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The future of meat

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Every year billions of animals are slaughtered to supply the meat demand. Since the population has been increasing for the last 50 years, meat production has quadrupled. But at this alarmingly pacing speed, the resources required for the production and maintenance of the animals are becoming unsustainable. Meat provides some essential nutrients, such as vitamin B12 heme-iron, etc. which are essential for our RBCs’ health. However, it is getting hard to produce meat as well as control its production and maintain its quality. Under such conditions, the animals and humans dealing with them are at risk of infections and diseases, which could eventually lead to pandemics, such as the current one, COVID-19. When technology is at its peak and comfort has become a necessity, it is difficult for people to give up the taste of food for the sake of its nutrition. Therefore, in the 1980s, soybean and wheat gluten were used as meat alternatives to mimic meat but they lagged owing to their taste. In 2016, a company called Memphis Meat used regenerative medicine and tissue scaffolding to produce a cultured meatball. In vitro meat or synthetic meat is made by growing cells in nutrient media and developing them into muscle-like fibres. It is a process of cell culturing where stem cells are proliferated in the nutrient-rich serum, allowed to form strips that are attached to a sponge-like scaffold that provides these strips with nutrients and helps in exercising muscles to increase their size and protein content. However, the production of such meat on a large scale is very expensive and the upscaling process is quite tedious. Besides, the decision depends on whether people will accept this as a better alternative or not as many objects to the high-tech production process.

Keywords: Artificial meat, Tissue scaffolding, Tissue engineering, Stem cells, Regenerative medicine, Cell culture

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