

DO STERILE EGGS PRODUCE MICROBES?

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HIGHLIGHTS

- 75% of newly hatched eggs are sterile.
- Sterilized eggs boiled for five minutes and kept in ambient temperatures in sterile conditions showed discoloration suggesting spoilage and fermentation.
- Infections may derive from sterile organic matter.

ABSTRACT

The first microorganisms on earth were transformed from organic matter 3.6 billion years ago but there has never been any experimental validation of this observation. The aim of this study is to demonstrate that sterile organic matter may produce microorganisms. Six intact eggs were boiled in water for five minutes; three eggs were kept refrigerated and three were maintained in ambient temperatures in sterile conditions for 90 days. All three eggs which were kept in ambient temperatures in sterile conditions showed discoloration consistent with spoilage and fermentation.

This study supports a new paradigm: some infections may derive from transformation of organic matter. This paradigm may be of help in managing opportunistic infections, and infections associated with burn wounds, physical traumas, surgical and medical procedures.

Do Sterile Eggs Produce Microbes?**Background**

Sterile organic matter- through pathways independent of contamination- may cause infections consistent with the following observations: the first microorganisms were transformed from organic matter^[1] a protein causes infectious bovine spongiform encephalopathy^[2] microorganisms exist in extraordinarily remote locations^[3,4] and in ultrahigh temperature sterilized milk.^[5]

Unrefrigerated eggs always spoil although most newly hatched eggs are sterile^[6] with spoilage attributed to contamination by bacteria through eggshells. Noteworthy is the observation that thickness of eggshells does not seem to have any influence in egg spoilage^[7] suggesting that contamination is unlikely to be the predominant pathway of spoilage.

OBJECTIVE

To demonstrate that sterile organic matter may produce microorganisms.

METHODS

Six intact eggs marked with unique color markers were boiled in water for five minutes.

Three eggs with blue purple and pink markers were wrapped in sterile gloves and placed in the refrigerator. Three eggs with yellow, red and green markers were placed in sterile gloves and kept outdoor in ambient temperatures ranging from 20 to 35 C for 45 days. Six eggs (blue, purple, pink, yellow, red and green), were studied after 90 days.

RESULTS

Refrigerated Eggs

Blue egg: no discoloration.

Pink egg: no discoloration.

Purple egg: some discoloration.

Unrefrigerated Eggs

Yellow, green and red showed patches of discoloration.

Image 1



#2 Egg: Discoloration consistent with microbial growth.

Image 2



#4 Egg: Discoloration consistent with microbial growth

Image 3



#5 Egg: Discoloration consistent with microbial growth.

DISCUSSION

Discoloration of one refrigerated and three unrefrigerated eggs suggest microbial growth.

Four out of six randomly selected eggs with intact shells boiled in hot water for five minutes showed signs of spoilage. This result gains more significance because of evidence that approximately 75% of newly hatched eggs are sterile. This observational study I did not determine Identification of microorganisms . Future studies should include Identification of microorganisms causing spoilage.

CONCLUSION

Uncertainty is a reality in determining origin of infections, thus correct identification of causative influence must consider both contamination and transformation and clearly establish cause-and-effect.

This study supports a new paradigm: infections may result either from contamination or transformation of organic matter. This paradigm may be of help in managing opportunistic infections, and infections

associated with burn wounds, physical traumas, surgical and medical procedures.

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