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Determination of prognostic factors for survival in newborn foals: Retrospective study on foals admitted to intensive care at the Clinéquine between 2007 and 2020

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Determination of prognostic factors for survival in newborn foals:
Retrospective study on foals admitted to intensive care at the Clinéquine between 2007 and 2020

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Introduction:

During the neonatal period, foals are very susceptible to disease. Their state of health can deteriorate suddenly, and appropriate medical care requires time-consuming and expensive intensive care. This warrants an accurate assessment of the vital prognosis on admission based on clinical exam and ancillary tests, for ethical reasons as well as economical considerations.

Methods:

During this retrospective study, the medical records of 226 foals less than 21 days old, for which the outcome "survival" or "non-survival" was known, were examined. Twenty-five variables including information from history, physical examination and laboratory findings were examined for their association with survival.

Results:

15 mortality risk factors used as prognostic tools, collected at admission, have been identified as statistically significant, among which 9 relate to clinical pathology: inability of the foal to stand, reduction or absence of a suckling reflex, change in the color of the mucous membranes, weak or absent arterial pulse, bradycardia, presence of cold extremities, hypothermia, decreased blood pH, increased anion gap, hematocrit values outside usual values, neutrophilia or neutropenia, hyperfibrinogenemia, hyperlactatemia, increased creatinine kinase values, and hypoglycemia.

Conclusions:

This study provides strong correlations between mortality and a reasonable number of usual clinical and clinical pathology parameters, directly usable in the neonatal period in a large sample of sick foals admitted for broad disorders. There are only a handful of similar studies and the risk factors identified during this study are consistent with those previously described in the literature. Some risk factors described in the literature were not found in our study for lack of some missing data.

Based on our foal population presenting a wide array of affections and breeds, we show that a core list of parameters involved in usual neonate assessment allows us to provide useful prognostic values and work toward establishing a mathematical score of survival.