Top ten foal medicine papers published within the last year

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Abstract

This talk will cover what I consider to be 10 of the best papers published in the last year regarding neonatal foals. Many of these come from a supplement to the *Equine Veterinary Journal* focused on perinatology. They are presented in random order – not in countdown fashion – and will be briefly summarized in the proceedings. Some will be used as examples of areas in which significant new information was gained in 2012. I have left a few slots open to discuss articles published between the time proceedings were submitted until the meeting – that way I can cover some late-breaking reports.

Keywords: Foal, medicine, perinatology

1. Corley KTT, Corley MMB: Hospital treatment as a foal does not adversely affect future sales performance in Thoroughbred horses. Equine Vet J 2012;44:87-90.

This paper tackled an age old question: Is it financially worthwhile to hospitalize neonatal foals? They retrospectively evaluated Thoroughbred neonatal hospital admissions from 2007 and 2008 which were subsequently sold at public auction. They used horses sold before and after as controls. They had 63 foals in the study (19 presented to be sold as foals, 39 as yearlings, 5 as 2-year olds). The bottom line from their study was that if foals made it to the sales, they did not have a significant difference in buy-back rate or sales price, relative to controls.

2. Furr M, Cohen ND, Axon JE, Sanchez LC, Pantaleon L, Haggett E, Campbell R, Tennent-Brown B: Treatment with histamine-type 2 receptor antagonists and omeprazole increase the risk of diarrhoea in neonatal foals treated in intensive care units. Equine Vet J 2012;44:80-86

This paper tackled another old adage – you might as well treat neonatal foals with ulcer prophylaxis as it won't hurt. While that's a very tough thing to prove one way or another, this paper took a good first step. It was a multi-center retrospective study evaluating the records of 1710 foals from six referral hospitals (private and academic). The use of ulcer prophylaxis (histamine-2 receptor antagonists, omeprazole, or sucralfate) varied substantially among hospitals (6 to 97%), as did the occurrence of diarrhea (7.5 to 35.9%); survival was similar among hospitals, ranging from 74.5 to 87.2%. The use of anti-ulcer drugs was associated with an increased chance of foals developing in-hospital diarrhea. Thus, while other factors may certainly have played a role in this, the statement that such drugs are completely innocuous in this population merits further investigation.

3 and 4. Venner M, Rodiger A, Laemmer M, et al: Failure of antimicrobial therapy to accelerate spontaneous healing of subclinical pulmonary abscesses on a farm with endemic infections caused by Rhodococcus equi. Vet J 2012;192:293-298.
Venner M, Astheimer K, Lämmer M, Giguère S: Efficacy of mass antimicrobial treatment of foals with subclinical pulmonary abscesses associated with Rhodococcus equi. J Vet Intern Med. 2013;27:171-176.

These papers evaluated the authors' hypothesis that antimicrobial treatment of foals with ultrasonographic evidence of pulmonary abscesses but not clinical disease is unnecessary. Both studies followed foals on a farm with endemic *R. equi* pneumonia in randomized, double-blinded, placebo-controlled prospective trials. The first study enrolled 128 foals with ultrasonographic evidence of pulmonary abscesses ≥1.0 cm in diameter and had four treatment groups (tulathromycin IM, azithromycin PO, azithromycin plus rifampin PO, and glucose PO as a placebo). The second study had 108 foals, used a larger abscess cutoff (pulmonary abscesses 5-10 cm in diameter) and had five treatment groups (tulathromycin IM, doxycycline PO, doxycycline with rifampin PO, azithromycin with rifampin PO, or saline IM as a placebo). In the first study, 14/32 foals treated with a placebo recovered without therapy,

and none of the measured parameters (response to initial therapy, duration of therapy, removal from the study, days to removal from the study) differed among groups. In the second, most (22/25) foals in the placebo group recovered without treatment, and the percentage of foals with disease progression did not differ significantly among groups. Interestingly, a smaller proportion of foals needed additional therapy or were removed from the second study. The authors' hypothesis was that farm personnel thought that foals treated with a placebo would not recover, thus were quicker to pull them from the first study, but for the second study, they were more comfortable giving the foals time to recover.

5. Himler M, Hurcombe SDA, Griffin A, Barsnick RJ, Rathgeber RA, Macgillivray KC, Toribio RE: Presumptive nonthyriodal illness syndrome in critically ill foals. Equine Vet J 2012; 44 (Suppl 41):43-47.

This is one of several papers of late to shed further light on the hypothalamic-pituitary-adrenal (HPA) axis and its adaptations in the young foal. They evaluated total and free T4, total, free and reverse T3 in healthy, sick non-septic and septic foals. All thyroid hormones except rT3 were decreased in both sick foal groups, and non-surviving septic foals had lower TT4, fT4, TT3, and fT3 concentration than their surviving counterparts

6. Jellyman JK, Allen VL, Forhead AJ, Holdstock NB, and Fowden AL: Hypothalamic–pituitary–adrenal axis function in pony foals after neonatal ACTH-induced glucocorticoid overexposure. Equine Vet J 2012;44 (Suppl. 41):38-42.

Following the HPA axis theme, this study evaluated HPA programming in foals receiving either saline or long-acting ACTH for the first five days of life. They found that basal cortisol concentrations were higher in ACTH-treated foals at three but not 13 weeks, and the cortisol response to short-acting ACTH did not differ between groups. Thus, it does not appear that rises in plasma cortisol concentration during the neonatal period (such as in response to stressful events) re-program the HPA axis in the relative short term.