

Understanding sudden death

Sudden equine death is recognised in all equestrian sports. It is rare — but highly distressing when it does occur. In an attempt to understand more about the syndrome and reduce the likelihood of it happening, the Horserace Betting Levy Board (HBLB) has conducted an international multi-centre study

SUDDEN death is defined as any fatality in a closely observed, but previously healthy individual. Deaths due to falls or other accidents are not included in this definition.

By its very nature, this is a challenging syndrome to investigate and surprisingly little is known about it. But vets have always believed that, if risk factors can be identified, it may be possible to reduce the likelihood of sudden death happening.

Recognising this, the HBLB has funded a pioneering research project to investigate this issue, awarding a scholarship for vet Catriona Lyle to study at the University of Edinburgh with Professor Bruce McGorum.

How the study worked

DURING her three-year scholarship, Catriona coordinated a collaborative study involving information from racecourses in America, Australia, Japan and Hong Kong.

Here, she was able to study post-mortem data from 284 cases collected over a 20-year period. This was an essential part of her research as post-mortems are not always carried out in sudden death cases of racehorses in the UK. The results from this study gave some clues — and posed further questions — about the provenance of sudden death.

As Catriona explains: “The study has shown that the cause of death can be quite variable, ranging from severe lung bleeding to a pelvic fracture that displaces and causes massive bleeding into the abdomen.

“But in approximately half the cases I studied, the pathologist was uncertain as to the cause of death. The most likely explanation for death in these situations is cardiac



rhythm irregularities, but this is very difficult to prove.”

Risk factors identified

HAVING analysed the data from post-mortems, Catriona then looked at cases of sudden death on British racecourses.

Catriona’s study showed that sudden death during racing is a very rare event: over a seven-year period with over 700,000 race starts, there were 201 sudden deaths on British racecourses. The same syndrome is known to occur in eventing, show jumping and hunting, but similar statistics have not been established for other equestrian sports.

One estimate suggests that in the general horse population, around 5% of horses in the same age range as racehorses die each year because of illness or injury.

Cardiac disease accounts for 5% of these and older horses in the general horse population are more

prone to cardiovascular-related death. Similarly, in the sudden death study, Catriona found that increasing age is a risk factor; steeplechases posed more of a risk than Flat races and racing during summer was associated with a greater risk of sudden death.

Jenny Hall, chief veterinary officer of the British Horseracing Authority, welcomes these findings.

“This was an extremely useful project,” she says. “We are continuing to build on Catriona’s research with an ongoing investigation currently running at Britain’s northern racetracks.

“Sudden death is very distressing and we hope that owners will understand that allowing a full investigation into every racecourse death will help us reduce this risk.”

Professor Willie Donachie, chairman of the HBLB’s veterinary advisory committee, adds: “We were delighted to see how well Catriona got on during her scholarship.

“Not only did she complete two major studies on sudden death where her results will pave the way to reducing this problem but she also passed her European Diploma exam; a fantastic set of achievements in only three years.” H&H



➤ For more information visit: racehorsehealth.hblb.org.uk



HBLB has collected information from several countries to gain a better understanding of sudden death

THE HBLB'S EDUCATION AWARDS

SINCE the 1960s, the HBLB has supported post-graduate education for qualified veterinary surgeons to further their equine career through higher clinical or research qualifications. Over £6m from a total veterinary research expenditure of £47m has been invested to maintain a pool of highly skilled equine veterinary researchers and clinicians in the UK.

The past recipients of HBLB education awards include full professors and senior lecturers in veterinary schools, individuals occupying senior posts in industry and government and numerous clinical veterinary surgeons in both university and private practice.

Research scholars will typically study for a PhD while clinical scholars, like Catriona, are aiming at advanced professional qualifications, which will enable each of the scholars to begin a career as an equine specialist.

Currently, the HBLB is funding eight research scholars studying for PhDs on subjects ranging from conformation and biomechanics, parasites, intestinal function, dental disease, joint disease and equine neoplasia. HBLB is also funding three clinical scholars who are studying towards qualifications in equine internal medicine, veterinary surgery and veterinary pathology.



RISK FACTORS FOR SUDDEN DEATH IN UK RACEHORSES

- This was a major study into death on UK racecourses
- British Horseracing Authority records of 705,914 race starts from 1 January 2000 to 31 December 2007 were reviewed
- This problem is extremely rare
- There were 201 cases of sudden death associated with racing
- Horses running in National Hunt races were more at risk for sudden death than those in Flat races
- Horses that had raced within the last 60 days were less likely to be affected

Identification of these risk factors may help towards reducing the risk of sudden death in future