The author concludes that it is clear that even in human medicine there is much to be understood about TBI in the developing brain.

A study examining the use of plastic occlusive clips as an alternative to mulesing determined the minimum duration of clip application...
required to increase the size of the perineal and tail bare areas and reduce breech wrinkle, dag or urine stain scores.\(^5\)

Clip application results in ischaemic necrosis of the occluded skin with subsequent sloughing. After the clips were applied to Merino lambs, they were left on for 1–14 days and the bare area scores determined after 60 days. Clips increased the size of the perineal and tail bare areas if left on the lambs for a minimum of 4–6 days. The increases in the size of the perineal and tail bare areas were similar to the results of previous studies. However, the authors note that further research is still required to determine the degree of protection against flystrike provided by the clips.

**Equine**

Intra-articular administration of sodium pentosan polysulfate (PPS) and glucosamine (GLC) only cause mild inflammatory synovitis, which is not substantially different to that elicited by injection of a similar volume of saline, the first study in the equine section suggests.\(^6\)

PPS and GLS are each commonly used for the treatment of equine osteoarthritis (OA). It has been suggested that they may interact synergistically, promoting production of high-molecular-weight hyaluronic acid in the synovial fluid, thereby providing superior treatment for OA than either agent alone. The effects of weekly intra-articular injections for 3 weeks of a combination of PPS and GLC were investigated. There were changes in total nucleated cells in the synovial fluid, total protein concentrations and neutrophil percentages in both PPS/GLC-treated and control groups, depending on the day after treatment. The authors conclude that both agents are safe for use in the horse.

The final case report details the presentation, diagnosis and treatment of an Arabian gelding that died of Kunjin virus encephalitis.\(^7\)

In Australia, there are a number of arboviruses associated with encephalitis in humans and horses, including Kunjin virus, a subtype of West Nile Virus, and the Murray Valley encephalitis and Ross River encephalitis viruses. Recent extreme climatic changes and flooding has seen increased attention given to the re-emergence of arboviruses, but to date there have been no major outbreaks of Kunjin virus equine encephalitis in Australia and no case reports of Kunjin flaviviral encephalitis in horses have been published. The 17-year-old gelding had clinical signs of flaviviral encephalitis in late-February 2011, during which time there was an increase in cases of arbovirus-associated neurological disturbances in horses in Victoria and New South Wales.

Kunjin virus encephalitis was not initially suspected, but ELISA-testing revealed elevated titres of anti-Kunjin virus antibodies. Despite treatment, the horse died after 6 days of hospitalisation. The authors suggest that if an endemic state is inevitable, vaccination of horses should be undertaken to prevent future viral infections.

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**Wildlife & zoos**

Marsupials have a low requirement for vitamin D\(_3\) and may be more susceptible to vitamin D\(_3\) toxicosis than other species, but no investigations into the vitamin D\(_3\) requirements of any monotreme species have been reported.

This study investigated serum 25-hydroxyvitamin D (25(OH)-D) concentrations in captive short-beaked echidnas at three facilities and compared with those of wild echidnas.\(^8\) The concentrations of 25(OH)-D were significant higher in the captive than in the wild echidnas. A reduction in dietary vitamin D\(_3\) at one facility led to a significant decline in serum 25(OH)-D concentrations to levels comparable with wild echidnas. Although there were no clinical signs of hypervitaminosis D observed in any of the captive echidnas, the authors note that more research is required to determine the best diet formulation for captive short-beaked echidnas.

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