The Incidence of Necrotizing Enterocolitis Is Increased Following Probiotic Administration to Preterm Pigs

Preterm birth and necrotizing enterocolitis (NEC) is associated with inappropriate gut colonization and immunity, which may be improved by probiotic bacteria. Using a preterm pig model of NEC, we investigated the effects of probiotics on intestinal structure, function, microbiology, and immunology in the immediate postnatal period. Just after birth, caesarean-delivered preterm pigs were inoculated with Lactobacillus paracasei, Bifidobacteria animalis, and Streptococcus thermophilus (total 2.4 x 1010/d) either as live (ProLive, n = 14) or gamma-irradiated dead bacteria (ProDead, n = 12) and compared with controls (n = 14). All pigs received parenteral nutrition for 2 d followed by enteral formula feeding until tissue collection on d 5. Compared with control pigs, intestinal weight was lower and NEC incidence was higher in both groups given probiotics (64–67 vs. 14%; P

General information
State: Published
Organisations: Microbial Ecology, Division of Veterinary Diagnostics and Research, National Veterinary Institute, Aarhus University, University of Copenhagen
Contributors: Cilieborg, M. S., Thymann, T., Siggers, R., Boye, M., Bering, S. B., Jensen, B. B., Sangild, P. T.
Pages: 223-230
Publication date: 2011
Peer-reviewed: Yes

Publication information
Journal: Journal of Nutrition
Volume: 141
Issue number: 2
ISSN (Print): 0022-3166
Ratings:
BFI (2019): BFI-level 2
Web of Science (2019): Indexed yes
BFI (2018): BFI-level 2
Web of Science (2018): Indexed yes
BFI (2017): BFI-level 2
Scopus rating (2017): CiteScore 4.24 SJR 2.191 SNIP 1.395
Web of Science (2017): Impact factor 4.398
Web of Science (2017): Indexed yes
BFI (2016): BFI-level 2
Scopus rating (2016): CiteScore 3.93 SJR 2.025 SNIP 1.336
Web of Science (2016): Impact factor 4.145
Web of Science (2016): Indexed yes
BFI (2015): BFI-level 2
Scopus rating (2015): CiteScore 4.08 SJR 2.107 SNIP 1.517
Web of Science (2015): Impact factor 3.74
BFI (2014): BFI-level 2
Scopus rating (2014): CiteScore 4.13 SJR 2.121 SNIP 1.581
Web of Science (2014): Impact factor 3.875
Web of Science (2014): Indexed yes
BFI (2013): BFI-level 2
Scopus rating (2013): CiteScore 4.6 SJR 2.15 SNIP 1.615
Web of Science (2013): Impact factor 4.227
ISI indexed (2013): ISI indexed yes
Web of Science (2013): Indexed yes
BFI (2012): BFI-level 2
Scopus rating (2012): CiteScore 4.45 SJR 1.94 SNIP 1.657
Web of Science (2012): Impact factor 4.196
ISI indexed (2012): ISI indexed yes
Web of Science (2012): Indexed yes
BFI (2011): BFI-level 2
Scopus rating (2011): CiteScore 4.32 SJR 1.908 SNIP 1.6
Web of Science (2011): Impact factor 3.916
ISI indexed (2011): ISI indexed yes
Web of Science (2011): Indexed yes
BFI (2010): BFI-level 2
Scopus rating (2010): SJR 1.729 SNIP 1.569
BFI (2009): BFI-level 2
Scopus rating (2009): SJR 1.572 SNIP 1.542
Web of Science (2009): Indexed yes
BFI (2008): BFI-level 2
Scopus rating (2008): SJR 1.592 SNIP 1.41
Web of Science (2008): Indexed yes
Scopus rating (2007): SJR 1.599 SNIP 1.477
Web of Science (2007): Indexed yes
Scopus rating (2006): SJR 1.724 SNIP 1.565
Web of Science (2006): Indexed yes
Scopus rating (2005): SJR 1.534 SNIP 1.399
Web of Science (2005): Indexed yes
Scopus rating (2004): SJR 1.443 SNIP 1.459
Web of Science (2004): Indexed yes
Scopus rating (2003): SJR 1.414 SNIP 1.569
Web of Science (2003): Indexed yes
Scopus rating (2002): SJR 1.422 SNIP 1.544
Scopus rating (2001): SJR 1.109 SNIP 1.359
Scopus rating (2000): SJR 0.915 SNIP 1.321
Web of Science (2000): Indexed yes
Scopus rating (1999): SJR 0.881 SNIP 1.18
Original language: English
DOIs:
10.3945/jn.110.128561
URLs:
http://jn.nutrition.org.globalproxy.cvt.dk/content/141/2/223.full
Source: orbit
Source-ID: 274391
Research output: Research - peer-review › Journal article – Annual report year: 2011