BIRTH-RELATED RISK FACTORS AND THEIR INFLUENCE ON PERINATAL AND POSTNATAL MORTALITY IN SWITZERLAND

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The perinatal and early postnatal period in cattle is marked by high mortality. In recent years, a rise in mortality rates was seen in the US as well as in some European countries. A number of genetic and non-genetic factors have been found to cause high mortality rates. Most studies dealing with calf mortality are limited to one or few herds or breeds. The goal of this study has been to determine the rate of perinatal mortality, as well as mortality rates up to day 120 post natum in the 22 most common cattle breeds and crossbreeds in Switzerland. This would allow to determine breed specific factors while disregarding any influence of herd management. Also, additional factors that could influence mortality rates should be identified. A perinatal mortality of 2.42% in 2'122'184 births, which took place between 2005 and 2007, was found, with a significant increase over these 3 years. Mortality between the 2nd und 7th, 8th and 28th, as well as between 29th and 120th day of life was 0.50%, 1.26% and 0.70%, respectively. The mean dystocia rate was 4.95% in beef breeds and 4.72% in dairy breeds. Dystocia lead to an increase of mortality rates in all four intervals. After dystocia, calves had a relative risk of 12.2 of perinatal mortality compared with calves with normal birth. The risk of dystocia was found more than twice as high in male calves compared to female calves. However, dystocia rates were not different between male and female offspring in Dexter, Hereford, Highland, Hintenwälder, Jersey and Normande. The likelihood of dystocia was significantly correlated with the mean birth weights of the breed and the difference in birth weights in female and male calves, respectively ($r = 0.6$). The age of dam, the length of gestation, the sex and weight of the calves, the season as well as the size of the herd had a significant effect on perinatal mortality. Perinatal and postnatal mortality rates were markedly different between the breeds included in the study. The importance of the various factors, which influence mortality rates varied between the relevant breeds. The identification of risk factors for particular breeds would allow to develop strategies to reduce mortality during the perinatal and early postnatal period.