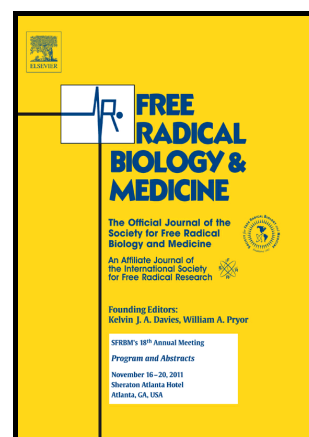


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Fecal microbiota transplantation (FMT) could reverse the severity of experimental necrotizing enterocolitis (NEC) via oxidative stress modulation

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ABSTRACT

Fecal microbiota transplantation (FMT) has been used successfully to treat a variety of gastroenterological diseases. The alterations of microbiota in mouse models of necrotizing enterocolitis (NEC) as well as in patients suggested the possibility of treating NEC with FMT. Here we show that FMT caused an improvement in the histopathology and symptoms of NEC in WT mice, but not Grx1^{-/-} mice. FMT eliminated O₂^{•-} production and promoted NO production in experimental NEC mice though the modulation of S-glutathionylation of eNOS (eNOS-SSG). FMT decreased the extent of TLR4-mediated proinflammatory signaling though TLR9 in the intestinal mucosa tissue. FMT also suppressed intestinal apoptosis and bacterial translocation across the intestinal barrier,

¹ These authors contributed equally to this work.

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