

# Bovine Neonatal Pancytopenia (BNP) – Emerging Disease or Transient Tragedy?

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## Introduction

Since the spring of 2007, cases of an almost always lethal bleeding disorder in neonatal calves have appeared, first in Germany and since in many other European countries with increasing incidence, with some notable exceptions. Results of epidemiological, clinical, and experimental investigations are reported.

## Materials and Methods

A survey among all (almost 1200) Bavarian large animal practices was carried out. Cases that were admitted to the clinic were subjected to clinical, laboratory, and postmortem examinations. Blood samples submitted from field cases were examined hematologically, and anamnestic data were collected. A feeding trial with colostrum from cows that had already had at least one affected calf was performed on six calves from unaffected farms. Each calf received only one meal of the incriminated colostrum.

## Results

A total of 435 cattle practices responded, 112 (25.7%) of which reported to have seen cases of bovine

neonatal pancytopenia (BNP). No geographical “hot spots” could be detected. BNP is characterized by external and internal hemorrhages, thrombocytopenia, leukocytopenia, and severe bone marrow depletion. Subclinical cases are possible. The dams of 357/361 documented cases had been vaccinated with a particular inactivated vaccine against BVDV. Some cows have had as many as three affected calves. While in most affected farms, only a few cases occurred, more than 40 cases occurred in some others. In the feeding trial, the syndrome was reproduced in 3/6 calves. Thrombocyte and leukocyte counts declined as early as two to three hours following colostrum ingestion.

## Significance

BNP seems to be a novel disease, as known causes of bone marrow damage have been ruled out. Colostrum from some cows seems to be an important etiological factor. Vaccination of dams with a particular vaccine is a striking epidemiological finding that requires explanation.