Abestract:

The intensity of the response to acid-base parameters in relation to the age after a defined acid load was studied in calves. 32 clinically healthy calves (age: 4-104 days) were infused with 5M N1-1,4Clsolution (dose: 1.0 ml/kg) through a permanent intravenous catheter, Before (0 hrs) and after starting the infusion (2, 4. 6, 8 and 24 hrs) venous blood samples were col-lected for the determination of the various acid-base parameters_ The intensity of the response of the acid-base parameters was estimated by using the-area under curve (AUCY procedure. By 2-6hrs after the infusion of the NI-14Clsobirtion, the Henderson-Hasselbalch parameters decreased significantly lip, I, 1.(1-1CO3-1) as did Stewart's variables (i4Strong ion difference-re-5N, !(Acid total= Atc,t or Al). A transient moderate hyperchloraemic acidosis with a slight hypoproteinaernic alkalosis was observed in all calves in association with a respiratory compensation (1PCO)). The younger calves (1"-3' week) showed a similar pattern of response to the same dose per kg6" acid load with significantly greater acid base parameters response (higher AUC values) than the older animals.The calculated pH was determined by using the three Stewart variables PvCO2, serum-[SID3J and serum-fAret). the mean differ-ence was -0.03 to 0.09 compared with the measured pi 1 (7.324.40)