

1.3). The gamithromycin to tilmicosin (referent) observed RR from the randomized trial was 0.99 (95% confidence interval=0.67 to 1.47) and the indirect estimate of RR from the prior model was 1.09 (95% credible interval=0.64 to 1.79).

### Significance

The results suggested that indirect estimates from network meta-analyses provided reasonable estimates of RR when direct data were not available.

## Histological characteristics of ovarian follicular dysplasia observed through ultrasound in Florida beef herds

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### Introduction

A slaughterhouse study commissioned by Florida Cattleman's Association in 2007 identified ovarian follicular dysplasia (OFD) as a primary cause of infertility in Florida beef cows. Ovaries with OFD have progressive bilateral development of solid clustered follicles containing multiple Call-Exner bodies that originate in the rete ovarii and the hilar region and progress into the cortex to eventually form bilateral Sertoli-Type Granulosa Theca Cell tumors (GTCT). The objective of this study was to assess the usefulness of ultrasound for on-farm diagnosis of OFD.

### Materials and Methods

Ultrasound images of the right and left ovaries from 390 cull cows and heifers representing 4 Florida ranches were made with 5 MHz linear probes (Aloka, Ibex). Then, 10 to 12 females/ranch were followed to slaughter the following day for collection of reproductive tracts. The fixed ovaries were measured, sectioned parasagittal through the hilus, photographed, and arranged in histology cassettes for complete examination of the cut surface. Large ovarian structures including corpus luteum, Graafian follicles, atretic follicles, dysplastic follicles, rete ovarii, dysplastic follicles, and tumors were counted and measured for each ovary. Ovaries with OFD were graded I to IV. Grade I OFD contained small individual dysplastic follicles with diameter less than 200  $\mu$ m, mostly

limited to the rete ovarii and medulla. Grade II OFD possessed dysplastic follicles greater than 200  $\mu$ m diameter that were present in the medulla and cortex. Grade III OFD had extensive multi-sized dysplastic follicles scattered throughout the entire cortex of the ovary, and Grade IV OFD had Sertoli-Type GTCT. Grade II to IV often had dystrophic mineralization of dysplastic follicles. Gross morphology of fixed sagittal sections and ultrasound images were blindly compared against OFD grade in 40 individual ovaries.

### Results

Ovarian follicular dysplasia was identified at slaughter in 29/41 cows and 1/5 of heifers. The distribution of OFD for 30 affected females was Grade I 16/30, Grade II 9/30, Grade III 4/30 and Grade IV 1/30. Characteristics that could be detected by routine ultrasound included increased size and length, increased hyperechogenicity, and decreased number of fluid-filled follicles. Hyperechogenic shadows were evident in higher-grade OFD.

### Significance

The study demonstrated that Grade III and IV OFD can be observed by routine ultrasound, but Grade I and II may require higher-resolution ultrasound probes, imaging analysis software or Doppler ultrasound.