

Response to “Commentary on: Microbiologic Safety of the Transareolar Approach in Breast Augmentation”

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We thank Dr Bartsich for providing valuable input on our previously reported work¹ and we agree with her conclusion: the breast cannot be considered a sterile site.² As the human body includes 10 times more bacterial cells than human cells,³ it is virtually impossible for any particular bodily compartment which communicates with the exterior to be sterile.⁴ Therefore, we agree that flora from the surrounding skin can transiently colonize the nipple ducts, as we have shown and, when pathogenic species are involved, this can lead to infectious mastitis. The notion that we refute is the “endogenous breast flora,” and its comparison to the urogenital and gastrointestinal tracts, which are notoriously heavily colonized and which require the presence of bacterial flora for the natural local metabolic processes.

Indeed, any transient bacteria within the nipple ducts would be challenging to isolate via swab culturing, and a polymerase chain reaction (PCR)-based analysis would be warranted to elucidate the exact composition of the local microbiome,⁵ but PCR also has its downside, as it is unable to differentiate between live, viable bacteria and remnant bacterial prints. However, given the hypothesis that the incision of these ducts during the aesthetic procedure leads to exuding of bacteria intraoperatively and postoperatively,⁶ it is reasonable to assume that the said bacteria could be identified via swabbing if their numbers are indeed sufficient to activate population density based chemical responses (quorum sensing) and lead to colonization of the implant with subsequent capsular contracture. Therefore, although the swabbing technique certainly has its limitations, we consider that for the purposes of the BREAST-MF study,⁷ it provided an adequate sampling area (1 cm³ – comparable to, if not higher than the exposed surface of tissue fragments) and sufficient information to refute the concept of an endogenous bacterial flora present in significant numbers within the nipple ducts, responsible for massive intraoperative contamination, as previously hypothesized.

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