

Knottenbelt: Fecal Blood Test Opening Diagnostic Doors

Horse owners and veterinarians can already garner substantial information from a horse's poop—ranging from whether he's dehydrated to if he needs his teeth floated. But one researcher says veterinarians can get even more diagnostic cues from manure and even detect potentially serious ailments using a tool that alerts the user to the presence of blood in the feces.

At the 2014 Italian Society for Equine Veterinarians International Congress, held in Milan, Italy, in February, Derek Knottenbelt, OBE, BVM &S, DVM, Dipl. ECEIM, MRCVS, delivered two presentations: one focused on diagnosing intestinal disease in horses and the other on gastrointestinal neoplasia (tumors). During those lectures, he introduced attendees to his and his colleagues' experience using a commercially available fecal blood test (made by SUCCEED). He later caught up with *The Horse* to discuss what he learned.

Knottenbelt, a professor of equine medicine at the University of Liverpool, England, and large animal clinical sciences and public health at the University of Glasgow, in Scotland, said the stall-side test quickly and simply identifies the presence of blood in a fresh pile of horse feces.

"But I think, much more importantly, it does indicate to us that there are issues that we, so far, do not diagnose clinically; this mostly involves the area of the gut that we can't get at by any other satisfactory means," he explained.

This, he said, could open diagnostic doors the way other veterinary developments have in the past.

"I remember when the first endoscopes came out; they were rigid and we suddenly found that we could diagnose things inside the pharynx (throat)," Knottenbelt recalled. "And then we found the flexible endoscope, and that meant we could diagnose the guttural pouches and the airways of the horse. Then, we got the long, flexible, video endoscope, which has enabled us to examine the stomach. And now, suddenly, we find that gastric ulcers are a big issue.

"But the fact of the matter is, (after the stomach) the horse has got 65 feet of small intestine, plus about 20 feet of large intestine, plus another eight feet of small colon that we can't get at by any means at the moment," due to the organs' location deep within the horse's body, he continued. "So this test, I believe, has considerable potential in trying to confirm the existence of some pathology somewhere in the gut," something that has been difficult to confirm except during surgery or at necropsy.

"There are some tests available, ultrasound and laparoscopy for example, that are very good for examining limited areas of the gut," including those close to the skin's surface and those reachable via rectal examination, he said. "But they're all limited by what you can see and what you can feel."

The stall-side assay Knottenbelt describes confirms or denies the presence of hemoglobin and albumin in a horse's manure, which "could point to a variety of conditions in the hindgut that veterinarians currently have a hard time testing for or diagnosing" in the live horse for the reasons described, he continued. These include right dorsal colitis (a condition to which his wife's horse succumbed a decade ago because a diagnosis couldn't be reached); fungal, parasitic, or bacterial infections; duodenal and colonic ulcers; eosinophilic enteritis; and intestinal tumors, among other ailments.

However, Knottenbelt cautioned, a positive test doesn't point directly to a hindgut issue; blood in the feces can come from nearly anywhere in the horse's body, from blood swallowed due to a loose tooth or a mild episode of exercise-induced pulmonary hemorrhage to a bleeding mouth or gastric ulcer. Ultimately, he said, it's up to the attending veterinarian to continue the examination and find the blood's source should a horse produce a positive test.

Knottenbelt said he's currently involved in studies aimed at better pinpointing what the test's results could tell veterinarians.

"It's very early yet ... but we are doing some interesting things, and we're finding out a little more about how the test varies and how it can be made more specific," he said. "We're doing a postmortem study—testing the horses before they go for necropsy and then seeing what they've got, and then trying to correlate the two things. I think there will be some very interesting outcomes coming from this particular part of the research we're doing."

Ultimately, Knottenbelt believes the test's simplicity is one of its biggest advantages: "It should not be criticized for its simplicity," he relayed. "It should be used because it is elegantly simple, and therefore it should enable the clinician to say, 'Hang on. There's something else going on here, and we have to find what it is.' I think that's where the test is at its best at the moment." 🐾

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