ENVIRONMENTAL BISPHENOL A EXPOSURE INFLUENCES TRAINED IMMUNITY-RELATED PATHWAYS IN NON-ALCOHOLIC FATTY LIVER DISEASE: A PRELIMINARY OBSERVATION

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An in vitro study found that serum bisphenol A levels were approximately 56-fold higher in NASH patients compared to healthy controls, and monocytes from NASH patients showed greater trained immunity responses to BPA stimulation.

KEY POINTS

- Serum BPA concentrations were 7.79 ± 2.34 ng/mL in histologically proven NASH patients (n=10) versus 0.1398 ± 0.0495 ng/mL in healthy individuals (n=25), a statistically significant difference ($P < 0.0001$).
- Monocytes from NASH patients demonstrated higher trained immunity induction when stimulated with BPA at 1 nM, 10 nM, and 20 nM concentrations compared to healthy controls ($p<0.05$).
- Pro-inflammatory cytokines TNF-α and IL-6 were elevated at all tested BPA concentrations in NASH patient monocytes compared to healthy subjects, with IL-10 also increased, which the authors interpret as a possible compensatory response.
- The authors conclude that BPA may act as a priming antigen for trained immunity and contribute to establishing a pro-inflammatory phenotype potentially involved in NASH pathogenesis, though they note further studies are needed.

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