

Impact of Tissue Processing on Microbiological Colonization in the Context of Placentophagy

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2022 Mar 29

[Sophia K Johnson^{#1}](#), [Jana Pastuschek^{#1}](#), [Daniel C Benyshek²³](#), [Yvonne Heimann¹](#), [Anne Möller¹](#), [Jürgen Rödel¹](#), [Jacob White²](#), [Janine Zöllkau¹](#), [Tanja Groten³](#)

- PMID: 35351937
- PMCID: [PMC8964728](#)
- DOI: [10.1038/s41598-022-09243-4](#)

Abstract

A mother's postpartum ingestion of raw or processed placental tissue-referred to as human maternal placentophagy-is an emerging health trend observed in industrialized nations. Placenta is commonly consumed as small pieces of raw tissue, or as raw or steamed dehydrated pulverized and encapsulated tissue. To investigate the potential neonatal health risks of this behavior, the present study focused on microbial colonization of processed placenta preparations with potentially pathogenic bacteria *Streptococcus agalactiae* (Group-B-Streptococci; GBS) and *Escherichia coli* (E. coli). In the clinical approach placentas from 24 mothers were analyzed. Two placentas, from 13 mothers with confirmed positive maternal GBS status, showed GBS-growth on their surface (2/13; 15.4%) independent from delivery mode or antibiotic treatment. All processed samples (n = 24) were free from GBS. In the experimental approach, a standardized inoculation protocol was introduced to resemble ascending vaginal and hematogenous colonization. Six placentas from elective term C-sections of GBS negative mothers were collected and artificially inoculated with highly concentrated suspensions of GBS and E. coli. Heat processing significantly reduced the number of colony forming units (CFU) for GBS and E. coli. Our results suggest placentophagy of processed tissue is an unlikely source of clinical infection.