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Absorption of IgG from the intestine of neonatal calves is influenced by the milieu in which the IgG are presented. The presence of excess protein or selected ions may affect absorption of IgG during the neonatal period. Bile salts are powerful emulsifiers that affect absorption of fats, vitamins and other compounds and may influence IgG absorption. Our objective was to determine if deoxycholic acid (DOCA) affected IgG absorption in calves fed a colostrum supplement (CS) or colostrum replacer (CR). Holstein bull calves (n = 33) were removed from the dam within 10 min of birth, weighed, and fed 454 g of a commercially available CS (Lifeline Nutritional Colostrum Supplement, APC Company; 10% IgG) or an experimental CR (20% IgG) containing IgG extracted from bovine plasma. The CR and CS were mixed in a blender with 1.9 L of water per feeding. In addition, 0 or 2 g of DOCA were added at each feeding. Calves were fed by esophageal feeder at 1 and 8 h of age. Intake of IgG was 90 and 187 g for CS and CR, respectively. Jugular blood was collected at 0.2 and 24 h of age and analyzed for IgG by turbidimetric immunoassay and total protein by biuret. Plasma IgG and total protein at 0 h were unaffected by dietary treatment and were 0.4 g/L and 4.57 g/dl, respectively. Addition of DOCA had no effect on any parameter measured. Plasma IgG at 24 h in calves fed CR was higher ($P < 0.001$) than in calves fed CS (13.6 vs. 8.0 g/L); however, plasma protein was not different (4.99 vs. 4.98 g/dl). Plasma IgG at 24 h in calves fed CS and CR ranged from 4.8 to 12.9 and 9.9 to 17.5 g/L, respectively. Apparent efficiency of IgG absorption was similar between CS and CR and was 33 and 30%, respectively. Relationship

between plasma IgG and total protein at 24 h varied by treatment. For CS, regression equation was

plasma IgG (g/L) = 4.92 x plasma protein (g/dl) – 16.5; r^2 = 0.77. For CR, regression equation was

plasma IgG (g/L) = 5.38 x protein (g/dl) – 12.5; r^2 = 0.59. The CR used in this study effectively

prevented failure of passive transfer in neonatal calves; however addition of DOCA did not

influence IgG absorption.