

A0401

Apnea of Somatic Cell Cloned Piglets with Congestion is Caused by Cardiopulmonary

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In this study, we generated 40 somatic cell cloned (scNT) piglets. Of these, three displayed congestion in both liver and lung, and died within the first week of life. Two-dimensional gel electrophoresis experiments revealed changes in the responses of several detoxification-related proteins to stress and inflammation. As a result, congestive livers and lungs displayed extensive hepatopneumonic apoptosis. To determine the proteins responsible for hepatopneumonic apoptosis, we investigated protein expression profiles using 2-D analysis, and histological abnormalities in the hearts of deceased scNT piglets by H-E staining. No histological anomalies in scNT hearts, but significant alterations in myocardium-specific proteins were detected, indicating hemodynamic disorder. Although we cannot completely exclude the possibility that scNT piglets are susceptible to specific respiratory infections, our data suggest that early death of three scNT clones is due to cardiopulmonary functional abnormalities as a result of output failure, rather than a direct effect of hepatopneumonic congestion.

Key words : *Congestion, 2-D analysis*